三环集团 — SINCE 1970 —

潮州三环（集团）股份有限公司
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ADD:Sanhuan Industrial District,Fengtang Chaozhou,Guangdong,China

# 承　认　书

## SPECIFICATION FOR APPROVAL

| | |
|---|---|
| 客户名称：<br>CUSTOMER： | |
| 产品名称：<br>PARTNAME： | 多层片式瓷介电容器<br>Multi-Layer Ceramic Capacitors |
| 产品规格：<br>SPECIFICATION： | 通用系列<br>General Series |
| 承认书编号：<br>APPROVAL SHEET NO.： | DRAAW108N/3 |
| 发出日期：<br>ISSUED DATE： | |

| 制造 MANUFACTURER | | |
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| 批准 APPROVED | 审核 CHECKED | 经办 PREPARED |
| 王浩 | 王彬彬 | 陈家锐 |

| 客户 CUSTOMER | | |
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| 批准 APPROVED | 审核 CHECKED | 经办 PREPARED |
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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

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| B/0 | 2012/1/11 | 38 | 新制定 | 方千军 |
| B/1 | 2012/8/11 | 36 | 增加2225、1808尺寸的载带尺寸 | 王彬彬 |
| C/0 | 2013/1/10 | 39 | 换版 | 王彬彬 |
| D/0 | 2014/1/6 | 39 | 更新SGS报告 | 王彬彬 |
| E/0 | 2014/5/6 | 44 | 换版 | 张国信 |
| F/0 | 2015/2/10 | 44 | 换版 | 张国信 |
| G/0 | 2016/5/15 | 44 | 换版 | 张国信 |
| H/0 | 2017/7/1 | 44 | 换版 | 张国信 |
| I/0 | 2020/2/12 | 44 | 换版 | 张国信 |
| J/0 | 2021/1/7 | 39 | 增加0201尺寸及X6S\X7T材质，删除1210尺寸以上规格 | 张国信 |
| J/1 | 2021/3/25 | 39 | 增加0201尺寸COG规格型号 | 张国信 |
| K/0 | 2022/3/18 | 39 | 换版 | 张国信 |
| K/1 | 2022/6/28 | 41 | 换版 | 陈家锐 |
| K/2 | 2022/8/29 | 59 | 更新容量范围 | 陈家锐 |
| K/3 | 2022/11/28 | 59 | 增加RoHS、REACH和无卤要求 | 陈家锐 |
| L/0 | 2023/1/16 | 59 | 换版 | 陈家锐 |
| L/1 | 2023/2/1 | 57 | 更新容值 | 陈家锐 |
| L/2 | 2023/2/24 | 57 | 更新0105容值 | 陈家锐 |
| L/3 | 2023/5/13 | 54 | 更新容值，增加波峰焊/回流焊的规格范围，增加引入标准备注 | 陈家锐 |
| M/0 | 2023/9/15 | 61 | 更新容值、深圳基地地址和中盒包装尺寸 | 陈家锐 |
| M/1 | 2023/12/8 | 50 | 更新容值、载带尺寸 | 张国信 |
| M/2 | 2024/4/19 | 50 | 更新容值 | 陈家锐 |
| M/3 | 2024/8/5 | 52 | 更新容值 | 陈家锐 |
| M/4 | 2024/9/25 | 52 | 更新容值、编带盘尺寸、注意事项 | 陈家锐 |
| N/0 | 2025/1/16 | 52 | 换版 | 陈家锐 |
| N/1 | 2025/4/22 | 52 | 增加德阳基地地址；更新容值；更新编带式包装方式 | 陈家锐 |
| N/2 | 2025/9/3 | 53 | 改版、更新容值 | 陈家锐 |
| N/3 | 2026/2/6 | 53 | 更新容值；增加产品规格型号命名规则备注 | 陈家锐 |

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| 产品标准书 | 编号 Document No. |
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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

| Document Serial No. | DRAAW108N/3 | Page | 53 |
|---|---|---|---|
| Document Name | Specification for Multilayer Ceramic Chip Capacitor | Set date | 2012.01 |

| Version | Change Date | Pages | Content of Change | Registrant |
|---|---|---|---|---|
| B/0 | 2012/1/11 | 38 | New Set | Qianjun Fang |
| B/1 | 2012/8/11 | 36 | Added the carrier tape dimension of 2225 and 1808 sizes | Binbin Wang |
| C/0 | 2013/1/10 | 39 | Version Change | Binbin Wang |
| D/0 | 2014/1/6 | 39 | Updated the SGS Report | Binbin Wang |
| E/0 | 2014/5/6 | 44 | Version Change | Guoxin Zhang |
| F/0 | 2015/2/10 | 44 | Version Change | Guoxin Zhang |
| G/0 | 2016/5/15 | 44 | Version Change | Guoxin Zhang |
| H/0 | 2017/7/1 | 44 | Version Change | Guoxin Zhang |
| I/0 | 2020/2/12 | 44 | Version Change | Guoxin Zhang |
| J/0 | 2021/1/7 | 39 | Add 0201 size and X6S/X7T dielectrics; deleted dimensions above 1210 size | Guoxin Zhang |
| J/1 | 2021/3/25 | 39 | Added the specification model of 0201 size and COG dimension | Guoxin Zhang |
| K/0 | 2022/3/18 | 39 | Version Change | Guoxin Zhang |
| K/1 | 2022/6/28 | 41 | Version Change | Jiarui Chen |
| K/2 | 2022/8/29 | 59 | Updated the range of capacitance | Jiarui Chen |
| K/3 | 2022/11/28 | 59 | Added requirements of the RoHS, REACH and HF | Jiarui Chen |
| L/0 | 2023/1/16 | 59 | Version Change | Jiarui Chen |
| L/1 | 2023/2/1 | 57 | Update capacity | Jiarui Chen |
| L/2 | 2023/2/24 | 57 | Update 0105 capacity | Jiarui Chen |
| L/3 | 2023/5/13 | 54 | Update capacity, increase the tolerance range of crest welding and reflow welding, and add the introduction of standard remarks | Jiarui Chen |
| M/0 | 2023/9/15 | 61 | Update capacity, Shenzhen base address and medium box package size | Jiarui Chen |
| M/1 | 2023/12/8 | 50 | Update capacity, Belt size | Guoxin Zhang |
| M/2 | 2024/4/19 | 50 | Update capacity | Jiarui Chen |
| M/3 | 2024/8/5 | 52 | Update capacity | Jiarui Chen |
| M/4 | 2024/9/25 | 52 | Update capacity, Dimensions of Reel, Matters needing attention | Jiarui Chen |
| N/0 | 2025/1/16 | 52 | Version Change | Jiarui Chen |
| N/1 | 2025/4/22 | 52 | Add Deyang Base address; Update capacity; Update the tape-and-reel packaging method | Jiarui Chen |
| N/2 | 2025/9/3 | 53 | Revision, Update Capacitance Values | Jiarui Chen |
| N/3 | 2026/2/6 | 53 | Update Capacitance Values; Add Remarks on General Product Parts Numbering System | Jiarui Chen |

| 产品标准书 | 编号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

# 目录 Catalog

1. 电容器及介质分类 Types of Capacitor and Dielectric Material……4

2. 产品结构 Product Frame……4

3. 产品规格型号命名规则 General Product Parts Numbering System……5

4. 产品容量范围 Product Capacitance Range……6

5. 产品尺寸 Dimensions……28

6. 技术要求和测试条件 Specification and Testing Conditions……30

7. 产品包装 Packing……42

8. MLCC使用注意事项 Precautions on the use of MLCC……46

| 产品标准书 | 编号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 1. 电容器及介质分类 Types of Capacitor and Dielectric Material

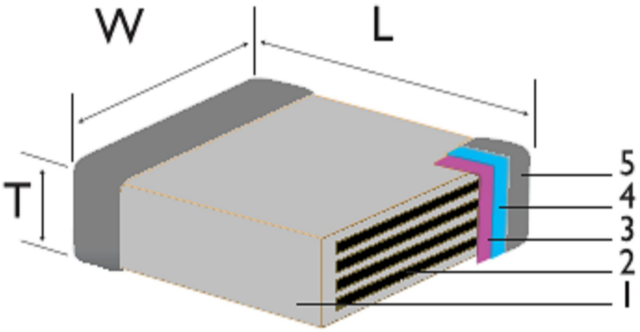
※COG（或称为NP0）：此类介质材料的电容器为 I 类电容器, 包括常规、中高压COG(NP0)产品 。此类产品电性能稳定，几乎不随温度、电压和时间的变化而变化。适用于低损耗，稳定性要求高的电路中，如滤波器、谐振器和计时电路中。

※COG（or NP0）： The capacitor of this kind dielectric material is considered as Class I capacitor, including general capacitor and high frequency COG(NP0) capacitor.The electrical properties of COG(NP0) capacitor are the most stable one and have little change with temperature, voltage and time. They are suited for applications where low-losses and high-stability are required, such as filters, oscillators, and timing circuits.

※X7R/X7S/X7T/X6S/X5R：此类介质材料的电容器为 II 类电容器，具有较高的介电常数，容量比 I 类电容器高，具有较稳定的温度特性，适用于容量范围广，稳定性要求不高的电路中，如隔直、耦合、旁路、鉴频等电路中。

※X7R/X7S/X7T/X6S/X5R： material is a kind of material has high dielectric constant. The capacitor made of this kind material is considered as Class II capacitor whose capacitance is higher than that of Class I . These capacitors are classified as having a semi-stable temperature characteristic and used over a wide temperature range, such in these kinds of circuits, DC-blocking, decoupling, bypassing, frequency discriminating etc.

## 2．产品结构 Product Frame

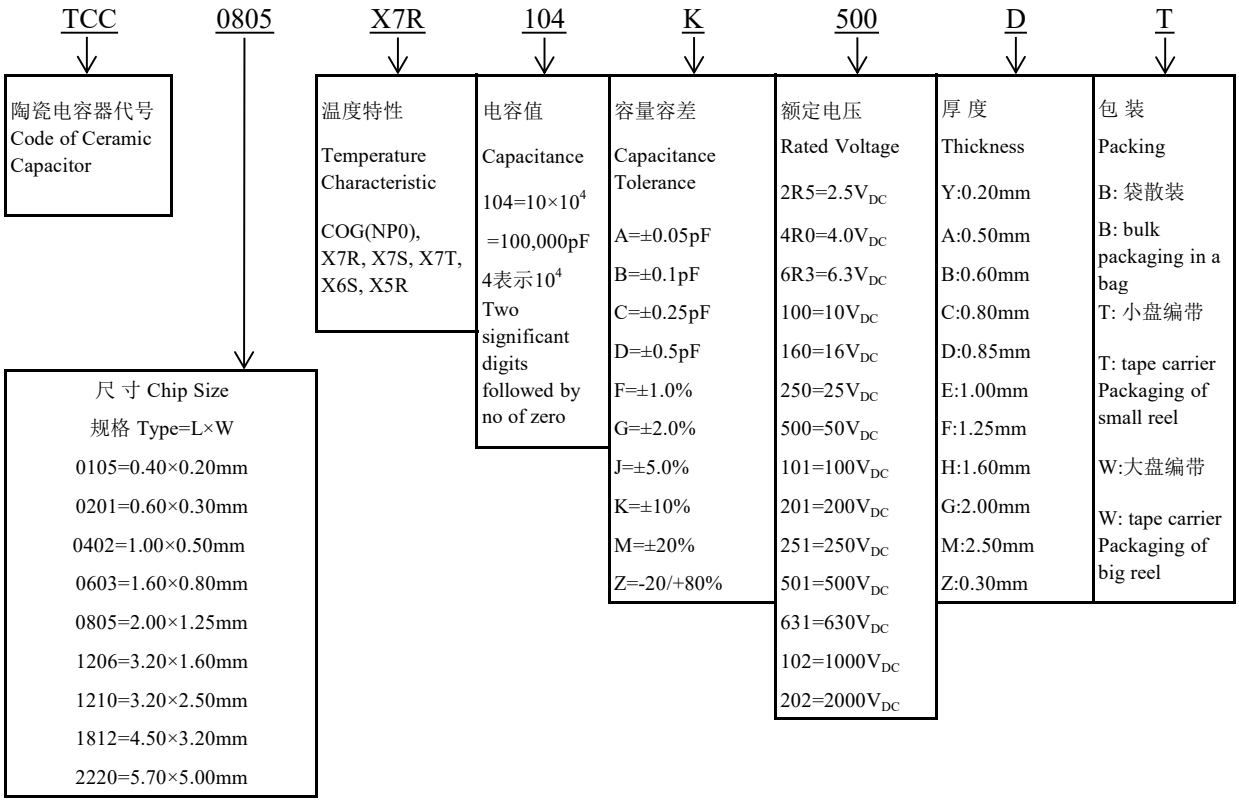



| 序号 No. | 名称 Name |
|---|---|
| 1 | 陶瓷介质<br>Ceramic dielectric |
| 2 | 内电极<br>Inner electrode |
| 3 | 外电极<br>Outer electrode |
| 4 | 镍层<br>Nickel |
| 5 | 锡层<br>Tin |

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 3．产品规格型号命名规则 General Product Parts Numbering System

(例) (example)




*低于10pF的产品表示为: 5R6=5.6pF
低于1pF且有2位有效数字的规格产品表示为: R56=0.56pF
*Products with capacitance below 10 pF are denoted as: 5R6=5.6pF
Products with capacitance below 1 pF and with two significant digits are denoted as: R56=0.56pF

注意：选型时建议使用温度降额 20℃ 以上，使用电压降额 30% 以上。

Attention: It is recommended to decrease the operating temperature by 20℃ or more and decrease the operating voltage by 30% or more.

**产品的介质特性组别 Dielectrics Characteristic Group of Product**

| 材质 Dielectrics | 工作温度范围 Operating Temperature Range | 温度系数或温度特性 Temperature Characteristic |
|---|---|---|
| COG(NP0) | -55℃~+125℃ | 0±30ppm/℃ |
| X7R | -55℃~+125℃ | ±15% |
| X7S | -55℃~+125℃ | ±22% |
| X7T | -55℃~+125℃ | +22/-33% |
| X6S | -55℃~+105℃ | ±22% |
| X5R | -55℃~+85℃ | ±15% |

| 产品标准书 | 编号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 4. 产品容量范围 Product Capacitance Range

**0105(0402)尺寸 Size 0105(0402)**

| 0105(0402) | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | COG系列 | | | | | | X7R系列 | | | | | | X5R系列 | | | | | |
| Cp/$V_{DC}$ | 50 | 35 | 25 | 16 | 10 | 6.3 | 50 | 35 | 25 | 16 | 10 | 6.3 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 0R1 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R2 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R3 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R4 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R5 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R6 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R7 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R8 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 0R9 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 1R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 1R1 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 1R2 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 1R3 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 1R5 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 1R6 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 1R8 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 2R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 2R2 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 2R4 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 2R7 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 3R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 3R3 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 3R6 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 3R9 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 4R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 4R3 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 4R7 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 5R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 5R1 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 5R6 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 6R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 6R2 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 6R8 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 7R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 7R5 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 8R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 8R2 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 9R0 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 9R1 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 100 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 120 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 160 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 180 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 220 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 330 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 390 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 470 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 560 | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| 680 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 101 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 181 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 221 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 241 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 271 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 331 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 471 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 681 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 751 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 102 | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 152 | | | | | | | | | | | | | | | Y | Y | Y | Y |
| 222 | | | | | | | | | | | | | | | Y | Y | Y | Y |
| 332 | | | | | | | | | | | | | | | Y | Y | Y | Y |
| 472 | | | | | | | | | | | | | | | Y | Y | Y | Y |
| 682 | | | | | | | | | | | | | | | Y | Y | Y | Y |
| 103 | | | | | | | | | | | | | | | Y | Y | Y | Y |

①以上容量仅供参考，具体容量取决于使用要求。

①Above capacitance for reference only, actual capacitance range depends on the use requirement.

| 产品标准书 | 编号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**0201(0603)尺寸 Size 0201(0603)**

| 0201(0603) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | COG系列 | | | | | | X7R系列 | | | | | | X7S系列 | | | | | | X7T系列 | | | | | | | X6S系列 | | | | | | | | X5R系列 | | | | | | |
| $Cp/V_{DC}$ | 50 | 35 | 25 | 16 | 10 | 6.3 | 50 | 35 | 25 | 16 | 10 | 6.3 | 50 | 35 | 25 | 16 | 10 | 6.3 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 2.5 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 |
| 0R1 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R2 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R3 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R4 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R5 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R6 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R7 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R75 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R8 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R9 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R1 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R2 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R3 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R4 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R5 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R6 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R8 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R2 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R4 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R5 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R7 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R3 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R6 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R9 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R3 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R7 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R1 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R6 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R2 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R8 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R5 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R2 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R0 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R1 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 360 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 470 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 510 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 560 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 620 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 750 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 820 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 101 | Z | Z | Z | Z | Z | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.

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|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**0201(0603)尺寸 Size 0201(0603)**

| 0201(0603) | | |

三环集团 — SINCE 1970 —

潮州三环（集团）股份有限公司
CHAOZHOU THREE-CIRCLE(GROUP)CO.,LTD
地址：中国广东省潮州市凤塘三环工业城　邮编（Post Code）：515646
ADD:Sanhuan Industrial District,Fengtang Chaozhou,Guangdong,China

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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 0402（1005）尺寸　Size0402（1005）

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| 产品标准书 | 编号　Document No. |
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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

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| | COG系列 | | | | | | | X7R系列 | | | | | | | X7S系列 | | | | | | | X7T系列 | | | | | | | | X6S系列 | | | | | | | | X5R系列 | | | | | | |
| Cp/$V_{DC}$ | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
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| 273 | | | | | | | | | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A |
| 333 | | | | | | | | | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A |
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| 473 | | | | | | | | | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A |
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| 104 | | | | | | | | | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A |
| 124 | | | | | | | | | | A | A | A | A | A | | | A | A | A | A | A | | | A | A | A | A | A | A | | A | A | A | A | A | A | | A | A | A | A | A | A |
| 154 | | | | | | | | | | A | A | A | A | A | | | A | A | A | A | A | | | A | A | A | A | A | A | | | A | A | A | A | A | | A | A | A | A | A | A |
| 184 | | | | | | | | | | A | A | A | A | A | | | A | A | A | A | A | | | A | A | A | A | A | A | | | A | A | A | A | A | | A | A | A | A | A | A |
| 204 | | | | | | | | | | A | A | A | A | A | | | A | A | A | A | A | | | A | A | A | A | A | A | | | A | A | A | A | A | | A | A | A | A | A | A |
| 224 | | | | | | | | | | A | A | A | A | A | | | A | A | A | A | A | | | A | A | A | A | A | A | | | A | A | A | A | A | | A | A | A | A | A | A |
| 274 | | | | | | | | | | | | A* | A* | A* | | | | | A | A | A | | | | | A* | A | A | A | A | | | | | A | A | A | | A | A | A | A | A | A |
| 334 | | | | | | | | | | | | A* | A* | A* | | | | | A | A | A | | | | | A* | A | A | A | A | | | | | A | A | A | | A | A | A | A | A | A |
| 394 | | | | | | | | | | | | A* | A* | A* | | | | | A | A | A | | | | | A* | A | A | A | A | | | | | A | A | A | | A | A | A | A | A | A |
| 474 | | | | | | | | | | | | A* | A* | A* | | | | | A | A | A | | | | | A* | A | A | A | A | | | | | A | A | A | | A | A | A | A | A | A |
| 684 | | | | | | | | | | | | A* | A* | A* | | | | | A | A | A | | | | | A* | A | A | A | A | | | | | A | A | A | | A | A | A | A | A | A |
| 824 | | | | | | | | | | | | A* | A* | A* | | | | | A | A | A | | | | | A* | A | A | A | A | | | | | A | A | A | | A | A | A | A | A | A |
| 105 | | | | | | | | | | | | A* | A* | A* | | | | | A | A | A | | | | | A* | A | A | A | A | | | | | A | A | A | | A | A | A | A | A | A |
| 225 | | | | | | | | | | | | | A* | A* | | | | | A* | A* | A* | | | | | | A | A | A | A | | | | | A | A | A | | | A | A | A | A | A |
| 335 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | A | A | A | | | A | A | A | A |
| 475 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | A | A | A | | | A | A | A | A |
| 106 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | AR | | | | | | | | | | | | | | AR |

①以上容量仅供参考，具体容量取决于使用要求。

①Above capacitance for reference only, actual capacitance range depends on the use requirement.

②带*表示需客户提供使用场景和相关条件供工厂确认。

②Items marked with * require the customer to provide the usage scenario and related conditions for factory confirmation.

| 产品标准书 | 编号　Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**0603(1608)尺寸　Size 0603(1608)**

**0603(1608)**

| | COG系列 | | | | | | | X7R系列 | | | | | | | | | X7S系列 | | | | | | | | | X7T系列 | | | | | | | | | | X6S系列 | | | | | | | | | X5R系列 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $C_P/V_{dc}$ | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 0R2 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R25 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R3 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R4 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R5 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R56 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R6 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R68 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R7 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R75 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R8 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R82 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R9 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R1 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R2 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R3 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R5 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R6 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R8 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R2 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R4 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R5 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R7 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R3 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R5 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R6 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R9 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R3 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R7 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R1 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R6 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R2 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R8 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R5 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R2 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R0 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R1 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 140 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 160 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 360 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 430 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 470 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 510 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 560 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 620 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 750 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 820 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 910 | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.

| 产品标准书 | 编号　Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**0603(1608)尺寸　Size 0603(1608)**

**0603(1608)**

| Cp/$V_{dc}$ | COG系列 | | | | | | | X7R系列 | | | | | | | | | X7S系列 | | | | | | | | | X7T系列 | | | | | | | | | X6S系列 | | | | | | | | | X5R系列 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 101 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 111 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 121 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 131 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 151 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 161 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 181 | | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 201 | | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 221 | | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 241 | | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 271 | | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
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| 106 | | | | | | | | | | | | | | | | C* | C* | C | | | | | | | | C | C | C | | | | | | | | C | C | C | C | C | C | | | | | | C | C | C | C | C | C | C | C | C | C |
| 226 | | | | | | | | | | | | | | | | | | C | | | | | | | | C | C | C | | | | | | | | | | C | C | C | | | | | | | | C | C | C | C | C | C | C | C | C | C |

①以上容量仅供参考，具体容量取决于使用要求。

①Above capacitance for reference only, actual capacitance range depends on the use requirement.

②带*表示需客户提供使用场景和相关条件供工厂确认。

②Items marked with * require the customer to provide the usage scenario and related conditions for factory confirmation.

| 产 品 标 准 书 | 编 号　Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**0805(2012)尺寸 Size 0805(2012)**

| 0805(2012) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | COG系列 | | | | | | | | | X7R系列 | | | | | | | | | | | | X7S系列 | | | | | | | | | | | |
| $Cp/V_{DC}$ | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 0R2 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R3 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R4 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R5 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R6 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R7 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R8 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 0R9 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R1 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R2 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R3 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R5 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R6 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R8 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R2 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R4 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R5 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R7 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R3 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R5 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R6 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R9 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R3 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R7 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R1 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R6 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R2 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R8 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R5 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R2 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R0 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R1 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 140 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 160 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 270 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 360 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 430 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 470 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 510 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 560 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 620 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 750 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 820 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |
| 910 | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**0805(2012)尺寸 Size 0805(2012)**

| 0805(2012) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | COG系列 | | | | | | | | | X7R系列 | | | | | | | | | | | | X7S系列 | | | | | | | | | | | | | |
| Cp/$V_{DC}$ | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 101 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| 121 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| 131 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 151 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 181 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 201 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 221 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 241 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 271 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 301 | B | B | B | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 331 | B | B | B | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 361 | | B/D | B/D | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 391 | | B/D | B/D | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 431 | | B/D | B/D | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 471 | | B/D | B/D | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 501 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 511 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 561 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 621 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 681 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 751 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 821 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 102 | | F | B/F | B | B | B | B | B | B | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 122 | | | | | B | B | B | B | B | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 152 | | | | | B | B | B | B | B | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 182 | | | | | B | B | B | B | B | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 202 | | | | | B | B | B | B | B | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 222 | | | | | B | B | B | B | B | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 272 | | | | | | B | B | B | B | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 332 | | | | | | B/D | B/D | B/D | B/D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 392 | | | | | | B/D | B/D | B/D | B/D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 472 | | | | | | B/D | B/D | B/D | B/D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 502 | | | | | | B/D | B/D | B/D | B/D | | | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 562 | | | | | | B/D | B/D | B/D | B/D | | | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 682 | | | | | | B/D | B/D | B/D | B/D | | | D/F | D/F | D/F | D/F | D | D | D | D | D | D | | | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 822 | | | | | | D | D | D | D | | | F | D/F | D/F | D/F | D | D | D | D | D | D | | | F | D/F | D/F | D/F | D | D | D | D | D | D |
| 103 | | | | | | D | D | D | D | | | F | D/F | D/F | D/F | D | D | D | D | D | D | | | F | D/F | D/F | D/F | D | D | D | D | D | D |
| 123 | | | | | | | | | | | | F | F | D/F | D/F | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
| 153 | | | | | | | | | | | | F | F | D/F | D/F | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
| 183 | | | | | | | | | | | | F | F | D/F | D/F | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
| 203 | | | | | | | | | | | | F | F | D/F | D/F | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
| 223 | | | | | | | | | | | | F | F | D/F | D/F | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
| 273 | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D |
| 333 | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D |
| 393 | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D |
| 473 | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D |
| 563 | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D |
| 683 | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D |
| 823 | | | | | | | | | | | | | F | F | D/F | D | D | D | D | D | D | | | | F | F | D/F | D | D | D | D | D | D |
| 104 | | | | | | | | | | | | | F | F | D/F | D | D | D | D | D | D | | | | F | F | D/F | D | D | D | D | D | D |
| 124 | | | | | | | | | | | | | | | F | D | D | D | D | D | D | | | | | | F | D | D | D | D | D | D |
| 154 | | | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
| 184 | | | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
| 224 | | | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
| 274 | | | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
| 334 | | | | | | | | | | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
| 394 | | | | | | | | | | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F |
| 474 | | | | | | | | | | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F |
| 564 | | | | | | | | | | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F |
| 684 | | | | | | | | | | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F |
| 824 | | | | | | | | | | | | | | | F | F | D/F | D/F | D/F | D/F | D/F | | | | | | F | F | D/F | D/F | D/F | D/F | D/F |
| 105 | | | | | | | | | | | | | | | F | F | D/F | D/F | D/F | D/F | D/F | | | | | | F | F | D/F | D/F | D/F | D/F | D/F |
| 155 | | | | | | | | | | | | | | | | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F |
| 225 | | | | | | | | | | | | | | | | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F |
| 335 | | | | | | | | | | | | | | | | F* | F | F | F | F | F | | | | | | | F* | F | F | F | F | F |
| 475 | | | | | | | | | | | | | | | | F* | F | F | F | F | F | | | | | | | F* | F | F | F | F | F |
| 685 | | | | | | | | | | | | | | | | | | F* | F* | F | F | | | | | | | | | F* | F | F | F |
| 106 | | | | | | | | | | | | | | | | | | F* | F* | F* | F* | | | | | | | | | F* | F | F | F |
| 206 | | | | | | | | | | | | | | | | | | | | F* | F* | | | | | | | | | | | F* | F* |
| 226 | | | | | | | | | | | | | | | | | | | | F* | F* | | | | | | | | | | | F* | F* |
| 476 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

①以上容量仅供参考，具体容量取决于使用要求。

①Above capacitance for reference only, actual capacitance range depends on the use requirement.

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③涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。

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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**0805(2012)尺寸 Size 0805(2012)**

| 0805(2012) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7T系列 | | | | | | | | | | | | | | X6S系列 | | | | | | | | | | | | X5R系列 | | | | | | | | | | | | | |
| Cp/$V_{DC}$ | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 2.5 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 101 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| 121 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| 131 | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 151 | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 181 | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 201 | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 221 | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 241 | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 271 | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B | B | B | B | B | B | B/D | B/D | B/D | B/D | B/D | B/D | B/D |
| 301 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 331 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 361 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 391 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 431 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 471 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 501 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 511 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 561 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 621 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 681 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 751 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 821 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 102 | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D | F | D/F | D/F | D/F | D/F | D/F | B/D | B/D | B/D | B/D | B/D | B/D |
| 122 | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 152 | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
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| 202 | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 222 | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 272 | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
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| 392 | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 472 | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D | D | | D/F | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
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| 103 | | | F | D/F | D/F | D/F | D | D | D | D | D | D | D | D | | | F | D/F | D/F | D/F | D | D | D | D | D | D | D | | | D/F | D/F | D/F | D/F | D | D | D | D | D | D |
| 123 | | | F | F | D/F | D/F | D | D | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
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| 273 | | | | F | D/F | D/F | D | D | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
| 333 | | | | F | D/F | D/F | D | D | D | D | D | D | D | D | | | | F | D/F | D/F | D | D | D | D | D | D | D | | | F | F | D/F | D/F | D | D | D | D | D | D |
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| 104 | | | | F | F | D/F | D | D | D | D | D | D | D | D | | | | F | F | D/F | D | D | D | D | D | D | D | | | | F | F | D/F | D | D | D | D | D | D |
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| 154 | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
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| 274 | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
| 334 | | | | | | F | D/F | D/F | D | D | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D | | | | | | F | D/F | D/F | D | D | D | D |
| 394 | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F |
| 474 | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F |
| 564 | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | F | D/F | D/F | D/F | D/F | D/F | D/F |
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| 155 | | | | | | | F | F | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F |
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| 335 | | | | | | | F | F | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F |
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| 106 | | | | | | | | | F | F | F | F | F | F | | | | | | | | F | F | F | F | F | | | | | | | F* | F | F | F | F | F |
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| 476 | | | | | | | | | | | | | | | | | | | | | | | | | | F | | | | | | | | | | | F | F |

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③Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.

| 产 品 标 准 书 | 编 号　Document No. |
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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1206(3216)尺寸 Size 1206(3216)**

| 1206（3216） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | COG系列 | | | | | | | | | | | X7R系列 | | | | | | | | | | | | X7S系列 | | | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 0R5 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R1 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R2 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R3 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R5 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R6 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1R8 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R2 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R4 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2R7 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R3 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R6 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3R9 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R3 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4R7 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R1 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5R6 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R2 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6R8 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7R5 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8R2 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R0 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9R1 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | D | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 470 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 510 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 560 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 820 | D/E/F | D | D | D | D | D | D | D | D | D | D | | | | | | | | | | | | | | | | | | | | | | | | | | |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
②Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.

| 产 品 标 准 书 | 编 号　Document No. |
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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1206(3216)尺寸 Size 1206(3216)**

| 1206（3216） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | COG系列 | | | | | | | | | | | X7R系列 | | | | | | | | | | | | X7S系列 | | | | | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 101 | D/E/F | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 121 | E/F | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 151 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 181 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 201 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 221 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 241 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 271 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 331 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 391 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 471 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 511 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 561 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 681 | | D/E/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 821 | | D/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 102 | | D/F | D | D | D | D | D | D | D | D | D | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 122 | | | D | D | D | D | D | D | D | D | D | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 152 | | | D | D | D | D | D | D | D | D | D | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 182 | | | D | D | D | D | D | D | D | D | D | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 202 | | | D | D | D | D | D | D | D | D | D | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 222 | | | D | D | D | D | D | D | D | D | D | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 272 | | | D | D | D | D | D | D | D | D | D | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 332 | | | D | D | D | D | D | D | D | D | D | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 392 | | | | | | | D | D | D | D | D | H | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 472 | | | | | | | D | D | D | D | D | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 562 | | | | | | | D | D | D | D | D | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 682 | | | | | | | D | D | D | D | D | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 822 | | | | | | | D | D | D | D | D | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 103 | | | | | | | D | D | D | D | D | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 123 | | | | | | | | | | | | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 153 | | | | | | | | | | | | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 183 | | | | | | | | | | | | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 223 | | | | | | | | | | | | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 273 | | | | | | | | | | | | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 333 | | | | | | | | | | | | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 393 | | | | | | | | | | | | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 473 | | | | | | | | | | | | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 563 | | | | | | | | | | | | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 683 | | | | | | | | | | | | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 823 | | | | | | | | | | | | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 104 | | | | | | | | | | | | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 124 | | | | | | | | | | | | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 154 | | | | | | | | | | | | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 184 | | | | | | | | | | | | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 224 | | | | | | | | | | | | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 274 | | | | | | | | | | | | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 334 | | | | | | | | | | | | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 474 | | | | | | | | | | | | | | | | | | F | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F | F |
| 564 | | | | | | | | | | | | | | | | | | F/H | F/H | F/H | F | F | F | F | | | | | | | F/H | F/H | F/H | F | F | F | F |
| 684 | | | | | | | | | | | | | | | | | | F/H | F/H | F/H | F | F | F | F | | | | | | | F/H | F/H | F/H | F | F | F | F |
| 105 | | | | | | | | | | | | | | | | | | H | F/H | F/H | F/H | F/H | F/H | F/H | | | | | | | H | F/H | F/H | F/H | F/H | F/H | F/H |
| 225 | | | | | | | | | | | | | | | | | | H | H | H | F/H | F/H | F/H | F/H | | | | | | | H | H | H | F/H | F/H | F/H | F/H |
| 335 | | | | | | | | | | | | | | | | | | | H | H | H | H | H | H | | | | | | | | H | H | H | H | H | H |
| 475 | | | | | | | | | | | | | | | | | | | H | H | H | H | H | H | | | | | | | | H | H | H | H | H | H |
| 685 | | | | | | | | | | | | | | | | | | | H* | H | H | H | H | H | | | | | | | | H* | H | H | H | H | H |
| 106 | | | | | | | | | | | | | | | | | | | H* | H* | H | H | H | H | | | | | | | | H* | H | H | H | H | H |
| 226 | | | | | | | | | | | | | | | | | | | | | | | H* | H* | | | | | | | | | | | | H* | H* |
| 476 | | | | | | | | | | | | | | | | | | | | | | | H* | H* | | | | | | | | | | | | H* | H* |
| 107 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 227 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②带*表示需客户提供使用场景和相关条件供工厂确认。
②Items marked with * require the customer to provide the usage scenario and related conditions for factory confirmation.
③涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
③Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.

| 产 品 标 准 书 | 编 号　Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1206(3216)尺寸 Size 1206(3216)**

| 1206（3216） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7T系列 | | | | | | | | | | | | | | X6S系列 | | | | | | | | | | | | X5R系列 | | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 101 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 121 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 151 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 181 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 201 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 221 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 241 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 271 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 331 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 391 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 471 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 511 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 561 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
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| 821 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 102 | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 122 | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 152 | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 182 | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | F/H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 202 | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 222 | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 272 | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 332 | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 392 | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 472 | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | H | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 562 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 682 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 822 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 103 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 123 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 153 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 183 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 223 | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | F | F | F | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 273 | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 333 | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 393 | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 473 | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | F/H | F/H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
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| 683 | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
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| 104 | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | H | F | F | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 124 | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 154 | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 184 | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 224 | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | H | H | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 274 | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 334 | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F | | | | | | | D/F | D/F | D/F | D/F | D/F | D/F | D/F |
| 474 | | | | | | | F | F | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F | F | | | | | | | F | F | F | F | F | F | F |
| 564 | | | | | | | F/H | F/H | F/H | F | F | F | F | | | | | | | | F/H | F/H | F/H | F | F | F | F | | | | | | | F/H | F/H | F/H | F | F | F | F |
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| 226 | | | | | | | | | | | | H | H | H | | | | | | | | | | | H | H | H | | | | | | | | | | H | H | H | H |
| 476 | | | | | | | | | | | | H | H | H | | | | | | | | | | | H | H | H | | | | | | | | | | H | H | H | H |
| 107 | | | | | | | | | | | | | | | | | | | | | | | | | | | H | | | | | | | | | | | | H | H |
| 227 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | H |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
②Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1210(3225)尺寸 Size 1210(3225)**

| 1210(3225) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7R系列 | | | | | | | | | | | | | X7S系列 | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 221 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 271 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 331 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 391 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 471 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 561 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 681 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 821 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 102 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 152 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 182 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 222 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 272 | H#/G# | F | F | F | F | F | F | F | F | F | F | F | F | H#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 332 | H/G | F | F | F | F | F | F | F | F | F | F | F | F | H/G | F | F | F | F | F | F | F | F | F | F | F | F |
| 472 | G | F | F | F | F | F | F | F | F | F | F | F | F | G | F | F | F | F | F | F | F | F | F | F | F | F |
| 562 | G# | F | F | F | F | F | F | F | F | F | F | F | F | G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 682 | G# | F | F | F | F | F | F | F | F | F | F | F | F | G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 103 | G# | F | F | F | F | F | F | F | F | F | F | F | F | G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 153 | | F | F | F | F | F | F | F | F | F | F | F | F | | F | F | F | F | F | F | F | F | F | F | F | F |
| 223 | | H | H | H | H | H | H | H | H | H | H | H | H | | H | H | H | H | H | H | H | H | H | H | H | H |
| 333 | | M | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | M | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 473 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 563 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 683 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 104 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 154 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 224 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 334 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 374 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 474 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 684 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 105 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 225 | | | | | | | M | M | M | M | M | M | M | | | | | | | M | M | M | M | M | M | M |
| 475 | | | | | | | M* | M* | M* | M* | M* | M* | M* | | | | | | | M | M | M | M | M | M | M |
| 106 | | | | | | | | M* | M* | M* | M* | M* | M* | | | | | | | | M | M | M | M | M | M |
| 226 | | | | | | | | | | M* | M* | M* | M* | | | | | | | | | | M | M | M | M |
| 476 | | | | | | | | | | | M* | M* | M* | | | | | | | | | | | M | M | M |
| 107 | | | | | | | | | | | | | M* | | | | | | | | | | | | | M* |

①以上容量仅供参考，具体容量取决于使用要求。

①Above capacitance for reference only, actual capacitance range depends on the use requirement.

②带*表示需客户提供使用场景和相关条件供工厂确认，带#表示只能发M档（容差±20%）物料。

②Items marked with * require the customer to provide the usage scenario and related conditions for factory confirmation; Items marked with #, can only ship in M (tolerance ±20%) position material.

③涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。

③Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.

④橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。

④The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

| 产 品 标 准 书 | 编 号　Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1210(3225)尺寸 Size 1210(3225)**

| 1210(3225) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7T系列 | | | | | | | | | | | | | | X6S系列 | | | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 4 | 2.5 |
| 221 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 271 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 331 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 391 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 471 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 561 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 681 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 821 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 102 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 152 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 182 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 222 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 272 | H#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | H#/G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 332 | H/G | F | F | F | F | F | F | F | F | F | F | F | F | F | H/G | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 472 | G | F | F | F | F | F | F | F | F | F | F | F | F | F | G | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 562 | G# | F | F | F | F | F | F | F | F | F | F | F | F | F | G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 682 | G# | F | F | F | F | F | F | F | F | F | F | F | F | F | G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 103 | G# | F | F | F | F | F | F | F | F | F | F | F | F | F | G# | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 153 | | F | F | F | F | F | F | F | F | F | F | F | F | F | | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 223 | | H | H | H | H | H | H | H | H | H | H | H | H | H | | H | H | H | H | H | H | H | H | H | H | H | H | H | H |
| 333 | | M | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | M | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 473 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 563 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 683 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 104 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 154 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 224 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 334 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 374 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 474 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 684 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 105 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 225 | | | | | | | M | M | M | M | M | M | M | M | | | | | | | M | M | M | M | M | M | M | M | M |
| 475 | | | | | | | M | M | M | M | M | M | M | M | | | | | | | M | M | M | M | M | M | M | M | M |
| 106 | | | | | | | | M | M | M | M | M | M | M | | | | | | | | M | M | M | M | M | M | M | M |
| 226 | | | | | | | | | | M | M | M | M | M | | | | | | | | | | M | M | M | M | M | M |
| 476 | | | | | | | | | | | M | M | M | M | | | | | | | | | | | M | M | M | M | M |
| 107 | | | | | | | | | | | | | M | M | | | | | | | | | | | | | M | M | M |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②带#表示只能发M档（容差±20%）物料。
②Items marked with #, can only ship in M (tolerance ±20%) position material.
③涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
③Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.
④橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。
④The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1210(3225)尺寸 Size 1210(3225)**

| 1210(3225) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X5R系列 | | | | | | | | | | | | |
| Cp/$V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 221 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 271 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 331 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 391 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 471 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 561 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 681 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 821 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 102 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 152 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 182 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 222 | F#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 272 | H#/G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 332 | H/G | F | F | F | F | F | F | F | F | F | F | F | F |
| 472 | G | F | F | F | F | F | F | F | F | F | F | F | F |
| 562 | G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 682 | G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 103 | G# | F | F | F | F | F | F | F | F | F | F | F | F |
| 153 | | F | F | F | F | F | F | F | F | F | F | F | F |
| 223 | | H | H | H | H | H | H | H | H | H | H | H | H |
| 333 | | M | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 473 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 563 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 683 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 104 | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 154 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 224 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 334 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 374 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 474 | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 684 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 105 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 225 | | | | | | | M | M | M | M | M | M | M |
| 475 | | | | | | | M | M | M | M | M | M | M |
| 106 | | | | | | | M | M | M | M | M | M | M |
| 226 | | | | | | | | | M | M | M | M | M |
| 476 | | | | | | | | | | M | M | M | M |
| 107 | | | | | | | | | | | | M | M |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②带#表示只能发M档（容差±20%）物料。
②Items marked with #, can only ship in M (tolerance ±20%) position material.
③涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
③Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.
④橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。
④The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

| 产 品 标 准 书 | 编 号 Document No. |
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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1812(4532)尺寸 Size 1812(4532)**

| 1812(4532) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7R系列 | | | | | | | | | | | | | X7S系列 | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 471 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 561 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 681 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 821 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 102 | F/H/G | F/H/G | F/H/G | F/H/G | F | F | F | F | F | F | F | F | F | F/H/G | F/H/G | F/H/G | F/H/G | F | F | F | F | F | F | F | F | F |
| 222 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 332 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 472 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 562 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 682 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 103 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 153 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 223 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 333 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 473 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 563 | | G# | G | G | F | F | F | F | F | F | F | F | F | | G# | G | G | F | F | F | F | F | F | F | F | F |
| 683 | | | G | G | F | F | F | F | F | F | F | F | F | | | G | G | F | F | F | F | F | F | F | F | F |
| 104 | | | G | G | G | G | G | G | G | G | G | G | G | | | G | G | G | G | G | G | G | G | G | G | G |
| 224 | | | | | G | G | G | G | G | G | G | G | G | | | | | G | G | G | G | G | G | G | G | G |
| 334 | | | | | G | G | G | G | G | G | G | G | G | | | | | G | G | G | G | G | G | G | G | G |
| 474 | | | | | | | G | G | G | G | G | G | G | | | | | | | G | G | G | G | G | G | G |
| 684 | | | | | | | G | G | G | G | G | G | G | | | | | | | G | G | G | G | G | G | G |
| 105 | | | | | | | G | G | G | G | G | G | G | | | | | | | G | G | G | G | G | G | G |
| 225 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 475 | | | | | | | M | M | M | M | M | M | M | | | | | | | M | M | M | M | M | M | M |
| 106 | | | | | | | | M | M | M | M | M | M | | | | | | | | M | M | M | M | M | M |
| 226 | | | | | | | | | | M | M | M | M | | | | | | | | | | M | M | M | M |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②带#表示只能发M档（容差±20%）物料。
②Items marked with #, can only ship in M (tolerance ±20%) position material.
③涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
③Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.
④橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。
④The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1812(4532)尺寸 Size 1812(4532)**

| 1812(4532) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7T系列 | | | | | | | | | | | | | X6S系列 | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 471 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 561 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 681 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 821 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 102 | F/H/G | F/H/G | F/H/G | F/H/G | F | F | F | F | F | F | F | F | F | F/H/G | F/H/G | F/H/G | F/H/G | F | F | F | F | F | F | F | F | F |
| 222 | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 332 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 472 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 562 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 682 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 103 | H/G | G | G | G | F | F | F | F | F | F | F | F | F | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 153 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 223 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 333 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 473 | | G | G | G | F | F | F | F | F | F | F | F | F | | G | G | G | F | F | F | F | F | F | F | F | F |
| 563 | | G# | G | G | F | F | F | F | F | F | F | F | F | | G# | G | G | F | F | F | F | F | F | F | F | F |
| 683 | | | G | G | F | F | F | F | F | F | F | F | F | | | G | G | F | F | F | F | F | F | F | F | F |
| 104 | | | G | G | G | G | G | G | G | G | G | G | G | | | G | G | G | G | G | G | G | G | G | G | G | G |
| 224 | | | | | G | G | G | G | G | G | G | G | G | | | | | G | G | G | G | G | G | G | G | G | G |
| 334 | | | | | G | G | G | G | G | G | G | G | G | | | | | G | G | G | G | G | G | G | G | G | G |
| 474 | | | | | | | G | G | G | G | G | G | G | | | | | | | G | G | G | G | G | G | G | G |
| 684 | | | | | | | G | G | G | G | G | G | G | | | | | | | G | G | G | G | G | G | G | G |
| 105 | | | | | | | G | G | G | G | G | G | G | | | | | | | G | G | G | G | G | G | G | G |
| 225 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 475 | | | | | | | M | M | M | M | M | M | M | | | | | | | M | M | M | M | M | M | M | M |
| 106 | | | | | | | | M | M | M | M | M | M | | | | | | | | M | M | M | M | M | M | M |
| 226 | | | | | | | | | | M | M | M | M | | | | | | | | | | M | M | M | M | M |

①以上容量仅供参考，具体容量取决于使用要求。

①Above capacitance for reference only, actual capacitance range depends on the use requirement.

②带#表示只能发M档（容差±20%）物料。

②Items marked with #, can only ship in M (tolerance ±20%) position material.

③橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。

③The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

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| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**1812(4532)尺寸 Size 1812(4532)**

| 1812(4532) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X5R系列 | | | | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 16 | 10 | 6.3 |
| 471 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 561 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 681 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 821 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 102 | F/H/G | F/H/G | F/H/G | F/H/G | F | F | F | F | F | F | F | F | F |
| 222 | F | F | F | F | F | F | F | F | F | F | F | F | F |
| 332 | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 472 | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 562 | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 682 | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 103 | H/G | G | G | G | F | F | F | F | F | F | F | F | F |
| 153 | | G | G | G | F | F | F | F | F | F | F | F | F |
| 223 | | G | G | G | F | F | F | F | F | F | F | F | F |
| 333 | | G | G | G | F | F | F | F | F | F | F | F | F |
| 473 | | G | G | G | F | F | F | F | F | F | F | F | F |
| 563 | | G# | G | G | F | F | F | F | F | F | F | F | F |
| 683 | | | G | G | F | F | F | F | F | F | F | F | F |
| 104 | | | G | G | G | G | G | G | G | G | G | G | G |
| 224 | | | | | G | G | G | G | G | G | G | G | G |
| 334 | | | | | G | G | G | G | G | G | G | G | G |
| 474 | | | | | | | G | G | G | G | G | G | G |
| 684 | | | | | | | G | G | G | G | G | G | G |
| 105 | | | | | | | G | G | G | G | G | G | G |
| 225 | | | | | | | H/G | H/G | H/G | H/G | H/G | H/G | H/G |
| 475 | | | | | | | M | M | M | M | M | M | M |
| 106 | | | | | | | | M | M | M | M | M | M |
| 226 | | | | | | | | | | M | M | M | M |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②带#表示只能发M档（容差±20%）物料。
②Items marked with #, can only ship in M (tolerance ±20%) position material.
③橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。
③The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**2220(5750)尺寸 Size 2220(5750)**

| 2220(5750) | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7R系列 | | | | | | | | | | X7S系列 | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 |
| 221 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 271 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 331 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 391 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 471 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 561 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 681 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 821 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 102 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 222 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 332 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 472 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 562 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 682 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 103 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 153 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 223 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 333 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 473 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 563 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 683 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 104 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 224 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 334 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 474 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 684 | | | | | G/M | G/M | G/M | G/M | G/M | G/M | | | | | G/M | G/M | G/M | G/M | G/M | G/M |
| 105 | | | | | M | M | M | M | M | M | | | | | M | M | M | M | M | M |
| 225 | | | | | M | M | M | M | M | M | | | | | M | M | M | M | M | M |
| 335 | | | | | | M | M | M | M | M | | | | | | M | M | M | M | M |
| 475 | | | | | | M | M | M | M | M | | | | | | M | M | M | M | M |
| 685 | | | | | | | M | M | M | M | | | | | | | M | M | M | M |
| 106 | | | | | | | | M* | M | M | | | | | | | | M | M | M |
| 226 | | | | | | | | | M | M | | | | | | | | | M | M |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②带*表示需客户提供使用场景和相关条件供工厂确认。
②Items marked with * require the customer to provide the usage scenario and related conditions for factory confirmation.
③涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
③Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.
④橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。
④The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**2220(5750)尺寸 Size 2220(5750)**

| 2220(5750) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X7T系列 | | | | | | | | | | X6S系列 | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 |
| 221 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 271 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 331 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 391 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 471 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 561 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 681 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 821 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 102 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 222 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 332 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 472 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 562 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 682 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 103 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 153 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 223 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 333 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 473 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 563 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 683 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 104 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 224 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 334 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 474 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 684 | | | | | G/M | G/M | G/M | G/M | G/M | G/M | | | | | G/M | G/M | G/M | G/M | G/M | G/M |
| 105 | | | | | M | M | M | M | M | M | | | | | M | M | M | M | M | M |
| 225 | | | | | M | M | M | M | M | M | | | | | M | M | M | M | M | M |
| 335 | | | | | | M | M | M | M | M | | | | | | M | M | M | M | M |
| 475 | | | | | | M | M | M | M | M | | | | | | M | M | M | M | M |
| 685 | | | | | | | M | M | M | M | | | | | | | M | M | M | M |
| 106 | | | | | | | | M | M | M | | | | | | | | M | M | M |
| 226 | | | | | | | | | M | M | | | | | | | | | M | M |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
②Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.
③橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。
③The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**2220(5750)尺寸 Size 2220(5750)**

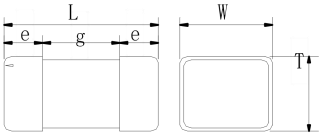
| 2220(5750) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | X5R系列 | | | | | | | | | |
| $Cp/V_{DC}$ | 2000 | 1000 | 630 | 500 | 250 | 200 | 100 | 50 | 35 | 25 |
| 221 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 271 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 331 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 391 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 471 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 561 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 681 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 821 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 102 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 222 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 332 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 472 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 562 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 682 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 103 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 153 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 223 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 333 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 473 | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 563 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 683 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 104 | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 224 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 334 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 474 | | | G/M | G/M | G/M | G/M | G/M | G/M | G/M | G/M |
| 684 | | | | | G/M | G/M | G/M | G/M | G/M | G/M |
| 105 | | | | | M | M | M | M | M | M |
| 225 | | | | | M | M | M | M | M | M |
| 335 | | | | | M | M | M | M | M | M |
| 475 | | | | | M | M | M | M | M | M |
| 685 | | | | | | M | M | M | M | M |
| 106 | | | | | | | M | M | M | M |
| 226 | | | | | | | | M | M | M |

①以上容量仅供参考，具体容量取决于使用要求。
①Above capacitance for reference only, actual capacitance range depends on the use requirement.
②涉及同一个规格，多种厚度设计，优先选择黑色字体，红色字体建议慎重选择，交期长。
②Involving the same specification, a variety of thickness design, preferentially choose black font, red font is recommended to choose carefully, long delivery time.
③橙色高亮标识表示特殊规格，该规格要求最小订单量。对于1210及以上规格产品，最小订单量为30,000个。
③The orange highlight means a specialized specification which requires the minimum order quantity. The minimum order quantity for 1210 and above is 30,000 units.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 5. 产品尺寸 Dimensions

规格：0105、0201、0402、0603、0805、1206、1210、1812、2220。
Chip Size： 0105、0201、0402、0603、0805、1206、1210、1812、2220.




| 规格 Type | L (mm) | W (mm) | e (mm) | g min (mm) | T（mm）/代码Code | | |
|---|---|---|---|---|---|---|---|
| 0105 | 0.40±0.02 | 0.20±0.02 | 0.06~0.15 | 0.1 | 0.20±0. 02 | Y | |
| 0105 | 0.40-0.03/+0.1 | 0.20-0.03/+0.1 | 0.06~0.15 | 0.1 | 0.20-0.03/+0.1 | Y | *4 |
| 0201 | 0.60±0.03 | 0.30±0.03 | 0.1~0.2 | 0.2 | 0.30±0.03 | Z | |
| 0201 | 0.60-0.03/+0.1 | 0.30-0.03/+0.1 | 0.1~0.2 | 0.2 | 0.30-0.03/+0.1 | Z | *2 |
| 0402 | 1.00±0.10 | 0.50±0.10 | 0.15~0.3 | 0.4 | 0.50±0.10 | A | |
| 0402 | 1.00-0.05/+0.2 | 0.50-0.05/+0.2 | 0.15~0.3 | 0.4 | 0.50-0.05/+0.2 | A | *2 |
| 0402 | 1.00-0.05/+0.25 | 0.50-0.05/+0.25 | 0.15~0.3 | 0.4 | 0.50-0.05/+0.25 | A | *5 |
| 0603 | 1.60±0.10 | 0.80±0.10 | 0.2~0.6 | 0.5 | 0.80±0.10 | C | |
| 0603 | 1.60±0.20 | 0.80±0.20 | 0.2~0.6 | 0.5 | 0.80±0.20 | C | *1 |
| 0603 | 1.60-0.1/+0.3 | 0.80-0.1/+0.3 | 0.2~0.6 | 0.5 | 0.80-0.1/+0.3 | C | *3 |
| 0805 | 2.00±0.10 | 1.25±0.10 | 0.2~0.7 | 0.7 | 0.60±0.10 | B | |
| | | | | | 0.85±0.10 | D | |
| | | | | | 1.25±0.10 | F | |
| 0805 | 2.00±0.20 | 1.25±0.20 | 0.2~0.7 | 0.7 | 0.60±0.10 | B | *1 |
| | | | | | 0.85±0.20 | D | |
| | | | | | 1.25±0.20 | F | |
| 0805 | 2.00-0.1/+0.3 | 1.25-0.1/+0.3 | 0.2~0.7 | 0.7 | 1.25-0.1/+0.3 | F | *3 |

*1 标识该规格型号标识为1uF及以上规格产品尺寸。
*1 Identification: The model identification of this type is 1uF and above specifications of product size.

*2 标识该规格型号标识为100nF及以上规格产品尺寸。
*2 Identification: The model identification of this type is 100nF and above specifications of product size.

*3 标识该规格型号标识为4.7uF及以上规格产品尺寸。
*3 Identification: The model identification of this type is 4.7uF and above specifications of product size.

*4 标识该规格型号标识为10nF及以上规格产品尺寸。
*4 Identification: The model identification of this type is 10nF and above specifications of product size.

*5 标识该规格型号标识为10uF及以上规格产品尺寸。
*5 Identification: The model identification of this type is 10uF and above specifications of product size.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

| 规格 Type | L (mm) | W (mm) | e (mm) | g min (mm) | T（mm）/代码Code | | |
|---|---|---|---|---|---|---|---|
| 1206 | 3.20±0.20 | 1.60±0.20 | 0.3~0.8 | 1.6 | 0.85±0.10 | D | |
| | | | | | 1.00±0.10 | E | |
| | | | | | 1.25±0.20 | F | |
| | | | | | 1.60±0.20 | H | |
| 1206 | 3.20±0.30 | 1.60±0.30 | 0.3~0.8 | 1.6 | 0.85±0.10 | D | *[1] |
| | | | | | 1.00±0.10 | E | |
| | | | | | 1.25±0.20 | F | |
| | | | | | 1.60±0.30 | H | |
| 1210 | 3.20±0.30 | 2.5±0.20 | 0.3~0.8 | 1.6 | 0.85±0.10 | D | |
| | | | | | 1.25±0.20 | F | |
| | | | | | 1.60±0.20 | H | |
| | | | | | 2.00±0.20 | G | |
| | | | | | 2.50±0.30 | M | |
| 1210 | 3.20±0.40 | 2.5±0.30 | 0.3~0.8 | 1.6 | 0.85±0.10 | D | *[1] |
| | | | | | 1.25±0.20 | F | |
| | | | | | 1.60±0.30 | H | |
| | | | | | 2.00±0.30 | G | |
| | | | | | 2.50±0.30 | M | |
| 1812 | 4.50±0.30 | 3.2±0.30 | 0.3~1.5 | 2.5 | 1.25±0.20 | F | |
| | | | | | 1.60±0.20 | H | |
| | | | | | 2.00±0.20 | G | |
| | | | | | 2.50±0.30 | M | |
| 1812 | 4.50±0.40 | 3.2±0.40 | 0.3~1.5 | 2.5 | 1.25±0.20 | F | *[1] |
| | | | | | 1.60±0.20 | H | |
| | | | | | 2.00±0.20 | G | |
| | | | | | 2.50±0.30 | M | |
| 2220 | 5.70±0.40 | 5.0±0.40 | 0.3~1.1 | 3.5 | 1.25±0.20 | F | |
| | | | | | 1.60±0.20 | H | |
| | | | | | 2.00±0.20 | G | |
| | | | | | 2.50±0.30 | M | |

*[1] 标识该规格型号标识为1uF及以上规格产品尺寸。
*[1] Identification: The model identification of this type is 1uF and above specifications of product size.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.技术要求和测试条件 Specification and Testing Conditions

### 6.1 容量 Capacitance

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0) | 在要求的容值容差范围内<br>Within the specified tolerance<br>A:±0.05pF;B:±0.1pF;C:±0.25pF;<br>D:±0.5pF;J: ±5% | 1.0±0.2Vrms, 1MHz±10%<br>(C>1nF, 1.0±0.2Vrms, 1KHz±10%) |
| X7R/X7S/X7T/X6S/X5R | 在要求的容值容差范围内<br>Within the specified tolerance<br>J: ±5%； K: ±10%； M: ±20% | 1.0±0.2Vrms, 1KHz±10%<br>（Cp＞10uF,0.5±0.1Vrms,120±24Hz） |

备注：测试温度：25℃±3℃，测试湿度：＜70%RH. 针对二类介质规格需去老化处理，条件：电容器在150℃热处理1小时，放置48h后进行测量。

Remarks: Testing temperature:25℃±3℃, testing humidity:＜70%RH; Aging treatment is required for the specifications of classIImedium. Conditions: The capacitor is heat/treated at 150°C for 1 hour and placed for48 hours before measuring.

**参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.5.1**
**II类 Class II GB-T 21042-2007 4.5.1**

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.2 损耗 Dissipation Factor

| 类型 Dielectrics | 技术要求 Specification | | | | 测试条件 Testing Condition |
|---|---|---|---|---|---|
| COG(NP0) | Cp<30pF, Q≥400+20Cp<br>Cp≥30pF, Q≥1000 | | | | 1.0±0.2Vrms,1MHz±10%<br>(Cp>1nF,1.0±0.2Vrms,1KHz±10%) |
| X7R/X7S/X7T/X6S/X5R | 规格 Type | Ur | 容量范围 Range of capacitance | DF | 1.0±0.2Vrms, 1KHz±10%<br>(Cp＞10uF, 0.5±0.1Vrms, 120±24Hz) |
| | 0105 | / | C≤0.01μF | ≤7% | |
| | | | C＞0.01μF | ≤10% | |
| | 0201 | / | C≤0.01μF | ≤7% | |
| | | | C＞0.01μF | ≤10% | |
| | 0402 | / | C≤0.1μF | ≤7% | |
| | | | C＞0.1μF | ≤10% | |
| | 0603 | ≤25V | C≤0.47μF | ≤7% | |
| | | | C＞0.47μF | ≤10% | |
| | | ＞25V | C≤0.1μF | ≤5% | |
| | | | 0.1μF＜C≤0.22μF | ≤7% | |
| | | | C＞0.22μF | ≤10% | |
| | 0805 | ≤25V | C≤1μF | ≤7% | |
| | | | C＞1μF | ≤10% | |
| | | ＞25V | C≤0.47μF | ≤7% | |
| | | | C＞0.47μF | ≤10% | |
| | 1206 | ≤25V | C＜2.2μF | ≤7% | |
| | | | 2.2μF≤C≤47μF | ≤10% | |
| | | ＞25V | C＜1μF | ≤7% | |
| | | | 1μF≤C≤47μF | ≤10% | |
| | 1210 | / | C＜2.2μF | ≤7% | |
| | | | 2.2μF≤C≤47μF | ≤10% | |
| | 1812 | / | C＜2.2μF | ≤7% | |
| | | | 2.2μF≤C≤47μF | ≤10% | |
| | 2220 | / | C＜2.2μF | ≤7% | |
| | | | 2.2μF≤C≤47μF | ≤10% | |

备注：测试温度：25℃±3℃，测试湿度：＜70%RH. 针对二类介质规格需去老化处理，条件：电容器在150℃热处理1小时，放置48h后进行测量。

Remarks: Testing temperature:25℃±3℃, testing humidity:＜70%RH; Aging treatment is required for the specifications of classIImedium. Conditions: The capacitor is heat/treated at 150°C for 1 hour and placed for48 hours before measuring.

**参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.5.2**
**II类 Class II GB-T 21042-2007 4.5.2**

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|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

### 6.3 绝缘电阻 Insulation Resistance

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0) | 大于10 GΩ 或100Ω·F/CR(大于其中较小的数值)<br>More than 10 GΩ or 100Ω·F/CR, whichever is smaller | Ur≤400V $U_{测}$=Ur<br>Ur＞400V $U_{测}$=400V<br>充电时间：60±5秒<br>充放电电流：≤50mA<br>Charge Time: 60±5sec<br>Charge/discharge current:50mAmax |
| X7R/X7S/X7T/X6S/X5R | Ur≤50V，大于10 GΩ 或100Ω·F/CR(大于其中较小的数值)<br>Ur≤50V, More than 10 GΩ or 100Ω·F/CR whichever is smaller | Ur≤50V $U_{测}$=Ur<br>充电时间：60±5秒<br>充放电电流：≤50mA<br>Charge Time: 60±5sec<br>Charge/discharge current:50mAmax |
| X7R/X7S/X7T/X6S/X5R | Ur＞50V，大于4GΩ 或 100Ω·F/CR (大于其中较小的数值)<br>Ur＞50V, More than 4 GΩ or 100Ω·F/CR whichever is smaller | Ur≤400V $U_{测}$=Ur<br>Ur＞400V $U_{测}$=400V<br>充电时间：60±5秒<br>充放电电流：≤50mA<br>Charge Time: 60±5sec<br>Charge/discharge current:50mAmax |
| 备注：测试温度：25℃±3℃，测试湿度：＜70%RH。<br>Remarks: Testing temperature: 25℃±3℃, testing humidity: ＜70%RH.<br>**参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.5.3**<br>**II类 Class II GB-T 21042-2007 4.5.3** | | |

### 6.4 尺寸 Dimensions

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0)/X7R/X7S/X7T/X6S/X5R | 在要求的范围内<br>Within the specified dimensions | 用千分尺<br>Using calipers on micrometer |
| **参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.4**<br>**II类 Class II GB-T 21042-2007 4.4** | | |

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

### 6.5 耐电压 Voltage Proof

| 类型<br>Dielectrics | 额定电压范围<br>Rated voltage range | 耐电压性能测试方法<br>Measuring Method |
|---|---|---|
| COG(NP0) | Ur≤50V | 施加额定电压的300%，5秒，最大电流不超过50mA。<br>Force 300% rated voltage for 5 second. Max.current should not exceed 50 mA. |
| X7R/X7S/X7T/X6S/X5R | Ur≤50V | 施加额定电压的250%，5秒，最大电流不超过50mA。<br>Force250% rated voltage for 5 second. Max.current should not exceed 50 mA. |
| COG(NP0)/X7R/X7S/X7T/X6S/X5R | 100V≤Ur＜500V | 施加额定电压的200%，5秒，最大电流不超过50mA。<br>Force200% rated voltage for 5 second. Max.current should not exceed 50 mA. |
| | 500V≤Ur＜2000V | 施加额定电压的150%，5秒，最大电流不超过50mA。<br>Force150% rated voltage for 5 second. Max.current should not exceed 50 mA. |
| | Ur≥2000V | 施加额定电压的120%，5秒，最大电流不超过50mA。<br>Force120% rated voltage for 5 second. Max.current should not exceed 50 mA. |
| 参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.5.4<br>II类 Class II GB-T 21042-2007 4.5.4 | | |

注意：耐电压测试的电压为瞬间电压。
Attention: The Voltage Proof test uses transient voltage.

### 6.6 外观 Appearance

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0)/X7R/X7S/X7T/X6S/X5R | l≤1/8L,w≤1/8W,t≤1/8T<br>（任意一项不符合，均判定不合格）<br>l≤1/8L,w≤1/8W,t≤1/8T<br>(None is acceptable,All judged unqualified) | 目视检查<br>Visual inspection. |
| 参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.4<br>II类 Class II GB-T 21042-2007 4.4 | | |

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

### 6.7可焊性 Solderability

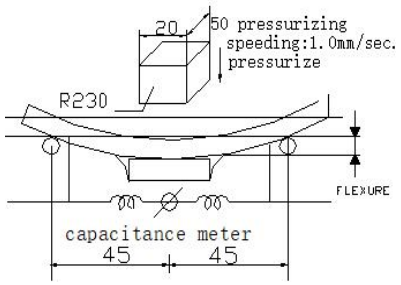
| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0)/X7R/X7S/X7T/X6S/X5R | 端电极挂锡面积不小于95%，针孔或粗糙面积小于5%<br>95% min. coverage of both terminal electrodes and less than 5% have pin holes or rough spots | 锡炉温度：245±5℃<br>浸入时间： 2±1秒<br>两侧端电极完全浸入焊锡炉<br>Solder temperature: 245±5℃<br>Dipping time: 2±1 seconds<br>Completely soak both terminal electrodes in solder |
| 参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.10<br>II类 Class II GB-T 21042-2007 4.10 | | |

### 6.8 耐焊性 Resistance to leaching

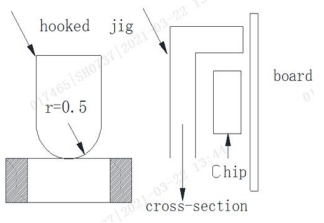
| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0)/X7R/X7S/X7T/X6S/X5R | 端电极挂锡面积不小于95%，针孔或粗糙面积小于5%,外观无开裂<br>95% min. coverage of both terminal electrodes and less than 5% have pin holes or rough spots.<br>No remarkable visual damage | 预热：120℃~150℃/60秒<br>锡炉温度：270±5℃<br>浸入时间： 10±1秒<br>两侧端电极完全浸入焊锡炉<br>Solder temperature: 270±5℃<br>preheated: 120℃~150℃/60sec<br>Dipping time: 10±1 seconds<br>Completely soak both terminal electrodes in solder |
| 参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.9<br>II类 Class II GB-T 21042-2007 4.9 | | |

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.9 端电极结合强度 Board Flex

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0) | 外观无明显可见损伤<br>容量变化小于等于±5%或±0.5pF（取较大值）<br>No obvious damage on appearance<br>Cp change within ±5.0% or ±0.5pF, whichever is larger | 将片状电容器安装在测试夹具上，按图所示方向以1.0mm/s的速率施加压力，弯曲1mm，保持5±1s。<br>Solder the capacitor on testing substrate and put it on testing stand.The middle part of substrate shall successively be pressurized by pressuring rod at a rate of about 1.0mm/sec. Until the deflection become means of the 1mm and hold for 5±1s.<br>  |
| X7R/X7S/X7T/X6S/X5R | 外观无明显可见损伤<br>容量变化小于等于±10%<br>No obvious damage on appearance<br>Cp change within ±10% | |
| 备注：测试样板厚度：0105/0201/0402:1.0mm;0603/0805/1206及以上:1.6mm<br>Remarks: Test sample thickness: 0105/0201/0402: 1.0mm; 0603/0805/1206 and above: 1.6mm<br>**参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.8**<br>**II类 Class II GB-T 21042-2007 4.8** | | |

## 6.10附着力 Terminal Strength

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0)/X7R/X7S/X7T/X6S/X5R | 端电极无松动，也无其它不良现象<br>No removal of the terminations or other defect shall occur | 施加6N的压力（0201:2N），并保持10±1秒<br>The pressurizing force shall be 6N and the duration of application shall be 10±1sec.（0201:2N）<br>  |
| **参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.7**<br>**II类 Class II GB-T 21042-2007 4.7** | | |

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.11 耐焊接热 Resistance to Soldering Heat

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0) | 外观无明显可见损伤<br>容量变化在±2.5%或±0.25pF（取较大值）以内<br>DF满足产品初始值的要求<br>IR满足产品初始值的要求<br><br>No obvious damage on appearance<br>Cp change within ±2.5% or ±0.25pF, whichever is larger<br>DF meets initial standard value<br>IR meets initial standard value | 焊接温度: 270±5℃<br>预热: 120~150℃，60秒<br>浸入时间: 10±1秒<br>在室温下放置24±2 (COG/NP0) 或48±4 (X7R/X7S/X7T/X6S/X5R) 小时以后测量试验后在标准条件下恢复<br><br>*高介电常数电容器的初始值测量<br>在140~150℃进行1小时的热处理后在室温下放置48±4小时，测量初始值<br><br>Soldering temperature: 270±5℃<br>Preheating: 120~150℃,60sec<br>Dipping time: 10±1 seconds<br>Measurement to be made after being kept at room temperature for 24±2(COG/NP0) or 48±4(X7R/X7S/X7T/X6S/X5R)hours, Recovery for the following period under the standard condition after test<br><br>*Initial measurement for high dielectric constant type<br><br>Perform a heat treatment at 140~150℃ for 1hr and let sit for 48±4hrs at room temperature, Perform the initial measurement |
| X7R/X7S/X7T/X6S/X5R | 外观无明显可见损伤<br>容量变化在±7.5%以内<br>DF满足产品初始值的要求<br>IR满足产品初始值的要求<br><br>No obvious damage on appearance<br>Cp change within ±7.5%<br>DF meets initial standard value<br>IR meets initial standard value | |
| 参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.9<br>II类 Class II GB-T 21042-2007 4.9 | | |

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.12 静电容量温度特性 Temperature Characteristics of Capacitance

<table>
<tr><th>类型<br>Dielectrics</th><th>技术要求<br>Specification</th><th>测试条件<br>Testing Condition</th></tr>
<tr><td rowspan="3">COG(NP0)</td><td rowspan="3">容量变化在±30ppm/℃以内<br>容量漂移在±0.2%或±0.05pF（取较大值）以内<br>Cp change within ±30ppm/℃<br>Cp drift within ±0.2% or ±0.05pF, whichever is larger</td><td>按系列温度顺序测试电容容量：<br>Measure capacitance under follow table list temperature:<br>在140~150℃预处理1小时，放置24h后进行测量<br>Heat at 140~150℃ for 1 hour ， Leave at room temperature for 24 hours and then measure<br>测试电压：≤1 Vrms。The text voltage is 1Vrms max.</td></tr>
<tr><td>
<table>
<tr><th>步骤<br>STEP</th><th>COG(NP0)/X7R/X7S/X7T</th><th>X6S</th><th>X5R</th></tr>
<tr><td>1</td><td>25 ±2</td><td>25 ±2</td><td>25 ±2</td></tr>
<tr><td>2</td><td>-55±3</td><td>-55±3</td><td>-55±3</td></tr>
<tr><td>3</td><td>25 ±2</td><td>25 ±2</td><td>25 ±2</td></tr>
<tr><td>4</td><td>125±3</td><td>105±3</td><td>85±3</td></tr>
<tr><td>5</td><td>25 ±2</td><td>25 ±2</td><td>25 ±2</td></tr>
</table>
</td></tr>
<tr><td>X7R/X5R<br>X7T<br>X7S/X6S</td><td>容量变化在±15%以内<br>Cp change within ±15%<br>容量变化在+22%, -33%以内<br>Cp change within +22%, -33%<br>容量变化在±22%以内<br>Cp change within ±22%</td><td>(1)COG(NP0)<br>容量漂移的计算方法为：用步骤3测量的电容容值量除以在第1、3和5步骤测量得到的误差的最大值和最小值的差。<br>温度系数的计算以第3步骤测量电容容量为参考。<br>The capacity drift is calculated by dividing the capacitance capacity measured in step 3 by the difference between the maximum and minimum errors measured in steps 1, 3, and 5.<br>The calculation of the temperature coefficient is based on the capacitance measurement in step 3.<br>(2)X7R/X7S/X7T/X6S/X5R<br>与25℃（步骤3）时的电容容量相比较，电容容量在温度范围内的变化在要求的范围之内 。<br>Compared with the capacitance capacity at 25℃ (Step 3), the capacitance capacity changes within the temperature range within the required range.</td></tr>
<tr><td colspan="3">参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.6<br>II类 Class II GB-T 21042-2007 4.6</td></tr>
</table>

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.13 温度快速循环 Temperature Cycling

<table>
<tr><th>类型 Dielectrics</th><th>技术要求 Specification</th><th>测试条件 Testing Condition</th></tr>
<tr><td rowspan="2">COG(NP0)</td><td rowspan="2">外观无明显可见损伤<br>容量变化在±2.5%或 ±0.25pF（取较大值）以内<br>No obvious damage on appearance<br>Cp change within ±2.5% or ±0.25pF, whichever is larger</td><td>按下列步骤进行5次循环：<br>To perform 5 cycles of the stated environment:
<table>
<tr><th>步骤<br>Step</th><th>温度<br>Temperature</th><th>时间<br>Time</th></tr>
<tr><td>1</td><td>下限类别温度<br>+0/-3℃<br>Min.operating<br>Temp.+0/-3℃</td><td>30min</td></tr>
<tr><td>2</td><td>25℃</td><td>1min</td></tr>
<tr><td>3</td><td>上限类别温度<br>+3/-0℃<br>Max.operating<br>Temp.+3/-0℃</td><td>30min</td></tr>
<tr><td>4</td><td>25℃</td><td>1min</td></tr>
</table>
在室温下放置24±2 (COG/NP0) 或48±4(X7R/X7S/X7T/X6S/X5R)小时以后测量</td></tr>
<tr><td>X7R/X7S/X7T/X6S/X5R</td><td>外观无明显可见损伤<br>容量变化在±7.5%以内<br>No obvious damage on appearance<br>Cp change within ±7.5%</td><td>*高介电常数电容器的初始值测量<br>在140~150℃进行1小时的热处理后在室温下放置48±4小时，测量初始值<br><br>Measurement to be made after being kept at room temperature for 24±2hrs (COG/NP0) or 48±4hrs (X7R/X7S/X7T/X6S/X5R) at room temperature, then measure.<br>*Initial measurement for high dielectric constant type<br>Perform a heat treatment at 140~150℃ for 1hr and let sit for 48±4hrs at room temperature, Perform the initial measurement</td></tr>
<tr><td colspan="3">参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.11<br>II类 Class II GB-T 21042-2007 4.11</td></tr>
</table>

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.14 稳态湿热 Moisture Resistance

| 类型 Dielectrics | 技术要求 Specification | 测试条件 Testing Condition |
|---|---|---|
| COG(NP0) | 外观无明显可见损伤<br>容量变化在±5% 或 ±0.5pF（取较大值）以内<br>DF: Cp<10pF, Q≥200+10Cp<br>10pF≤Cp<30pF, Q≥275+2.5Cp<br>Cp≥30pF, Q≥350<br>IR大于等于1000MΩ或10Ω·F/CR(取较小值)<br><br>No obvious damage on appearance<br>Cp change within ±5% or ±0.5pF, whichever is larger<br>DF: Cp<10pF, Q≥200+10Cp<br>10pF≤Cp<30pF, Q≥275+2.5Cp<br>Cp≥30pF, Q≥350<br>IR≥1000MΩ or 10Ω·F/CR, whichever is smaller | 测试温度: 40±2℃<br>湿度: 90~95% RH<br>测试时间: 500 ±12hrs<br>在室温下放置24±2 (COG/NP0) 或48±4(X7R/X7S/X7T/X6S/X5R) 小时以后测量<br><br>*高介电常数电容器的初始值测量<br>在140~150℃进行1小时的热处理后在室温下放置48±4小时，测量初始值<br><br>Test temperature: 40±2℃<br>Humidity: 90~95% RH<br>Testing time: 500 ±12hrs<br>Measurement to be made after being kept at room temperature for 24±2hrs (COG/NP0) or 48±4hrs (X7R/X7S/X7T/X6S/X5R)<br><br>*Initial measurement for high dielectric constant type<br>Perform a heat treatment at 140~150℃ for 1hr and let sit for 48±4hrs at room temperature, Perform the initial measurement |
| X7R/X7S/X7T/X6S/X5R | 外观无明显可见损伤<br>容量变化在±12.5%以内<br>DF为初始标准的2倍以下<br>IR大于等于1000MΩ或10Ω·F/CR(取较小值)<br>No obvious damage on appearance<br>Cp change within ±12.5%<br>DF Not more than 2 times of initial standard<br>IR ≥1000MΩ or 10Ω·F/CR, whichever is smaller | |
| 参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.13<br>II类 Class II GB-T 21042-2007 4.13 | | |

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|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.15 耐湿负荷 Biased Humidity

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0) | 外观无明显可见损伤<br>容量变化在±7.5%或±0.75pF（取较大值）以内<br>DF: Cp<30pF, Q≥100+10/3*Cp<br>Cp≥30pF, Q≥200<br>IR大于等于500MΩ或5Ω·F/CR(取较小值)<br>No obvious damage on appearance<br>Cp change within ±7.5% or ±0.75pF, whichever is larger.<br>DF: Cp<30pF, Q≥100+10/3*Cp<br>Cp≥30pF, Q≥200<br>IR ≥500MΩ or 5Ω·F/CR, whichever is smaller | 测试温度: 40±2℃<br>湿度: 90~95% RH<br>电压: Ur≤500V时1倍额定电压<br>Ur＞500V时测试电压为500V<br>测试时间: 500 ±12hrs<br>充放电电流：≤50mA<br>在室温下放置24±2 (COG/NP0) 或48±4(X7R/X7S/X7T/X6S/X5R) 小时以后测量<br><br>*高介电常数电容器：<br>实验前预处理，在150℃条件下热处理1小时，在室温下放置48±4hrs，然后测量；<br>实验后处理，在150℃条件下热处理1小时，在室温下放置48±4hrs，然后测量。<br><br>Test temperature: 40±2℃<br>Humidity: 90~95% RH<br>Voltage: Ur≤500V， 100% of the rated voltage；<br>Ur＞500V， test voltage 500V<br>Testing time: 500 ±12hrs<br>Charge/discharge current 50mA max<br>Measurement to be made after being kept at room temperature for 24±2hrs (COG/NP0) or 48±4hrs (X7R/X7S/X7T/X6S/X5R)<br><br>*High dielectric constant capacitor:<br>Pretreatment before experiment, heat treatment at 150℃ for 1hour, left at room temperature for 48 hours, then measure；<br>Post-experimental treatment, heat treatment at 150℃ for 1hour, left at room temperature for 48 hours, then measure. |
| X7R/X7S/X7T/X6S/X5R | 外观无明显可见损伤<br>容量变化在±12.5%以内<br>DF为初始标准的2倍以下<br>IR大于等于500MΩ或5Ω·F/CR(取较小值)<br>No obvious damage on appearance<br>Cp change within ±12.5%<br>DF Not more than 2 times of initial standard<br>IR ≥500MΩ or 5Ω·F/CR, whichever is smaller | |

备注：该项可靠性试验由于机台施加电压极限为600V，仅适用于中低压产品（＜630V），不适用于高压产品（≥630V）。
Remarks: This reliability test is limited by the maximum voltage that can be applied by the test equipment, which is 600V. Therefore, this test is only applicable to medium and low voltage products (＜630V) and is not suitable for high voltage products (≥630V).

**参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.18**
**II类 Class II GB-T 21042-2007 4.18**

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 6.16 耐久性Durability

| 类型Dielectrics | 技术要求Specification | 测试条件Testing Condition |
|---|---|---|
| COG(NP0) | 外观无明显可见损伤<br>容量变化在±3%或±0.3pF（取较大值）以内<br>DF: Cp<10pF,Q≥200+10*Cp<br>10pF≤Cp<30pF，Q≥275+(2.5* Cp)<br>Cp≥30pF，Q≥350<br>IR大于等于1000MΩ或5Ω·F/CR(取较小值)<br>No obvious damage on appearance<br>Cp change within ±3% or ±0.3pF, whichever is larger.<br>DF: Cp<10pF,Q≥200+10*Cp<br>10pF≤Cp<30pF，Q≥275+(2.5* Cp)<br>Cp≥30pF，Q≥350<br>IR ≥1000MΩ or 5Ω·F/CR, whichever is smaller | 测试温度：上限类别温度±3℃<br>电压：Ur＜100V 1.5倍额定电压(*见备注)<br>测试时间: 1000 小时<br>充放电电流：≤50mA<br>在室温下放置24±2 (COG/NP0) 或48±4(X7R/X7S/X7T/X6S/X5R)小时以后测量<br>*高介电常数电容器：<br>实验前预处理，在150℃条件下热处理1小时，在室温下放置 48±4hrs，然后测量；<br>实验后处理，在150℃条件下热处理1小时，在室温下放置 48±4hrs，然后测量；<br>Test temperature: Max. Operating Temp. ±3℃.<br>Voltage: Ur<100V 150% of the rated voltage （*Remarks)<br>Testing time: 1000 hours.<br>Charge/discharge current 50mA max.<br>Measurement to be made after being kept at room temperature for 24±2hrs (COG/NP0) or 48±4hrs (X7R/X7S/X7T/X6S/X5R).<br>*High dielectric constant capacitor：<br>Pretreatment before experiment，heat treatment at 150℃ for 1hour, left at room temperature for 48 hours, then measure；<br>Post-experimental treatment，heat treatment at 150℃ for 1hour, left at room temperature for 48 hours, then measure. |
| X7R/X7S/X7T/X6S/X5R | 外观无明显可见损伤<br>容量变化在±12.5%以内<br>DF为初始标准的2倍以下<br>IR大于等于1000MΩ或5Ω·F/CR(取较小值)<br>No obvious damage on appearance<br>Cp change within ±12.5%<br>DF Not more than 2 times of initial standard<br>IR ≥1000MΩ or 5Ω·F/CR ,whichever is smaller | |

备注：Ur≥100V都按照1倍额定电压

备注*：0201/104及以上规格、0402/104的25V及以上电压及容量、0603/105的25V及以上电压及容量、0805/225的25V及以上电压及容量、1206/475的25V及以上电压及容量、1210/475的25V及以上电压及容量、1812/475的25V及以上电压及容量、2220/475的25V及以上电压及容量，按照1倍额定电压测试。

Remarks: IF Ur≥100V, the voltage shall be 1 times the rated voltage.

Remarks*: 0201/104 and above specifications,0402/104 25V and above specifications,0603/105 25V and above specifications,0805/225 25V and above specifications,1206/475 25V and above specifications,1210/475 25V and above specifications, 1812/475 25V and above specifications,2220/475 25V and above specifications, Test at 1 times rated voltage.

**参考标准 Reference standard:I类 Class I GB-T 21041-2007 4.14**
**II类 Class II GB-T 21042-2007 4.14**

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 7. 产品包装 Packing

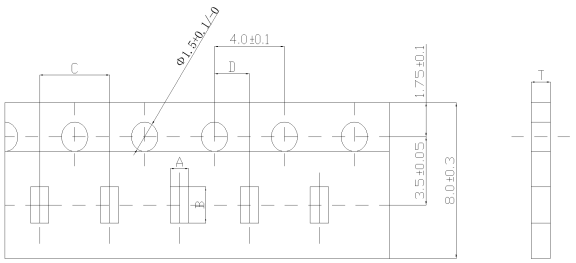
### 7.1袋式散装 Bulk Packing

10,000个/袋或按客户要求。Standard packing 10Kpcs/bag; others are according to customer request.

### 7.2编带式包装 Tape Packing

| 规格 Type | 尺寸 Size (mm) | | | 编带数量 Number of tape (个/盘 pcs/reel) | | | |
|---|---|---|---|---|---|---|---|
| | 长度L | 宽度W | 厚度T | 小盘纸带 Small Paper Tape | 小盘塑料带 Small Plastic Tape | 大盘纸带 Big Paper Tape | 大盘塑料带 Big Plastic Tape |
| 0105 | 0.4 | 0.2 | 0.2 | 20,000 | N/A | N/A | N/A |
| 0201 | 0.6 | 0.3 | 0.3 | 15,000 | N/A | 60,000（0201 105及以上容值）70,000（其他规格） | N/A |
| 0402 | 1 | 0.5 | 0.5 | 10,000 | N/A | 50,000 | N/A |
| 0603 | 1.6 | 0.8 | 0.8 | 4,000 | N/A | 15,000 | N/A |
| 0805 | 2 | 1.25 | ≤0.85 | 4,000 | N/A | 15,000 | N/A |
| | | | ＞0.85 | N/A | 3,000 | N/A | 15,000(E厚度) 10,000(F厚度) |
| 1206 | 3.2 | 1.6 | ≤0.85 | 4,000 | N/A | 15,000 | N/A |
| | | | 0.85＜T≤1.25 | N/A | 3,000 | N/A | 10,000 |
| | | | 1.6 | N/A | 2,000 | N/A | 8,000 |
| 1210 | 3.2 | 2.5 | ≤2.0 | N/A | 2,000 | N/A | N/A |
| | | | ＞2.0 | N/A | 1,000 | N/A | N/A |
| 1812 | 4.5 | 3.2 | ≤2.0 | N/A | 1,000 | N/A | N/A |
| | | | ＞2.0 | N/A | 1,000 | N/A | N/A |
| 2220 | 5.7 | 5 | ≤1.25 | N/A | 1,000 | N/A | N/A |
| | | | ＞1.25 | N/A | 700 | N/A | N/A |

### 7.2.1 纸带尺寸 Dimensions of Packing Paper



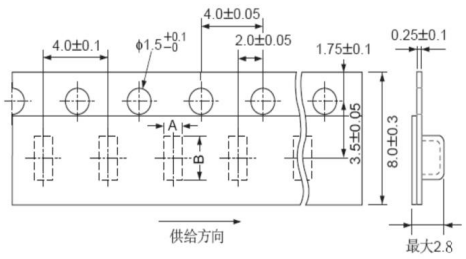

| Type | A | B | C | D | T |
|---|---|---|---|---|---|
| 0105 | 0.23±0.03 | 0.43±0.03 | 2.0±0.05 | 2.0±0.05 | 0.50max |
| 0201 | 0.40±0.09 | 0.70±0.09 | 2.0±0.05 | 2.0±0.05 | 0.60max |
| 0402 | 0.65±0.15 | 1.20±0.15 | 2.0±0.05 | 2.0±0.05 | 0.80max |
| 0603 | 1.05±0.15 | 1.90±0.15 | 4.0±0.10 | 2.0±0.10 | 1.10max |
| 0805 | 1.55±0.15 | 2.3±0.15 | 4.0±0.10 | 2.0±0.10 | 1.10max |
| 1206 | 2.00±0.04 | 3.5±0.04 | 4.0±0.10 | 2.0±0.10 | 1.10max |

（单位unit:毫米mm)

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

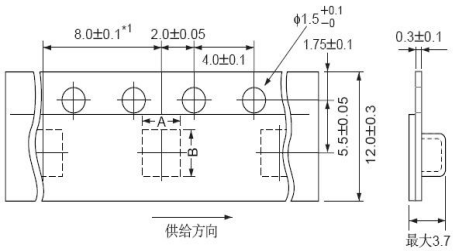
### 7.2.2 塑料带尺寸 Dimensions of Embossed Packing

8mm宽，4mm间距编带




A：1.40±0.20 B：2.25±0.20 （0805）
A：1.90±0.20 B：3.50±0.20 （1206）
A：2.90±0.30 B：3.60±0.30 （1210）

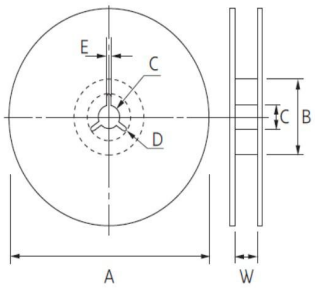
12mm宽，8mm间距编带




A：3.60±0.20 B：5.00±0.20 （1812)
A：5.60±0.20 B：6.10±0.20 （2220）

(单位unit:毫米mm)

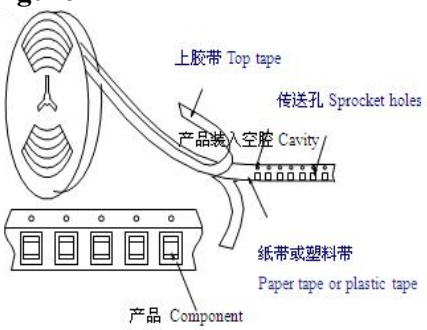
### 7.2.3 编带盘尺寸 Dimensions of Reel

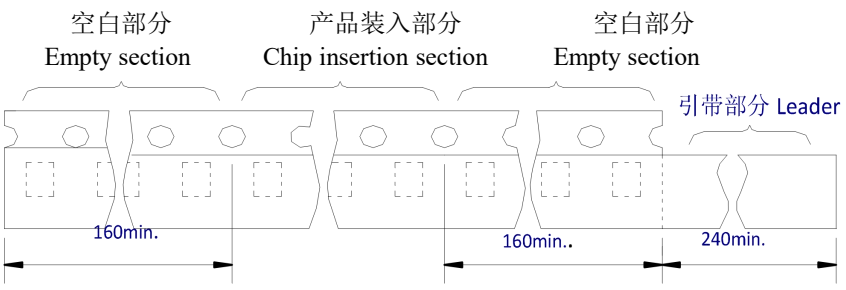



[unit:mm]

| 类型 | 载带宽度 | A | B | C | D | E | W |
|---|---|---|---|---|---|---|---|
| 7″ 盘 | 8mm | φ178±2.0 | MINφ50 | φ13±0.5 | 21±0.8 | 2.0±0.5 | 10±1.5 |
| | 12mm | φ178±2.0 | MINφ50 | φ13±0.5 | 21±0.8 | 2.0±0.5 | 13±0.5 |
| 13″ 盘 | 8mm | φ330±2.0 | MINφ70 | φ13±0.5 | 21±0.8 | 2.0±0.5 | 10±1.5 |
| | 12mm | φ330±2.0 | MINφ70 | φ13±0.5 | 21±0.8 | 2.0±0.5 | 13±0.5 |

### 7.2.4 编带方式 Taping Figure



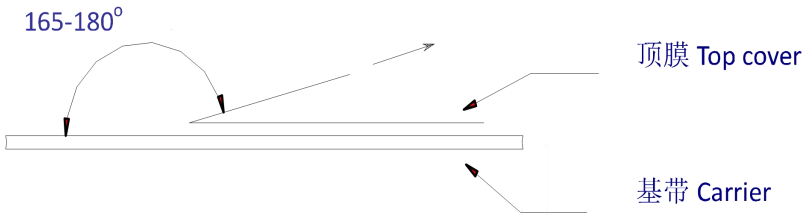

（单位 unit：毫米 mm）

抽出方向 Feeding direction

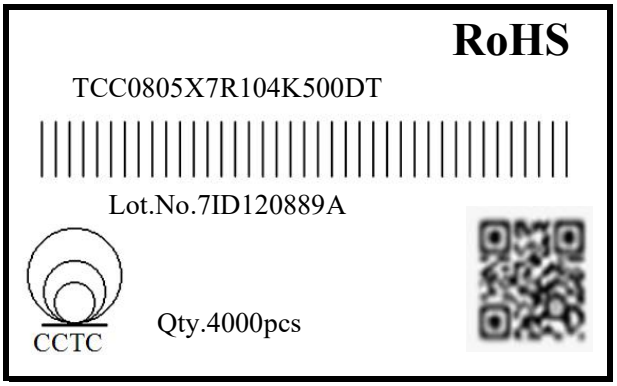
| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

### 7.2.5 编带方法 Taping Method

① 包装电容器的编带是顺时针卷绕的，由上往下的方向拉出编带时，传送孔处于编带的右侧；
② 在编带的前端，至少留出5个间距的引出带；
③ 在编带时，必须按下图留出引带部分或空白部分；
④ 上胶带和下胶带不应超出编带的边缘，不能挡住传送孔；
⑤ 传送孔的累计误差为10个间距：±0.3毫米以内；
⑥ 上胶带的剥离力矩应在0.1至0.6牛顿以内，其方向如下图所示。
①Tapes for capacitors are wound clockwise. The sprocket holes are to the right as the tape is pulled toward the user;
②The top tape and base tape are not attached at the end of the tape for a minimum of 5 pitches;
③Part of the leader and part of the empty tape shall be attached to the end of the tape as follows;
④The top tape and bottom tape shall not protrude beyond the edges of the tape and shall not cover sprocket holes;
⑤Cumulative tolerance of sprocket holes, 10 pitches: ±0.3mm;
⑥Peeling off force: 0.1 to 0.6N in the direction shown down.




### 7.2.6 产品标签 Reel Label




标签内容 The Contents of Label

| (1) | TCC | 0805 | X7R | 104 | K | 500 | D | T |
|---|---|---|---|---|---|---|---|---|
| | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ |

① 陶瓷电容器代号 Code of Ceramic Capacitor, ② 尺寸 chip size, ③ 温度特性 dielectrics, ④ 容量 capacitance, ⑤ 容量容差 tolerance, ⑥ 额定电压 rated voltage, ⑦ 厚度 thickness, ⑧ 包装 packing
(2) 产品批号Lot. No.: 7ID120889A
(3) 数量Qty: 4000pcs
(4) RoHS:GREEN PARTS 绿色物料
(5) CCTC: 潮州三环的简称（Simplified vendor name of ChaoZhou Three-circle）

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**7.2.7.外包装 Package**

**7.2.7.1 包装箱 Carton**

**7.2.7.1.1 包装箱尺寸 Carton Size**

| L | W | H |
|---|---|---|
| 41.0±3cm | 38.5±3cm | 20.2±3cm |

**7.2.7.1.2 数量 Quantity**

240Kpcs /箱The Quantity: 240Kpcs /one carton
1 内包装盒=40,000PCS 1 INNER BOX=40,000PCS
1 包装箱 =40,000PCS × 6包装盒=240,000PCS 1 CARTON=40,000PCS × 6 INNER BOX =240,000PCS
RoHS标识(根据客户要求张贴) RoHS Label (according to customer request)

**7.2.7.2 内包装盒Inner Box**

**7.2.7.2.1 包装盒尺寸Size**

| L | W | H |
|---|---|---|
| 18±1cm | 18.5±1cm | 11.8±1cm |

**7.2.7.2.2 数量 Quantity**

40Kpcs /盒
1盘=4,000PCS 1 REEL=4,000PCS
1包装盒=4,000PCS × 10盘 =40,000PCS 1 INNER BOX=4,000PCS × 10REEL =40,000PCS

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

## 8.MLCC使用注意事项 Precautions on the use of MLCC

### 8.1 电路板设计 PCB Design

### 8.1.1电路板图案设计 Design of Land-patterns

下面图和表格给出了部分推荐的设计图案，可以防止安装时焊锡量过多；同时也给出了不正确的图

The following diagrams and tables show some examples recommended patterns to prevent excessive solder amounts; Examples of improper pattern designs are also shown.

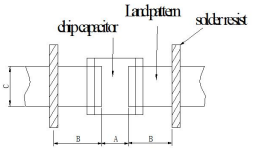
电路板设计推荐图案尺寸：

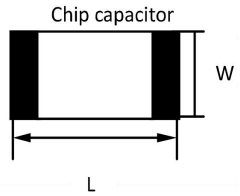
Recommended land dimensions for a typical chip capacitor land patterns for PCBs:

波峰焊接时推荐设计的尺寸 (单位: mm)：

Recommended land dimensions for Wave soldering (unit: mm):

| 规格 SIZE | | 0603 | 0805 | 1206 |
|---|---|---|---|---|
| 尺寸 | L | 1.6 | 2 | 3.2 |
| | W | 0.8 | 1.25 | 1.6 |
| A | | 0.8~1.0 | 1.0~1.4 | 1.8~2.5 |
| B | | 0.5~0.8 | 0.8~1.5 | 0.8~1.7 |
| C | | 0.6~0.8 | 0.9~1.2 | 1.2~1.6 |




回流焊接时推荐设计的尺寸 (单位: mm)

Recommended land dimensions for Reflow soldering (unit: mm)

| 规格 SIZE | | 0105 | 0201 | 0402 | 0603 | 0805 | 1206 | 1210 | 1812 | 2220 |
|---|---|---|---|---|---|---|---|---|---|---|
| 尺寸 | L | 0.4 | 0.6 | 1.0 | 1.6 | 2.00 | 3.2 | 3.2 | 4.5 | 5.7 |
| | W | 0.2 | 0.3 | 0.5 | 0.8 | 1.25 | 1.6 | 2.5 | 3.2 | 5.0 |
| A | | 0.16~0.20 | 0.20~0.25 | 0.35~0.45 | 0.6~0.8 | 0.8~1.2 | 1.8~2.5 | 1.8~2.5 | 2.5~3.4 | 4.0~4.6 |
| B | | 0.12~0.18 | 0.20~0.30 | 0.40~0.50 | 0.6~0.8 | 0.8~1.2 | 1.0~1.5 | 1.0~1.5 | 1.8~2.0 | 2.0~2.2 |
| C | | 0.20~0.23 | 0.25~0.35 | 0.45~0.55 | 0.6~0.8 | 0.9~1.6 | 1.2~2.0 | 1.6~3.2 | 2.3~3.5 | 3.5~4.8 |

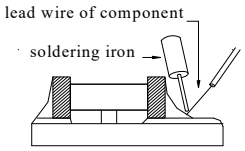
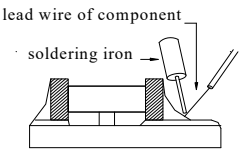
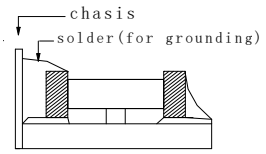
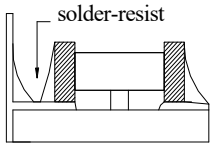
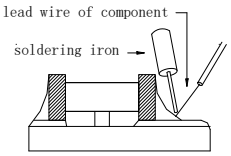
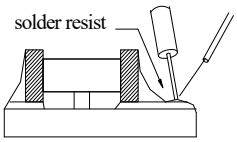
过量的焊锡会影响产品抵抗机械应力的能力，因此在设计图案时应引起注意。

Excess solder can affect the ability of chips to withstand mechanical stresses. Therefore, please take proper precautions when designing land-patterns.

在应用中一些焊接好与坏的情况：

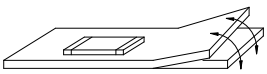
Examples of good and bad solder application:

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

| 项目<br>Item | 不推荐结构<br>Not recommended | 不推荐结构<br>Not recommended |
|---|---|---|
| 片状元件和带引线的元件的混合焊接<br>Mixed mounting of SMD and leaded component |  |  |
| 靠近底座的焊接<br>Component placement close to the chassis |  |  |
| 在片状元件附近带引线元件的焊接<br>Hand-soldering of leaded components near mounted components |  |  |

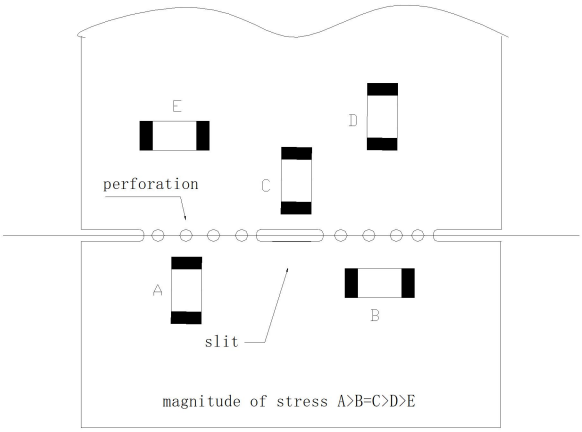
### 8.1.2 图案结构 Pattern configurations

下面是电容器安装好与坏的例子。选择贴装位置应尽可能减小电路板在弯曲时受到的机械应力。
The following are examples of good and bad capacitor layout, SMD capacitors should be located to minimize any possible mechanical stresses from board warp or deflection.

| 项目 Item | 不推荐结构Not recommended | 推荐结构Recommended |
|---|---|---|
| 电路板弯曲<br>Deflection of the board |  | |

对于电路板分拨的电容器，在分拨时受到的机械应力大小与电容器的安装有关。下面推荐了一些好的设计。
To layout the capacitors for the breakaway PC board, it should be noted that the amount of mechanical stresses imposed depending on capacitor layout. The example below shows recommendations for better design.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |




在沿着分拨线分拨电路板时，对产品施加的机械应力与使用的方法关系很大。分折电路板时片状元件受到的疲劳按照如下顺序增大：分折、剪切、V型槽、穿孔。因此，贴装时应该考虑电路板的分拨过程。

When breaking PC boards along their perforations, the amount of mechanical stress on the capacitors can vary according to the method used. The following methods are listed in order from least stressful to most stressful: splitting, shearing, V-groove, and perforating. Thus, any ideal SMD capacitor layout must also consider the PCB splitting procedure.

## 8.2 自动贴装注意事项 Considerations for automatic placement

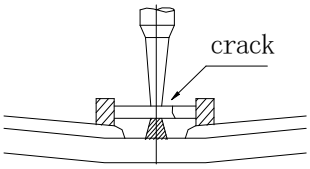
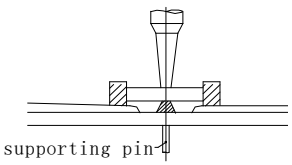
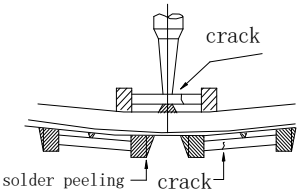
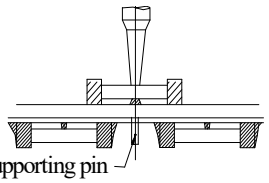
### 贴装机的调整 Adjustment of mounting machine

①. 产品在电路板贴装时，不应该受到过大的冲击；

①. 必须定期对吸头和定位爪进行检查、维修和更换。

①. Excessive impact load should not be imposed on the capacitors when mounting the PC boards;

②. The maintenance and inspection of the mounters should be conducted periodically.

| 项目 Item | 不推荐结构 Not recommended | 推荐结构 Recommended |
|---|---|---|
| 单面贴装<br>Single-sided mounting |  |  |
| 双面贴装<br>Double-sided mounting |  |  |

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

### 8.3推荐焊接曲线 Recommended soldering profile

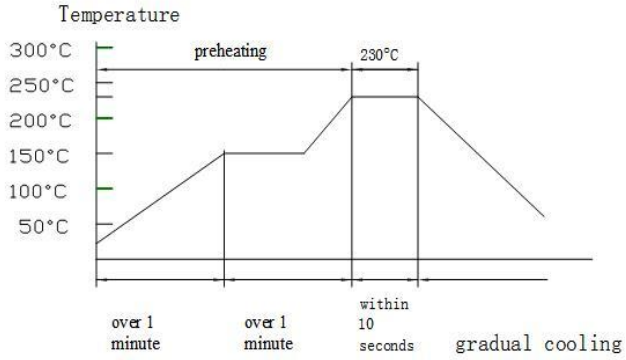
#### 8.3.1 说明 Re：

① 产品推荐使用回流焊接工艺；② 大尺寸产品适用于回流焊接工艺

①Reflow soldering is recommended；②Reflow soldering is suitable for bigger size MLCCs.

#### 8.3.2 锡铅焊接曲线 Recommended Sn&Pb soldering profile

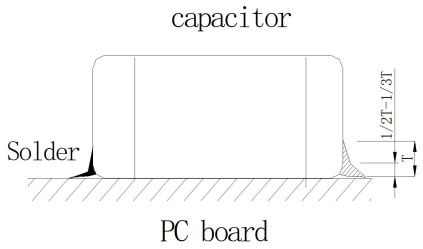
**回流焊接 Reflow soldering**




注意 Caution

①. 理想状况的焊锡高度为电容器厚度的 1/3 ~1/2，如下图所示：

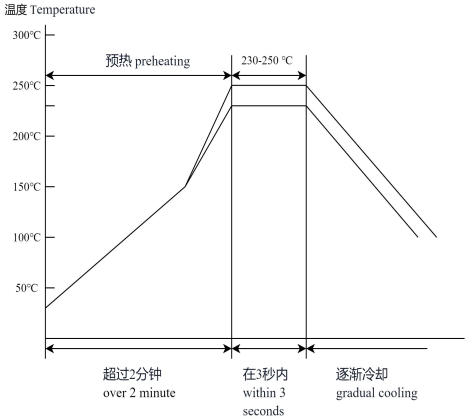
①.The ideal condition is to have solder mass (fillet) controlled to 1/2 to 1/3of the thickness of the capacitor, as shown below:




②. 过长的焊接时间会影响端头的可焊性，焊接时间尽可能保持与推荐时间一致 。

②. Because excessive dwell times can detrimentally affect solderability, soldering duration should be kept as close to recommended times as possible.

**波峰焊接 Wave soldering**



| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

注意 Caution
①.确保电容器充分预热；
②.产品预热和焊接温度差不超过 150℃；
③.焊接后尽可能慢速冷却。
①.Make sure the capacitors are preheated sufficiently;
②.The temperature difference between product preheating and welding shall not exceed 150℃;
③.Cooling after soldering should be gradual as possible.

**手工焊接 Hand soldering**

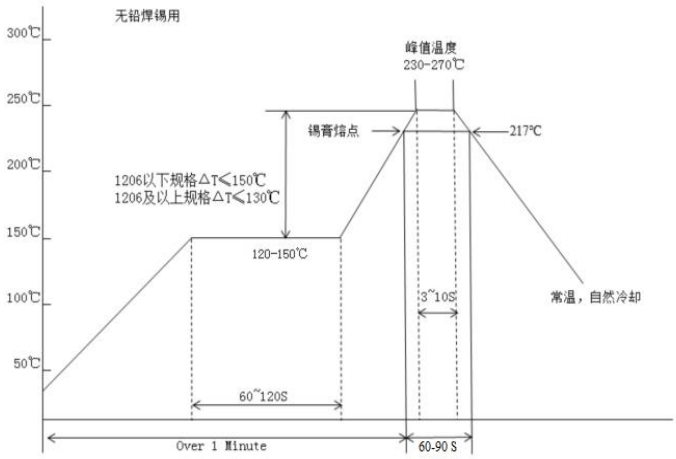
条件：

| 预热 Preheat | 烙铁头温度 Soldering tip temperature | 烙铁功率 Soldering power | 烙铁头直径 Diameter of soldering iron head | 焊接时间 Welding time | 锡膏量 Solder paste content | 限制条件 Restriction condition |
|---|---|---|---|---|---|---|
| Δ≤130℃ | 最高350℃ Up to 350℃ | 最大20W Max. 20W | 建议1mm Recommended 1mm | 最长5s Up to 5s | ≤1/2 芯片厚度 ≤1/2 chip thickness | 请勿使用烙铁头直接接触陶瓷原件 Do not use the soldering tip to touch the ceramic element directly |

注意 Caution
①.用尖端最大直径1.0mm功率20W的焊接烙铁；
②.焊接烙铁不要直接接触产品。
①.Use a 20w soldering iron with a maximum tip diameter of 1.0mm;
②.The soldering iron should not directly touch the capacitor.

## 8.3.3无铅焊接曲线 Recommended Pb-Free soldering profile

**回流焊接 Reflow soldering**



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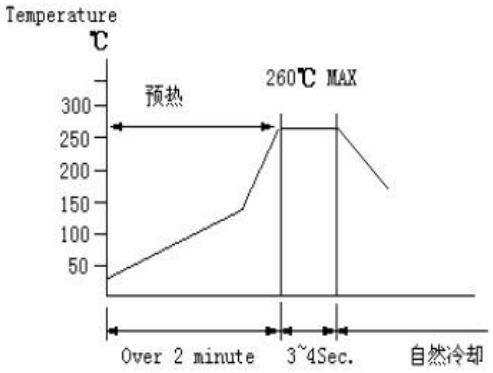
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**波峰焊接 Wave soldering**




波峰焊/回流焊的容值范围 Capacitance range of Wave soldering and Reflow soldering：

| 焊接模式 Welding mode | 0402及以下 0402 and below | 0603 | 0805 | 1206 | 1210及以上 1210 and above |
|---|---|---|---|---|---|
| 波峰焊 Wave soldering | / | 105及以下容值 Capacitance of 105 and below | 225及以下容值 Capacitance of 225 and below | 475及以下容值 Capacitance of 475 and below | / |
| 回流焊 Reflow soldering | 所有规格 All Specifications | 所有规格 All Specifications | 所有规格 All Specifications | 所有规格 All Specifications | 所有规格 All Specifications |

### 8.4 分拨电路板 Handling Breakaway PC boards (splitting along perforations)

(1).在电容器或其它贴装后，必须注意因电路板弯曲或变形带来的应力 。

(2).分拨电路板时必须使用专用的夹具，不可以用手拨断。

(1).When splitting the PC board after mounting capacitors and other components, care is required so as not to Subject the board to excessive bending or torsional stress.

(2).Board separation should not be done manually, but by using the appropriate fixture.

### 8.5保存 Storage

(1).在下列环境中保存产品：温度 5~40℃；湿度 ≤70% RH；

(2).产品自生产之日保存期为一年，产品使用之前请勿拆开编带；

(3).编带拆开后，产品应在三个月内使用。

(4).高介电常数电容器 (X7R/X7S/X7T/X6S/X5R) 的容值随时间会逐渐减小，所以在电路设计时应充分考虑这一现象。容值减小的电容器在 150℃热处理 1 小时后容值会恢复到初始值 。

(1).Keep the storage environment conditions as following: Temperature: 5~40℃； Humidity: ≤70% RH;

(2).Don’t open the tape until the parts are to be used, and store them within one year since the date printed on the reel;

(3).Use the chips within 3 months after the tape is opened;

(4).The capacitance value of high dielectric constant capacitors (X7R/X7S/X7T/X6S/X5R) will gradually decrease with the passage of time, so this should be taken into consideration in the circuit design. If such a capacitance reduction occurs, a heat treatment of 150℃ for 1 hour will return the capacitance to its initial level.

| 产 品 标 准 书 | 编 号 Document No. |
|---|---|
| SPECIFICATION FOR APPROVAL | DRAAW108N/3 |

**8.6环保申明 Environmental Declaration**

(1). 我司所有MLCC产品均符合RoHS 2.0标准；
(2). 我司所有MLCC产品均符合最新的REACH法规要求；
(3). 我司所有MLCC产品均符合HF要求。
(1). All MLCC products of our comply with RoHS 2.0;
(2). All MLCC products of our comply with the latest REACH regulations;
(3). All MLCC products of our comply meet HF requirements.