

# KNSCHA

Empowering The World

## 广东科尼盛电子科技有限公司

## KNSCHA ELECTRONICS CO.,LIMITED

IATF16949:2016

ISO9001:2015

ISO14001:2015

### 部品规格书 APPROVE SHEET

|                          |                                                                              |
|--------------------------|------------------------------------------------------------------------------|
| 客 户 名 称<br>Customer Name |                                                                              |
| 产 品 名 称<br>Product Name  | 导电性聚合物混合铝电解电容器<br>Conductive Polymer Hybrid Aluminum Electrolytic Capacitors |
| 客 户 料 号<br>Customer P/N  | AEC-Q200固液混合铝电解电容器                                                           |
| 科 尼 盛 料 号<br>KNSCHA P/N  | 118EC458                                                                     |
| 型 号 规 格<br>Product Type  | 50V/22 $\mu$ F 10000Hours@105 $^{\circ}$ C SMD,D6.3xL6mm HVM Series          |
| 日 期<br>Date              | 2025年02月25日                                                                  |

|                    |                 |
|--------------------|-----------------|
| 制 造<br>Manufacture |                 |
| 核 准<br>APPROVAL    | 制 作<br>PREPARED |
| 王 伟                | 刘 国 华           |

|                                |                |                 |
|--------------------------------|----------------|-----------------|
| 客 户 承 认 栏<br>CUSTOMER APPROVED |                |                 |
| 核 准<br>APPROVED                | 确 认<br>CHECKED | 经 办<br>DESIGNED |
|                                |                |                 |

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## KNSCHA ELECTRONICS CO., LIMITED

IATF16949:2016 ISO9001:2015 ISO14001:2015

### Aluminum Electrolytic Capacitors

- Source Manufacturer
- 25+ Years Experience
- 7X24 Hours Online Service



### Film Capacitors

- Source Manufacturer
- 10+ Years Experience



c **UL** <sup>®</sup> US

**EN** <sup>10</sup>

**DE**

**CQC**

**K**

**TÜV**



# KNSCHA

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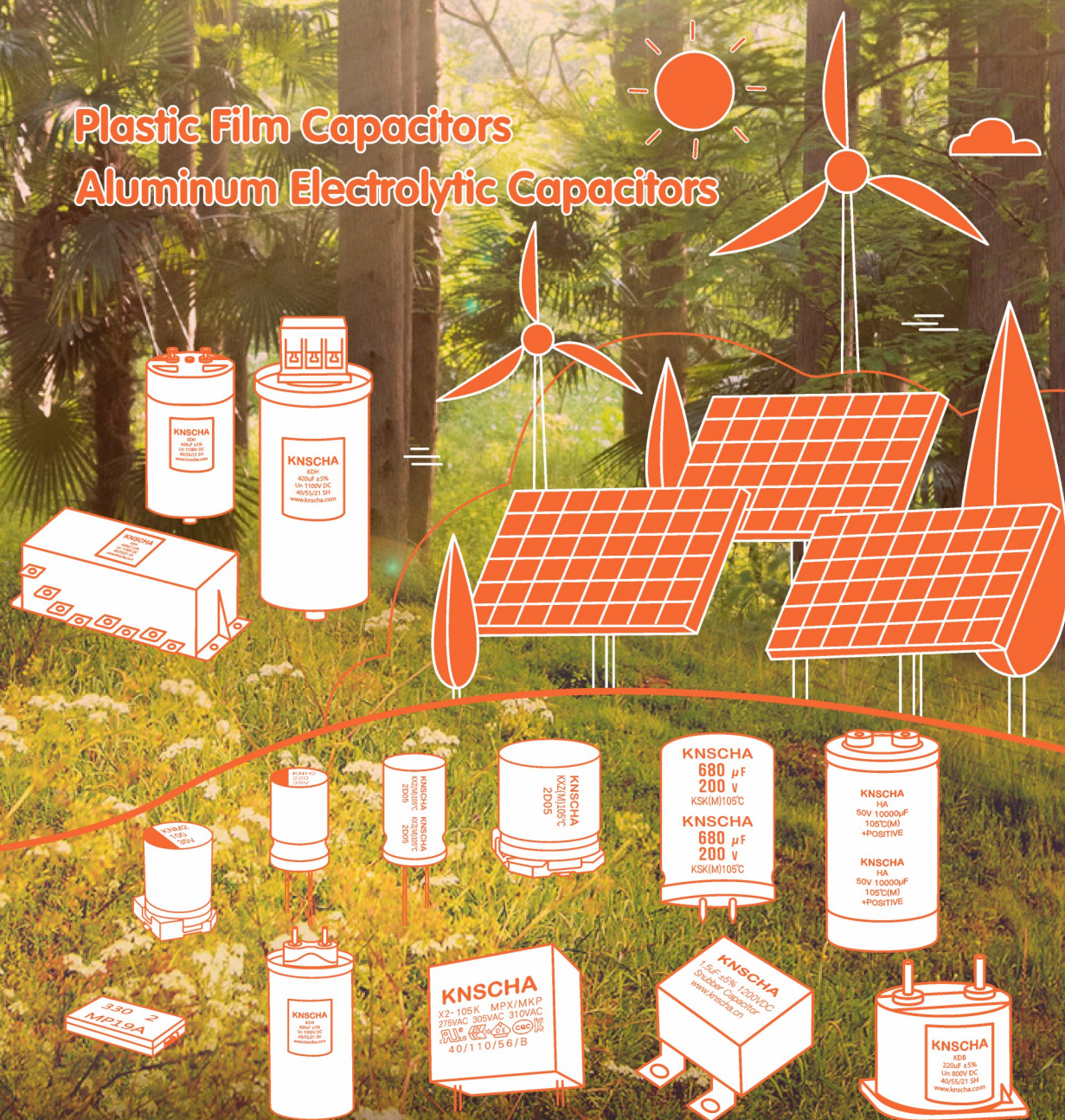
KNSCHA ELECTRONICS CO., LIMITED is a manufacturing high-tech enterprise founded in 1987 with aluminum electrolytic capacitors and film capacitors as its core for automotive, renewable energy, industrial and consumer electronics. We are working on developing aluminum electrolytic capacitors and plastic film capacitors having higher performance and higher reliability and its product chain extends to multiple categories such as electric double layer capacitors, ceramic capacitors and resistors under the trademark "KNSCHA", quickly responding to customer needs.

KNSCHA's manufacturing facilities are located in Guangdong, Hunan and Jiangxi and employ over 380 peoples. Our state-of-art manufacturing facilities including R&D, testing labs, automated manufacturing, warehousing and customer service are operate with high quality standard, using Lean manufacturing processes with a comprehensive ISO 9001/14001 and IATF 16949 management systems.

Our products have obtained UL, VDE, TÜV, ENEC10, KTL, and CQC safety certification, and comply with SGS's RoHS, Reach, AECQ-200 and National Grid Testing standards.

As a supporter of this advanced electronic industry, we are very pleased to have contributed to its development.

## Plastic Film Capacitors Aluminum Electrolytic Capacitors



**KNSCHA has knowledge and know-how as a capacitor professional manufacturer.**  
**We are always comitted to the original performance our customers need.**  
**We solves problems together with our customers.**



# KNSCHA

Empowering The World



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## 特征/FEATURES

- Operating with wide temperature range -55~+105°C
- High reliability & high voltage are realized by hybrid electrolyte
- Endurance 10000 hours
- RoHS & REACH compliant, Halogen-free
- AEC-Q200 compliant
- 适用于 -55~+105°C的宽温范围
- 通过混合型电解质，提升高可靠性和高电压化
- 耐久性10000 小时
- 符合RoHS 与REACH，无卤
- 符合AEC-Q200



Long Life



AEC-Q200

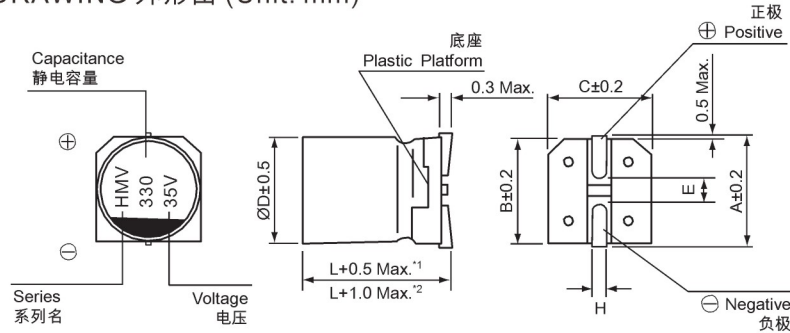
贴片型SMD

## 规格表/SPECIFICATIONS

| 项 目 Items                              | Characteristics 主要特性                                                                                                                                                                                                                   |                                                     |              |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------|
| Operation Temperature Range<br>使用温度范围  | -55 ~ +105℃                                                                                                                                                                                                                            |                                                     |              |
| Voltage Range<br>额定工作电压范围              | 25 ~ 80V                                                                                                                                                                                                                               |                                                     |              |
| Capacitance Range<br>静电容量范围            | 10 ~ 330μF                                                                                                                                                                                                                             |                                                     |              |
| Capacitance Tolerance<br>静电容量允许偏差      | ±20% at 120Hz, 20℃                                                                                                                                                                                                                     |                                                     |              |
| Leakage Current<br>漏电流                 | Leakage current ≤0.01CV (after 2 minutes application of rated voltage at 20℃)<br>漏电流≤0.01CV ( 在20℃ 环境中施加额定工作电压2 分钟后 )<br>C: Nominal capacitance (mF) 标称静电容量, V: Rated voltage (V) 额定电压                                                 |                                                     |              |
| Dissipation Factor (tanδ)<br>损耗角正切     | ≤Specified value at 120Hz, 20℃. ≤规范值 ( 在20℃ 120Hz 环境下 ) 。                                                                                                                                                                              |                                                     |              |
| ESR 等效串联电阻                             | ≤Specified value at 100KHz, 20℃. ≤规范值 ( 在20℃ 100KHz 环境下 ) 。                                                                                                                                                                            |                                                     |              |
| Stability at Low Temperature<br>低温特性   | Measurement frequency 测试频率: 100KHz                                                                                                                                                                                                     |                                                     |              |
|                                        | Impedance Ratio 阻抗比<br>ZT/Z20 (max.)                                                                                                                                                                                                   | Z(-25℃)/Z(20℃)<br>Z(-55℃)/Z(20℃)                    | ≤2.0<br>≤2.5 |
| Bias Humidity Test<br>耐湿负荷特性           | When the capacitors are restored to 20℃ after the rated voltage is applied for 2000 hours at 85℃, 85% RH, they meet the characteristics listed below.<br>在85℃ 和相对湿度85%环境下施加额定工作电压2000 小时并冷却至20℃ 后，电容器的特性符合下表的要求。                       |                                                     |              |
|                                        | Capacitance Change 静电容量变化率                                                                                                                                                                                                             | Within ±30% of initial value 为初始值的±30%以内            |              |
|                                        | Dissipation Factor 损耗角正切                                                                                                                                                                                                               | 200% or less of initial specified value 不大于规范值的200% |              |
|                                        | ESR 等效串联电阻                                                                                                                                                                                                                             | 200% or less of initial specified value 不大于规范值的200% |              |
|                                        | Leakage Current 漏电流                                                                                                                                                                                                                    | Initial specified value or less 不大于规范值              |              |
|                                        | Appearance 外观                                                                                                                                                                                                                          | No significant damage 无明显异常                         |              |
|                                        |                                                                                                                                                                                                                                        |                                                     |              |
| Endurance<br>耐久性                       | When the capacitors are restored to 20℃ after 2000 hours application of the rated voltage at 105℃, they meet the characteristics listed below.<br>在105℃ 环境中施加额定工作电压10000 小时后，待电容器恢复至20℃ 时进行测量，电容器的特性符合下表要求。                            |                                                     |              |
|                                        | Capacitance Change 静电容量变化率                                                                                                                                                                                                             | Within ±30% of initial value 为初始值的±30%以内            |              |
|                                        | Dissipation Factor 损耗角正切                                                                                                                                                                                                               | 200% or less of initial specified value 不大于规范值的200% |              |
|                                        | ESR 等效串联电阻                                                                                                                                                                                                                             | 200% or less of initial specified value 不大于规范值的200% |              |
|                                        | Leakage Current 漏电流                                                                                                                                                                                                                    | Initial specified value or less 不大于规范值              |              |
|                                        |                                                                                                                                                                                                                                        |                                                     |              |
| Shelf Life<br>高温贮存特性                   | When the capacitors are restored to 20℃ after leaving under no load at 105℃ for 1000 hours, they meet the specified value for endurance characteristics listed above.<br>在105℃ 环境中无负荷放置1000 小时后，待电容器恢复至20℃ 时进行测量，电容器的特性符合耐久性特性中所列的规定值。 |                                                     |              |
| Resistance to Soldering Heat<br>耐焊接热特性 | After reflow soldering and restored at room temperature, they meet the characteristics listed below.<br>经过回流焊并冷却至室温后，电容器的特性符合下表的要求。                                                                                                    |                                                     |              |
|                                        | Capacitance Change 静电容量变化率                                                                                                                                                                                                             | Within ±10% of initial value 初始值的±10%以内             |              |
|                                        | Dissipation Factor 损耗角正切                                                                                                                                                                                                               | Initial specified value or less 不大于规范值              |              |
|                                        | Leakage Current 漏电流                                                                                                                                                                                                                    | Initial specified value or less 不大于规范值              |              |
| Marking 标识                             | Black print on the case top. 铝壳顶部黑色字体印刷。                                                                                                                                                                                               |                                                     |              |



## DRAWING 外形图 (Unit: mm)



\*1. Applicable to  $\phi 6.3$  and  $\phi 8$   
\*2. Applicable to  $\phi 10$  and above  
适用于  $\phi 6.3$  和  $\phi 8$   
适用于  $\phi 10$  和  $\phi 10$  以上

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.

注: 以上所提供的设计及特性参数仅供参考, 任何修改不作预先通知。如果在使用上有疑问, 请在采购前与我们联系, 以便提供技术上的协助。

## DIMENSIONS 尺寸表 (Unit: mm)

| $\phi D \times L$ | 6.3x6   | 6.3x7.7 | 8x10    | 10x10.5 |
|-------------------|---------|---------|---------|---------|
| A                 | 7.3     | 7.3     | 9.0     | 11.0    |
| B                 | 6.6     | 6.6     | 8.3     | 10.3    |
| C                 | 6.6     | 6.6     | 8.3     | 10.3    |
| E                 | 1.9     | 1.9     | 3.1     | 4.7     |
| L                 | 6.0     | 7.7     | 10.0    | 10.5    |
| H                 | 0.5~0.8 | 0.5~0.8 | 0.8~1.1 | 0.8~1.1 |

## DIMENSIONS & STANDARD RATINGS 规格尺寸及标准参数

| WV (V)                 |              | 25 (1E)                              |                                                  |                                       |                                                  |                                                        | 35 (1V)                              |                                                  |                                       |                                                  |                                                        |
|------------------------|--------------|--------------------------------------|--------------------------------------------------|---------------------------------------|--------------------------------------------------|--------------------------------------------------------|--------------------------------------|--------------------------------------------------|---------------------------------------|--------------------------------------------------|--------------------------------------------------------|
| Cap. 容量<br>( $\mu F$ ) | Parameter 参数 | Case size<br>$\phi D \times L$<br>尺寸 | Dissipation factor<br>( $\tan \delta$ )<br>损耗角正切 | Leakage current<br>( $\mu A$ )<br>漏电流 | ESR (M $\Omega$ )<br>max. 20°C,<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms)<br>105°C,<br>100KHz<br>纹波电流 | Case size<br>$\phi D \times L$<br>尺寸 | Dissipation factor<br>( $\tan \delta$ )<br>损耗角正切 | Leakage current<br>( $\mu A$ )<br>漏电流 | ESR (M $\Omega$ )<br>max. 20°C,<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms)<br>105°C,<br>100KHz<br>纹波电流 |
|                        |              |                                      |                                                  |                                       |                                                  |                                                        |                                      |                                                  |                                       |                                                  |                                                        |
| 27                     | 270          |                                      |                                                  |                                       |                                                  |                                                        | 6.3 × 6                              | 0.12                                             | 9.45                                  | 60                                               | 1250                                                   |
| 33                     | 330          | 6.3 × 6                              | 0.14                                             | 11.75                                 | 48                                               | 1350                                                   | 6.3 × 6                              | 0.12                                             | 11.55                                 | 60                                               | 1250                                                   |
| 47                     | 470          |                                      |                                                  |                                       |                                                  |                                                        | 6.3 × 6                              | 0.12                                             | 16.45                                 | 60                                               | 1250                                                   |
| 56                     | 560          | 6.3 × 6                              | 0.14                                             | 14                                    | 48                                               | 1350                                                   |                                      |                                                  |                                       |                                                  |                                                        |
| 68                     | 680          | 6.3 × 7.7                            | 0.14                                             | 17                                    | 29                                               | 2100                                                   | 6.3 × 7.7                            | 0.12                                             | 23.8                                  | 35                                               | 2000                                                   |
| 100                    | 101          | 6.3 × 7.7                            | 0.14                                             | 25                                    | 29                                               | 2100                                                   | 8 × 10                               | 0.12                                             | 35                                    | 26                                               | 2400                                                   |
| 150                    | 151          | 8 × 10                               | 0.14                                             | 37.5                                  | 26                                               | 2400                                                   | 8 × 10                               | 0.12                                             | 52.5                                  | 26                                               | 2400                                                   |
| 220                    | 221          | 8 × 10                               | 0.14                                             | 55                                    | 26                                               | 2400                                                   | 10 × 10.5                            | 0.12                                             | 77                                    | 20                                               | 2500                                                   |
| 270                    | 270          |                                      |                                                  |                                       |                                                  |                                                        | 10 × 10.5                            | 0.12                                             | 94.5                                  | 20                                               | 2500                                                   |
| 330                    | 331          | 10 × 10.5                            | 0.14                                             | 82.5                                  | 20                                               | 2500                                                   |                                      |                                                  |                                       |                                                  |                                                        |
| WV (V)                 |              | 50 (1H)                              |                                                  |                                       |                                                  |                                                        | 63 (1J)                              |                                                  |                                       |                                                  |                                                        |
| Cap. 容量<br>( $\mu F$ ) | Parameter 参数 | Case size<br>$\phi D \times L$<br>尺寸 | Dissipation factor<br>( $\tan \delta$ )<br>损耗角正切 | Leakage current<br>( $\mu A$ )<br>漏电流 | ESR (M $\Omega$ )<br>max. 20°C,<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms)<br>105°C,<br>100KHz<br>纹波电流 | Case size<br>$\phi D \times L$<br>尺寸 | Dissipation factor<br>( $\tan \delta$ )<br>损耗角正切 | Leakage current<br>( $\mu A$ )<br>漏电流 | ESR (M $\Omega$ )<br>max. 20°C,<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms)<br>105°C,<br>100KHz<br>纹波电流 |
|                        |              |                                      |                                                  |                                       |                                                  |                                                        |                                      |                                                  |                                       |                                                  |                                                        |
| 10                     | 100          | 6.3 × 6                              | 0.10                                             | 5                                     | 12                                               | 720                                                    | 6.3 × 6                              | 0.08                                             | 6.3                                   | 120                                              | 1000                                                   |
| 22                     | 220          | 6.3 × 6                              | 0.10                                             | 11                                    | 75                                               | 1100                                                   | 6.3 × 7.7                            | 0.08                                             | 13.86                                 | 75                                               | 1550                                                   |
| 33                     | 330          | 6.3 × 7.7                            | 0.10                                             | 16.5                                  | 40                                               | 1600                                                   | 8 × 10                               | 0.08                                             | 20.79                                 | 38                                               | 1750                                                   |
| 47                     | 470          | 8 × 10                               | 0.10                                             | 23.5                                  | 28                                               | 1850                                                   | 8 × 10                               | 0.08                                             | 29.61                                 | 38                                               | 1750                                                   |
| 56                     | 560          |                                      |                                                  |                                       |                                                  |                                                        | 10 × 10.5                            | 0.08                                             | 35.28                                 | 29                                               | 1820                                                   |
| 68                     | 680          | 8 × 10                               | 0.10                                             | 34                                    | 28                                               | 1850                                                   | 10 × 10.5                            | 0.08                                             | 42.84                                 | 29                                               | 1820                                                   |
| 82                     | 820          |                                      |                                                  |                                       |                                                  |                                                        | 10 × 10.5                            | 0.08                                             | 51.66                                 | 29                                               | 1820                                                   |
| 100                    | 101          | 10 × 10.5                            | 0.10                                             | 50                                    | 26                                               | 2000                                                   |                                      |                                                  |                                       |                                                  |                                                        |
| WV (V)                 |              | 80 (1H)                              |                                                  |                                       |                                                  |                                                        |                                      |                                                  |                                       |                                                  |                                                        |
| Cap. 容量<br>( $\mu F$ ) | Parameter 参数 | Case size<br>$\phi D \times L$<br>尺寸 | Dissipation factor<br>( $\tan \delta$ )<br>损耗角正切 | Leakage current<br>( $\mu A$ )<br>漏电流 | ESR (M $\Omega$ )<br>max. 20°C,<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms)<br>105°C,<br>100KHz<br>纹波电流 |                                      |                                                  |                                       |                                                  |                                                        |
|                        |              |                                      |                                                  |                                       |                                                  |                                                        |                                      |                                                  |                                       |                                                  |                                                        |
| 22                     | 220          | 8 × 10                               | 0.08                                             | 17.6                                  | 43                                               | 1500                                                   |                                      |                                                  |                                       |                                                  |                                                        |
| 33                     | 330          | 10 × 10.5                            | 0.08                                             | 26.4                                  | 35                                               | 1700                                                   |                                      |                                                  |                                       |                                                  |                                                        |

## FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 纹波电流频率补偿系数

| Frequency 频率   | 120Hz ≤ f ≤ 1KHz | 1KHz ≤ f ≤ 10KHz | 10KHz ≤ f ≤ 100KHz | 100KHz ≤ f ≤ 300KHz |
|----------------|------------------|------------------|--------------------|---------------------|
| Coefficient 系数 | 0.10             | 0.40             | 0.70               | 1.00                |