# CD110 Series

- Standard series for general purpose
- Endurance: 2000 hours at 105℃
- Applicable to chargers, adaptor and small home appliances
- Sleeve color: White Print in Black Sleeve

## Series Features:

| Item | Characteristics | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Operating Temperature Range(℃) | -40 ~ +105 | | | | | | -25 ~ +105 | | | | |
| Voltage Range(V) | 6.3 ~ 100 | | | | | | 160 ~ 500 | | | | |
| Capacitance Range( μF) | 0.1-33000 | | | | | | | | | | |
| Capacitance Tolerance (20℃,120HZ) | ±20% | | | | | | | | | | |
| Leakage Current( μA) (20 ℃) | 6.3 ~ 100v | | | | | | 160 ~ 500V | | | | |
| | 1≤0.01CV or 3 μA, Whichever is greater(after 2 minutes) | | | | | | 1≤0.02CV + 15 μA(after 5 minutes) | | | | |
| | C:Nominal Capacitance(μF) V:Rated Voltage(V) | | | | | | | | | | |
| Dissipation Factor (20 ℃,120HZ) | R.v.(v) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 ~ 250 | 350 ~ 450 | 500 |
| | Tanδ | 0.28 | 0.24 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.15 | 0.20 | 0.24 |
| | When nominal capacitance exceeds 1,000μF,add 0.02 to the value above for each 1000μF increase. | | | | | | | | | | | |
| Stability at low Temperature (Impedance Ratio at 120Hz) | R.V.(V) | 6.3 | 10 | 16 | 25 ~ 100 | 160 ~ 250 | 350 ~ 400 | 450 | 500 | | | |
| | Z-25℃/Z+20℃ | 5 | 4 | 3 | 2 | 3 | 6 | 10 | 15 | | | |
| | Z-40℃/Z+20℃ | 10 | 8 | 6 | 4 | - | - | - | - | | | |
| Load Life (+105℃2000h) | The following specification shall be satisfied when the capacitors are restored to 20℃ after subjected to DC Voltage with the rated ripple current is applied for 2000h at 105℃ . | | | | | | | | | | | |
| | Capacitance Change | Within ±20% of the initial measured Value. | | | | | | | | | | |
| | Dissipation Factor | ≤200% of the initial specified Value | | | | | | | | | | |
| | Leakage current | ≤The initial specified value | | | | | | | | | | |
| Shelf Life (+105℃1000h) | The following specification shall be satisfied when the capacitors are restored to 20℃ after Exposing them for1000h at 105℃ without Voltage applied. | | | | | | | | | | | |
| | Capacitance Change | Within ±20% of the initial measured Value. | | | | | | | | | | |
| | Dissipation Factor | ≤200% of the initial specified Value | | | | | | | | | | |
| | Leakage Current | ≤200% of the initial specified Value | | | | | | | | | | |

## Frequency Coefficient

| Freq.(HZ) / Cap.(μF) | 50(60) | 120 | 400 | 1K | 10K | 50K-100K |
|---|---|---|---|---|---|---|
| CAP≤10 | 0.8 | 1 | 1.3 | 1.45 | 1.65 | 1.7 |
| 10 < CAP≤100 | 0.8 | 1 | 1.23 | 1.36 | 1.48 | 1.53 |
| 100 < CAP≤1000 | 0.8 | 1 | 1.16 | 1.25 | 1.35 | 1.38 |
| 1000 < CAP | 0.8 | 1 | 1.11 | 1.17 | 1.25 | 1.28 |

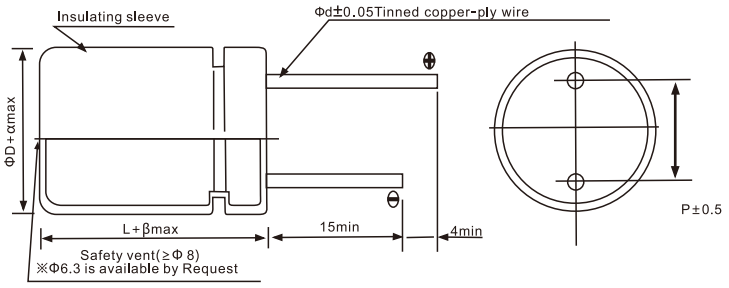
## Temperature Coefficieng

| Temperature (℃) | 40 | 60 | 70 | 85 | 105 |
|---|---|---|---|---|---|
| Factor | 2.4 | 2.1 | 1.78 | 1.65 | 1 |

# CD110 Series

## Dimensions (mm)

| ΦD | 5 | 6.3 | 8 | 10 | 13 | 16 | 18 | 20 | 22 |
|---|---|---|---|---|---|---|---|---|---|
| P | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 | 10 | 10 |
| Φd | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 |
| β | 1.0 | | | 2.0 | | | | | |
| α | 0.5 | | | | | | | | |




## Ratings

| R.V.(V) | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq.(HZ) / Cap.(μF) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) |
| 0.10 | | | | | | | | | | | 5×11 | 3 | 5×11 | 4 |
| 0.22 | | | | | | | | | | | 5×11 | 3 | 5×11 | 4 |
| 0.33 | | | | | | | | | | | 5×11 | 6 | 5×11 | 6 |
| 0.47 | | | | | | | | | | | 5×11 | 8 | 5×11 | 8 |
| 1 | | | | | | | | | | | 5×11 | 16 | 5×11 | 16 |
| 2.2 | | | | | | | | | | | 5×11 | 27 | 5×11 | 29 |
| 3.3 | | | | | | | | | | | 5×11 | 37 | 5×11 | 37 |
| 4.7 | | | | | | | 5×11 | 36 | 5×11 | 44 | 5×11 | 44 | 5×11 | 48 |
| 10 | | | | | 5×11 | 46 | 5×11 | 53 | 5×11 | 65 | 5×11 | 72 | 5×11 | 77 |
| 22 | | | 5×11 | 65 | 5×11 | 82 | 5×11 | 92 | 5×11 | 103 | 5×11 | 109 | 6.3×11 | 124 |
| 33 | 5×11 | 70 | 5×11 | 86 | 5×11 | 83 | 5×11 | 103 | 5×11 | 119 | 5×11 | 130 | 6.3×11 | 144 |
| 47 | 5×11 | 86 | 5×11 | 104 | 5×11 | 131 | 5×11 | 130 | 5×11 | 139 | 6.3×11 | 160 | 6.3×11 | 191 |
| 68 | 5×11 | 106 | 5×11 | 130 | 5×11 | 148 | 6.3×11 | 170 | 6.3×11 | 191 | 8×12 | 214 | 8×12 | 243 |
| 100 | 5×11 | 139 | 5×11 | 193 | 5×11 | 172 | 6.3×11 | 202 | 6.3×11 | 224 | 8×12 | 276 | 10×13 | 319 |
| 120 | 5×11 | 157 | 5×11 | 200 | 6.3×11 | 220 | 6.3×11 | 242 | 8×12 | 261 | 8×12 | 303 | 10×16 | 376 |
| 150 | 5×11 | 191 | 5×11 | 224 | 6.3×11 | 243 | 6.3×11 | 264 | 8×12 | 296 | 10×13 | 350 | 10×16 | 445 |
| 180 | 5×11 | 211 | 6.3×11 | 245 | 6.3×11 | 264 | 6.3×11 | 272 | 8×12 | 340 | 10×13 | 400 | 10×16 | 505 |
| 220 | 6.3×11 | 230 | 6.3×11 | 281 | 8×12 | 340 | 8×12 | 342 | 8×12 | 371 | 10×13 | 448 | 10×16 | 530 |
| 330 | 6.3×11 | 318 | 6.3×11 | 350 | 8×12 | 391 | 8×12 | 433 | 10×13 | 505 | 10×16 | 620 | 10×20 | 724 |
| 470 | 6.3×11 | 371 | 6.3×11 | 402 | 8×12 | 495 | 8×12 | 538 | 10×16 | 658 | 10×20 | 792 | 13×20 | 924 |
| 560 | 8×12 | 452 | 8×12 | 486 | 10×13 | 549 | 10×16 | 662 | 10×20 | 808 | 13×20 | 860 | 13×25 | 1009 |
| 680 | 8×12 | 515 | 8×12 | 547 | 10×13 | 652 | 10×16 | 758 | 10×20 | 850 | 13×20 | 1005 | 16×25 | 1207 |
| 820 | 8×12 | 582 | 10×13 | 641 | 10×16 | 766 | 10×20 | 851 | 13×21 | 993 | 13×25 | 1228 | 16×25 | 1364 |
| 1000 | 10×13 | 682 | 10×13 | 693 | 10×16 | 829 | 10×20 | 1000 | 13×21 | 1202 | 13×25 | 1416 | 16×25 | 1471 |
| 1200 | 10×13 | 775 | 10×16 | 861 | 10×16 | 933 | 13×21 | 1097 | 13×21 | 1306 | 16×25 | 1541 | 16×32 | 1751 |
| 1500 | 10×16 | 891 | 10×16 | 957 | 10×20 | 1051 | 13×21 | 1285 | 13×25 | 1497 | 16×32 | 1759 | 16×40 | 1990 |
| 1800 | 10×16 | 989 | 10×20 | 1038 | 13×21 | 1233 | 13×21 | 1423 | 16×25 | 1665 | 16×32 | 2014 | 16×40 | 2145 |
| 2200 | 10×20 | 1081 | 10×20 | 1155 | 13×21 | 1411 | 13×25 | 1623 | 16×25 | 1779 | 16×40 | 2202 | 18×40 | 2355 |
| 2700 | 10×20 | 1283 | 13×21 | 1349 | 13×21 | 1634 | 16×25 | 1714 | 16×32 | 2071 | 18×32 | 2299 | 22×40 | 2717 |
| 3300 | 13×21 | 1417 | 13×21 | 1463 | 13×21 | 1663 | 16×25 | 1778 | 16×32 | 2250 | 18×40 | 2620 | 22×40 | 2935 |
| 3900 | 13×21 | 1454 | 13×21 | 1672 | 16×25 | 1902 | 16×32 | 2228 | 18×32 | 2508 | 18×40 | 2727 | | |
| 4700 | 13×25 | 1782 | 13×25 | 1887 | 16×25 | 2200 | 16×32 | 2514 | 18×40 | 2722 | 22×40 | 3190 | | |
| 5600 | 13×25 | 1900 | 16×25 | 2081 | 16×32 | 2332 | 18×32 | 2679 | 18×40 | 2769 | | | | |
| 6800 | 16×25 | 2202 | 16×25 | 2355 | 16×32 | 2668 | 18×40 | 2826 | 22×40 | 3449 | | | | |
| 8200 | 16×25 | 2220 | 16×32 | 2419 | 16×40 | 2751 | 18×40 | 2837 | | | | | | |
| 10000 | 16×32 | 2414 | 16×40 | 2513 | 18×35 | 2822 | 22×40 | 3767 | | | | | | |
| 12000 | 16×36 | 2644 | 18×36 | 2874 | 18×36 | 2905 | | | | | | | | |
| 15000 | 16×35 | 2804 | 18×40 | 3150 | 22×40 | 3713 | | | | | | | | |
| 18000 | 18×35 | 3135 | 18×40 | 3240 | | | | | | | | | | |
| 22000 | 18×40 | 3404 | 22×40 | 3895 | | | | | | | | | | |
| 33000 | 22×40 | 4076 | 22×50 | 4389 | | | | | | | | | | |

Ripple Current (mArms)at105℃,120HZ

# CD110 Series

## Ratings

| R.V.(V) | 100 | | 160 | | 200 | | 250 | | 350 | | 400 | | 450 | | 500 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| parameter / Cap.(μF) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) | ΦDxL (mm) | Ripple Current (mArms) |
| 0.10 | 5×11 | 4 | | | | | | | | | | | | | | |
| 0.22 | 5×11 | 6 | | | | | | | | | | | | | | |
| 0.33 | 5×11 | 10 | | | | | | | | | | | | | | |
| 0.47 | 5×11 | 13 | 5×11 | 11 | 5×11 | 11 | 5X11 | 11 | 6.3×11 | 14 | 6.3×11 | 11 | 8×12 | 11 | | |
| 1 | 5×11 | 26 | 5×11 | 16 | 6.3×11 | 16 | 6.3×11 | 16 | 6.3×11 | 21 | 6.3×11 | 19 | 8×12 | 21 | 8×12 | 19 |
| 2.2 | 5×11 | 38 | 6.3×11 | 29 | 6.3×11 | 29 | 6.3×11 | 19 | 8×12 | 29 | 8×12 | 30 | 10×13 | 30 | 8×16 | 30 |
| 3.3 | 5×11 | 46 | 6.3×11 | 34 | 6.3×11 | 34 | 8×12 | 36 | 8×12 | 44 | 8×12 | 43 | 8×12 | 33 | 10×13 | 36 |
| 4.7 | 5×11 | 55 | 6.3×11 | 38 | 8×12 | 48 | 8×12 | 46 | 8×12 | 52 | 8×12 | 52 | 10×13 | 48 | 10×16 | 48 |
| 10 | 5×11 | 87 | 8×12 | 76 | 10×13 | 79 | 10×13 | 86 | 10×16 | 109 | 10×16 | 95 | 10×20 | 86 | 10×20 | 86 |
| 22 | 6.3×11 | 149 | 10×13 | 128 | 10×20 | 128 | 10×20 | 128 | 13×21 | 171 | 13×21 | 181 | 13×21 | 133 | 13×25 | 152 |
| 33 | 8×12 | 196 | 10×16 | 171 | 13×21 | 195 | 13×21 | 200 | 13×21 | 238 | 13×25 | 238 | 16×25 | 181 | 16×32 | 219 |
| 47 | 10×13 | 288 | 10×20 | 219 | 13×21 | 238 | 13×21 | 228 | 16×25 | 276 | 16×25 | 257 | 16×32 | 247 | 18×25 | 314 |
| 68 | 10×16 | 368 | 13×21 | 342 | 13×25 | 352 | 13×25 | 323 | 16×32 | 380 | 16×36 | 390 | 18×32 | 352 | 16×45 | 456 |
| 100 | 10×20 | 448 | 13×25 | 409 | 16×25 | 437 | 16×25 | 390 | 18×32 | 409 | 18×32 | 418 | 18×40 | 399 | 18×40 | 523 |
| 120 | 10×20 | 505 | 16×25 | 504 | 16×25 | 523 | 16×32 | 532 | 18×36 | 523 | 18×40 | 494 | 18×45 | 485 | 20×45 | 570 |
| 150 | 13×21 | 598 | 16×25 | 532 | 16×32 | 551 | 18×32 | 570 | 18×40 | 542 | | | | | 22×45 | 713 |
| 180 | 13×21 | 634 | 16×32 | 618 | 16×32 | 627 | 18×32 | 646 | | | | | | | | |
| 220 | 13×25 | 703 | 16×32 | 808 | 18×32 | 713 | | | | | | | | | | |
| 330 | 13×25 | 874 | 18×32 | 846 | 18×36 | 893 | | | | | | | | | | |
| 470 | 16×25 | 1150 | 18×36 | 1121 | 18×40 | 1264 | | | | | | | | | | |
| 560 | 16×36 | 1264 | 18×45 | 1254 | | | | | | | | | | | | |
| 680 | 16×36 | 1552 | | | | | | | | | | | | | | |
| 820 | 18×36 | 1724 | | | | | | | | | | | | | | |
| 1000 | 18×40 | 1843 | | | | | | | | | | | | | | |

Ripple Current (mArms)at105℃,120HZ

# 东莞市创慧电子有限公司
# DONGGUAN CHUANGHUI ELECTRONICS CO.,LTD

## 9. 包装说明Packing instructions：

**9.1 先用塑料袋包装，然后再放置于包装箱中，具体包装数量请参照《创慧包装标准》** Pack with plastic bags, and then placed in a carton, please refer to 《Packing Standard》for specific packing quantity.

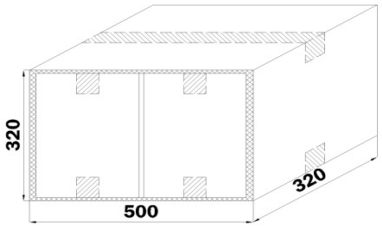
**9.2 包装标识：采用中性标签，注明客户名、订单号、料号、产品系列、规格、尺寸、数量、生产日期和生产批号** Label Marking: indicate customer name, purchase number, part number, product series,specifications, size, quantity, production date and lot number, shown as below.

**9.3 包装图示 Packing Figure**

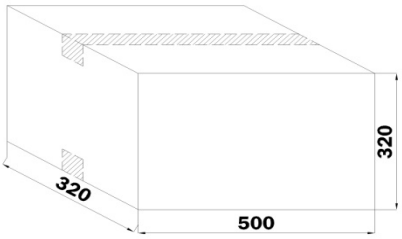
a) 标签Label

| CH | T74800 | | |
|---|---|---|---|
| 订单号 P.O | 创慧 | CH221102053 | |
| 料号P/N | CETW-181A-000 | | |
| 系列series | CD288H | 墨绿底金字 | PET |
| 规格Spec | 400V180uF | ±20% | |
| 尺寸 Size | D18X25L | 长脚 | |
| 数量 Qty | 50PCS | | |

b) 内箱Inner Carton




c) 外箱Outer Carton




## 10. 料号编码规则 Material number encoding rules：

| CD26LF1 | 2T | M | 181 | N45 | 0 | T |
|---|---|---|---|---|---|---|
| ①系列Series | ②电压 Voltage | ③容差 Capacitance Tolerance | ④容量 Capacitance | ⑤尺寸Size | ⑥成型 Finishing | ⑦胶管Sleeve |

| ①系列 Series | CD110 | CD288H | CD288L | CD26G | CD26M | CD26L | CD110L | NP | LL |
|---|---|---|---|---|---|---|---|---|---|
| | CD288S | CD26K | CD26C | CD293 | CD294 | CD296 | CD133 | CD134 | CD136 |

| ②电压V | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 250 | 315 | 350 | 400 | 420 | 450 | 460 | 500 | 550 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 代号Code | OG | OJ | 1A | 1C | 1E | 1V | 1H | 1J | 1K | 2A | 2B | 2S | 2C | 2Z | 2D | 2E | 2F | 2V | 2G | 2J | 2W | 2T | 2H | 2L |

| ③容差代码code | J | K | M | W | T | Q | P |
|---|---|---|---|---|---|---|---|
| 容差C.T. | ±5% | ±10% | ±20% | -0%～+20% | -10%～ + 20% | -20%～ + 30% | -15%～+20% |

| ④容量Cap. | 0.1 | 0.22 | 0.3 | 0.47 | 1 | 2 | 3.3 | 4.7 | 6.8 | 10 | 22 | 33 | 47 | 68 | 100 | 220 | 330 | 3300 | … |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 编码Code | R10 | R22 | R33 | R47 | 10 | 2R2 | 3R3 | 4R7 | 6R8 | 100 | 220 | 330 | 470 | 680 | 101 | 221 | 331 | 332 | … |

| ⑤尺寸 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 直径D | 4 | 5 | 6 | 8 | 10 | 12.5 | 13 | 16 | 18 | 20 | 22 | 25 | 30 | 35 |
| 编码Code | C | D | E | F | G | H | K | L | M | N | 0 | P | Q | R |
| 高度H | 5 | 7 | 11 | 12 | 13 | 16 | 18 | 20 | 27 | 25 | 30 | 35 | 45 | |
| 编码Code | 5 | 7 | 11 | 12 | 13 | 16 | 18 | 20 | 27 | 25 | 30 | 35 | 45 | |

| ⑥成型 Finishing | 散装 Bulk | 编带 Taping P=5.0 | 编带 Taping P=2.5 | 剪脚 Cut Lead L = 3.5 | K脚 剪脚 L=4.5 | S脚 剪脚 L=4.5 | 卧式 H01=4.0 | 卧式 H02=4.0 | 贴片 SMD |
|---|---|---|---|---|---|---|---|---|---|
| 编码Code | 0 | TP5 | TP25 | C35 | K45 | S45 | H140 | H240 | S |

| ⑦胶管Sleeve | PVC | PET |
|---|---|---|
| 编码Code | C | T |