

# 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  | 高分子固态电解电容器<br>Conductive Polymer Aluminum Electrolytic Capacitors |
| 客 户 料 号<br>Customer P/N  |                                                                   |
| 科 尼 盛 料 号<br>KNSCHA P/N  | 217EC0025                                                         |
| 型 号 规 格<br>Product Type  | 50V/220 $\mu$ F 2000Hours@105 $^{\circ}$ C 引线型,10x12mm KHG Series |
| 日 期<br>Date              | 2024年10月25日                                                       |

|                    |                 |
|--------------------|-----------------|
| 制 造<br>Manufacture |                 |
| 核 准<br>APPROVAL    | 制 作<br>PREPARED |
| * 工程课 *            |                 |
| 王 勃 刘 国 栋          |                 |

|                                |                |                 |
|--------------------------------|----------------|-----------------|
| 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

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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**

**CCC**

**TÜV**

# KNSCHA

Empowering The World

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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## KNSCHA ELECTRONICS CO., LIMITED

IATF16949:2016 ISO9001:2015 ISO14001:2015

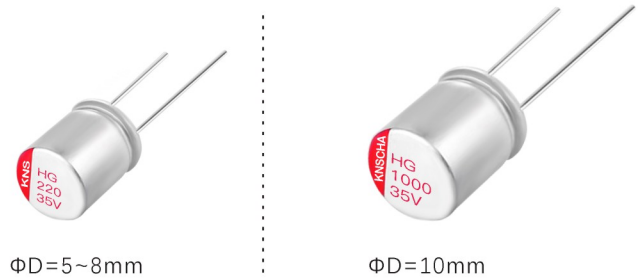
广东科尼盛电子科技有限公司  
KNSCHA ELECTRONICS CO.,LIMITED

IATF16949:2016      ISO9001:2015      ISO14001:2015

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## 特性/ Features

- Load Life: 2000 hours at 105°C
- Ultra low ESR with large permissible ripple current
- RoHS Compliant
- 105°C 负荷寿命 2000 小时
- 极低等效串联电阻(ESR)并可承受大纹波电流
- 符合RoHS指令



ΦD=5~8mm

ΦD=10mm

Marking color: Red

引线型Radial

表1 规格表 Specifications

| 项目 Items                                                                             | 性 能 Performance                                                                   |                          |                        |      |                                                         |     |  |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|------------------------|------|---------------------------------------------------------|-----|--|
| 工作温度范围<br>Operating Temperature Range                                                | -55℃~+105℃                                                                        |                          |                        |      |                                                         |     |  |
| 额定静电容量容许误差值<br>Capacitance Tolerance                                                 | ± 20% (120 Hz, 20℃)                                                               |                          |                        |      |                                                         |     |  |
| 漏电流<br>Leakage Current(at 20℃)                                                       | 测试时间<br>Time                                                                      | 2 分钟后<br>after 2 minutes | 漏电流<br>Leakage Current |      | I≤0.2CV or 300(μA/微安)<br>之中任一较大值以下which ever is greater |     |  |
| 损失角正切值<br>Tanδ (at 120 Hz, 20℃)                                                      | 参阅标准品一览表                                                                          |                          |                        |      |                                                         |     |  |
| 等效串联电阻 ESR (mΩ/at 100k Hz, 20℃ max.)                                                 | 参阅标准品一览表                                                                          |                          |                        |      |                                                         |     |  |
| 耐久性<br>Endurance                                                                     | 在 105℃环境中, 连续加载额定电压 20,00 小时后、待温度恢复到 20℃进行测量时, 应满足以下要求。                           |                          |                        |      |                                                         |     |  |
|                                                                                      | 外观                                                                                |                          | 无明显变化                  |      |                                                         |     |  |
|                                                                                      | 静电容量变化率                                                                           |                          | ≤ 初始值的± 20%            |      |                                                         |     |  |
|                                                                                      | 损失角正切值                                                                            |                          | ≤ 初始规格值的 150%          |      |                                                         |     |  |
|                                                                                      | 等效串联电阻(ESR)                                                                       |                          | ≤ 初始规格值的 150%          |      |                                                         |     |  |
|                                                                                      | 漏电流                                                                               |                          | ≤ 初始规格值                |      |                                                         |     |  |
| 耐湿性<br>Moisture Resistance<br>Stored at 60℃, RH90~95% 2000H<br>存放在60℃,RH90~95% 2000h | 在60℃90 ~ 95%RH 环境中, 连续加载额定电压2,000 小时后, 待温度恢复到20℃进行测量时, 应满足以下要求。                   |                          |                        |      |                                                         |     |  |
|                                                                                      | 外观                                                                                |                          | 无明显变化                  |      |                                                         |     |  |
|                                                                                      | 静电容量变化率                                                                           |                          | ≤ 初始值的± 20%            |      |                                                         |     |  |
|                                                                                      | 损失角正切值                                                                            |                          | ≤ 初始规格值                |      |                                                         |     |  |
|                                                                                      | 等效串联电阻(ESR)                                                                       |                          | ≤ 初始规格值的 150%          |      |                                                         |     |  |
|                                                                                      | 漏电流                                                                               |                          | ≤ 初始规格值                |      |                                                         |     |  |
| 浪涌电压特性                                                                               | 在105℃环境中, 按照充电30 秒、放电5 分30 秒连续加载浪涌电压1,000 次(Rc = 1kΩ) 后, 待温度恢复到20℃进行测量时, 应满足以下要求。 |                          |                        |      |                                                         |     |  |
|                                                                                      | 额定电压 (RV)                                                                         | 35                       | 50                     | 63   | 80                                                      | 100 |  |
|                                                                                      | 浪涌电压 (SV)                                                                         | 40.3                     | 57.5                   | 72.5 | 92                                                      | 115 |  |
|                                                                                      | 外观                                                                                |                          | 无明显变化                  |      |                                                         |     |  |
|                                                                                      | 静电容量变化率                                                                           |                          | ≤ 初始值的± 20%            |      |                                                         |     |  |
|                                                                                      | 损失角正切值                                                                            |                          | ≤ 初始规格值                |      |                                                         |     |  |
|                                                                                      | 等效串联电阻(ESR)                                                                       |                          | ≤ 初始规格值的 150%          |      |                                                         |     |  |
|                                                                                      | 漏电流                                                                               |                          | ≤ 初始规格值                |      |                                                         |     |  |

表2 纹波电流的频率系数  
Srequency Coefficient For Ripple Current

| Frequency   | 120Hz≤freq.<br>≤1KHz | 1KHz≤freq.<br>≤10KHz | 10KHz≤freq.<br>≤100KHz | 100KHz≤freq.<br>≤300KHz |
|-------------|----------------------|----------------------|------------------------|-------------------------|
| Coefficient | 0.05                 | 0.3                  | 0.7                    | 1                       |

表3 外形尺寸 Dimensions(mm)

| Lead Spacing and Diameter |     |     |     |     |      |
|---------------------------|-----|-----|-----|-----|------|
| Unit: mm                  |     |     |     |     |      |
| ΦD                        | 5.0 | 5.5 | 6.3 | 8.0 | 10.0 |
| P                         | 2.0 | 2.5 | 2.5 | 3.5 | 5.0  |
| Φd                        | 0.5 | 0.5 | 0.5 | 0.6 | 0.6  |
| β                         | 0.5 |     |     |     |      |
| α                         | 1.0 |     |     |     |      |

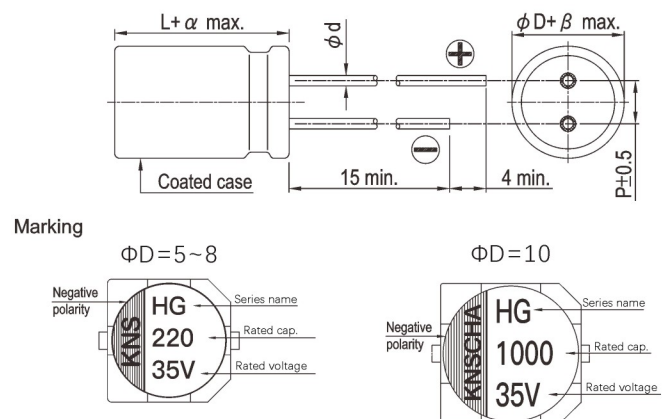


表4 标准品一览表 Standard Size

Standard Ratings

Dimension:  $\phi$  D $\times$ L(mm)  
Ripple Current: mA/rms at 100k Hz, 105°C

| Rated Volt.<br>(V) | Capacitance<br>( $\mu$ F) | Size<br>$\phi$ D $\times$ L(mm) | $\tan\delta$<br>(120Hz, 20°C) | L C<br>( $\mu$ A) | ESR<br>(m $\Omega$ /at 100k Hz,20°C max.) | Rated R. C.<br>(mA/rms at 100k Hz, 105°C) |
|--------------------|---------------------------|---------------------------------|-------------------------------|-------------------|-------------------------------------------|-------------------------------------------|
| 35V                | 10                        | 5X8                             | 0.12                          | 300               | 68                                        | 1500                                      |
|                    | 22                        | 5X7                             | 0.12                          | 300               | 58                                        | 1650                                      |
|                    | 47                        | 5X8                             | 0.12                          | 329               | 55                                        | 1800                                      |
|                    |                           | 6.3X7                           | 0.12                          |                   | 50                                        | 1900                                      |
|                    | 68                        | 6.3X8                           | 0.12                          | 500               | 50                                        | 1950                                      |
|                    | 100                       | 5.5X9                           | 0.12                          | 700               | 38                                        | 2150                                      |
|                    |                           | 6.3X7                           | 0.12                          |                   | 45                                        | 2150                                      |
|                    |                           | 6.3X8                           | 0.12                          |                   | 38                                        | 2250                                      |
|                    |                           | 6.3X10.5                        | 0.12                          |                   | 35                                        | 2300                                      |
|                    |                           | 8X8                             | 0.12                          |                   | 32                                        | 2450                                      |
|                    | 150                       | 6.3X9                           | 0.12                          | 1050              | 38                                        | 2550                                      |
|                    | 220                       | 6.3X 11.5                       | 0.12                          | 1540              | 38                                        | 2750                                      |
|                    |                           | 8X8                             | 0.12                          |                   | 38                                        | 2700                                      |
|                    |                           | 8X11.5                          | 0.12                          |                   | 35                                        | 2800                                      |
|                    |                           | 10X12                           | 0.12                          |                   | 35                                        | 2850                                      |
|                    | 270                       | 6.3X15                          | 0.12                          | 1890              | 35                                        | 2900                                      |
|                    | 330                       | 8X16                            | 0.12                          | 2310              | 28                                        | 3150                                      |
|                    |                           | 10X12                           | 0.12                          |                   | 28                                        | 3150                                      |
|                    | 470                       | 6.3X15                          | 0.12                          | 3290              | 22                                        | 3250                                      |
|                    |                           | 8X16                            | 0.12                          |                   | 28                                        | 3350                                      |
|                    |                           | 10X12                           | 0.12                          |                   | 25                                        | 3450                                      |
|                    | 560                       | 8X1 6                           | 0.12                          | 3920              | 28                                        | 3500                                      |
|                    | 680                       | 8X1 6                           | 0.12                          | 4760              | 28                                        | 3650                                      |
|                    | 820                       | 10X16                           | 0.12                          | 5740              | 28                                        | 3900                                      |
|                    | 1000                      | 10X1 6                          | 0.12                          | 7000              | 28                                        | 4200                                      |
| 50V                | 4.7                       | 6.3X5.5                         | 0.12                          | 300               | 58                                        | 1350                                      |
|                    | 10                        | 5X8                             | 0.12                          | 300               | 58                                        | 1450                                      |
|                    | 22                        | 6.3X8                           | 0.12                          | 300               | 58                                        | 1650                                      |
|                    | 47                        | 6.3X7                           | 0.12                          | 470               | 52                                        | 1800                                      |
|                    |                           | 8X8                             | 0.12                          |                   | 48                                        | 2250                                      |
|                    | 68                        | 8X8                             | 0.12                          | 680               | 48                                        | 2400                                      |
|                    | 100                       | 8X8                             | 0.12                          | 1000              | 42                                        | 2300                                      |
|                    |                           | 8X11.5                          | 0.12                          |                   | 38                                        | 2450                                      |
|                    |                           | 10X12                           | 0.12                          |                   | 38                                        | 2550                                      |
|                    | 220                       | 8X16                            | 0.12                          | 2200              | 38                                        | 2750                                      |
|                    |                           | 10X12                           | 0.12                          |                   | 38                                        | 2750                                      |
|                    | 330                       | 10X16                           | 0.12                          | 3300              | 38                                        | 2900                                      |
|                    | 470                       | 10X16                           | 0.12                          | 4700              | 32                                        | 3150                                      |

制品尺寸与容许纹波电流一览表

尺寸：直径( $\phi$ D) $\times$ 长度(L), (毫米/mm)  
容许纹波电流：毫安/均方根值(mA/rms), 120 赫兹(Hz), 105°C

Dimension and Permissible Ripple Current

Dimension:  $\phi D \times L$ (mm)  
Ripple Current: mA/rms at 120 Hz, 105°C

| Rated Volt.<br>(V) | Capacitance<br>( $\mu$ F) | Size<br>$\phi D \times L$ (mm) | $\tan\delta$<br>(120Hz, 20°C) | L C<br>( $\mu$ A) | ESR<br>(m $\Omega$ /at 100k Hz,20°C max.) | Rated R. C.<br>(mA/rms at 100k Hz, 105°C) |
|--------------------|---------------------------|--------------------------------|-------------------------------|-------------------|-------------------------------------------|-------------------------------------------|
| 63V                | 5.6                       | 6.3X5.5                        | 0.12                          | 300               | 68                                        | 850                                       |
|                    | 10                        | 6.3X5.5                        | 0.12                          | 300               | 58                                        | 1150                                      |
|                    |                           | 6.3X8                          | 0.12                          |                   | 52                                        | 1400                                      |
|                    | 22                        | 6.3X8                          | 0.12                          | 300               | 48                                        | 1550                                      |
|                    |                           | 8X8                            | 0.12                          |                   | 45                                        | 1750                                      |
|                    | 47                        | 8X8                            | 0.12                          | 592               | 38                                        | 1850                                      |
|                    |                           | 8X11.5                         | 0.12                          |                   | 48                                        | 2050                                      |
|                    | 56                        | 8X8                            | 0.12                          | 705               | 38                                        | 2000                                      |
|                    | 100                       | 10X12                          | 0.12                          | 1260              | 38                                        | 2400                                      |
|                    | 150                       | 10X16                          | 0.12                          | 1540              | 35                                        | 2650                                      |
| 80V                | 4.7                       | 5X7                            | 0.12                          | 300               | 68                                        | 750                                       |
|                    | 10                        | 5X7                            | 0.12                          | 300               | 58                                        | 850                                       |
|                    | 22                        | 6.3X8                          | 0.12                          | 352               | 48                                        | 1150                                      |
|                    | 47                        | 6.3X11.5                       | 0.12                          | 752               | 42                                        | 1450                                      |
|                    |                           | 8X8                            | 0.12                          |                   | 38                                        | 1600                                      |
|                    | 100                       | 8X16                           | 0.12                          | 1600              | 35                                        | 1950                                      |
|                    | 220                       | 10X16                          | 0.12                          | 3080              | 28                                        | 2450                                      |
| 100V               | 4.7                       | 5X7                            | 0.12                          | 300               | 68                                        | 680                                       |
|                    | 10                        | 5X8                            | 0.12                          | 300               | 58                                        | 720                                       |
|                    |                           | 6.3X8                          | 0.12                          |                   | 52                                        | 840                                       |
|                    | 22                        | 6.3X8                          | 0.12                          | 440               | 48                                        | 980                                       |
|                    |                           | 8X8                            | 0.12                          |                   | 45                                        | 1100                                      |
|                    | 47                        | 8X11.5                         | 0.12                          | 940               | 45                                        | 1350                                      |
|                    | 100                       | 10X13.5                        | 0.12                          | 2000              | 35                                        | 1800                                      |
|                    | 150                       | 10X16                          | 0.12                          | 3000              | 30                                        | 2250                                      |

制品尺寸与容许纹波电流一览表

尺寸: 直径( $\phi D$ ) $\times$ 长度(L), (毫米/mm)  
容许纹波电流: 毫安/均方根值(mA/rms), 120 赫兹(Hz), 105°C

◆高低温阻抗

| 阻抗比                                             | 性能           |
|-------------------------------------------------|--------------|
| $Z(-55^{\circ}\text{C})/Z(+20^{\circ}\text{C})$ | 0.75 to 1.25 |
| $Z(105^{\circ}\text{C})/Z(+20^{\circ}\text{C})$ | 0.75 to 1.25 |