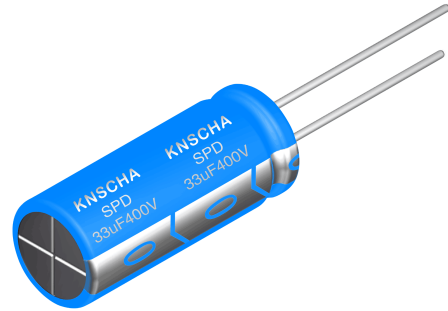


# SPD Series (Ordinary materials)

## FEATURES

- 105 ° C Miniaturized, Long Life, High Ripple Current and Low Impedance
- Load Life 1000~2000hours
- For DC GAN fast charger power and PD charger power
- Compliant to the RoHS directive

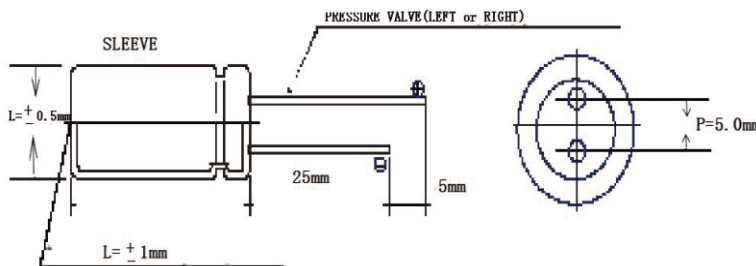
- 105℃小型化、高纹波和低阻抗品
- 寿命1000~2000小时
- 特别适合氮化镓快充和PD快充
- RoHS指令对策品



## SPECIFICATIONS

| Item   | Characteristics   |     |     |     |     |
|--|---|-----|-----|-----|-----|
| Operating Temperature Range                      | -25 ~ +105 °C   |     |     |     |     |
| Voltage Range                                    | 250~450V.DC   |     |     |     |     |
| Leakage Current                                  | I = 0.01CV whichever is greater.(after 3 minutes)<br>where, I: Max Leakage Current(μA), C: Nominal Capacitance(μF), V: Rated Voltage(V) (at 20 °C)  |     |     |     |     |
| Dissipation Factor (tanδ)<br>( at 120Hz, +20°C ) | Rated voltage(V.DC)   | 250 | 350 | 400 | 450 |
|  | tanδ(Max.)  | 7   | 8   | 8   | 8   |
| Low Temp. Impedance<br>Stability at 120Hz        | Rated voltage(V.DC)   | 250 | 350 | 400 | 450 |
|  | Z(-25°C)/Z(+20°C)   | 5   | 6   | 6   | 9   |
|  | Z(-40°C)/Z(+20°C)   | 6   | 7   | 9   |     |
| Impedance(Ω)                                     | See case size table   |     |     |     |     |
| High Temp. Load Test                             | After ΦD ≤ Φ6.3: 1000hrs, ΦD ≥ Φ8: 2000hrs, application of DC rated working voltage at + 105 °C , The capacitor shall meet the following limits .<br>Capacitance change ≤ ± 20% of the initial measured value<br>Tanδ ≤ 200% of the initial specified value<br>DC leakage current ≤ the initial specified value   |     |     |     |     |
| High Temp. Non-Load Test                         | After storage for 1000 hours at 105°C with no voltage applied, voltage treatment of JIS-C-5102 article 4-4 is to be given and then measurement shall be made, The capacitor shall meet the following limits .<br>Capacitance change ≤ ± 20% of the initial measured value<br>tanδ ≤ 200% of the initial specified value<br>DC leakage current ≤ 200% of the initial specified value |     |     |     |     |

## ◆ DRAWING



|    |        |         |         |     |     |     |     |
|----|--------|---------|---------|-----|-----|-----|-----|
| ΦD | 5      | 6.3/7.2 | 8/8.2/9 | 10  | 13  | 16  | 18  |
| P  | 2.0    | 2.5     | 3.5     | 5.0 | 5.0 | 7.5 | 7.5 |
| Φd | 0.5    | 0.5     | 0.5     | 0.6 | 0.6 | 0.8 | 0.8 |
| D  | ±0.5mm |         |         |     |     |     |     |
| L  | ±0.5mm |         |         |     |     |     |     |

## ▼ MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

| Cap(μF) \ Freq.(HZ) | 60(50) | 120  | 1K   | 10K  | 100K |
|---------------------|--------|------|------|------|------|
| 3.3~100             | 0.40   | 0.50 | 0.80 | 0.90 | 1.00 |

## PART NUMBERING SYSTEM

# SPD Series (Ordinary materials)

## STANDARD RATINGS

| WV(Vdc)<br>Parameter<br>Cap (μF) | 400V(480VF)  |                               |                       | 400V(510VF)  |                               |                       |
|----------------------------------|--------------|-------------------------------|-----------------------|--------------|-------------------------------|-----------------------|
|                                  | ΦDxL<br>(mm) | Impedance<br>Ω<br>20°C,100KHZ | Ripple Current(mArms) | ΦDxL<br>(mm) | Impedance<br>Ω<br>20°C,100KHZ | Ripple Current(mArms) |
|                                  |              |                               | 105°C<br>100KHZ       |              |                               | 105°C<br>100KHZ       |
| 4.7                              | 6.3X9        | 4.20                          | 116                   | 6.3X11       | 4.20                          | 116                   |
| 6.8                              | 6.3X11       | 3.50                          | 128                   | 6.3X12       | 3.50                          | 128                   |
| 8.2                              | 6.3X12       | 2.80                          | 170                   | 6.3X13       | 2.80                          | 170                   |
| 10                               | 6.3X14       | 2.20                          | 185                   | 6.3X15       | 2.20                          | 185                   |
| 10                               | 8.2X9        | 2.20                          | 185                   | 8.2X11       | 2.20                          | 185                   |
| 12                               | 6.3X15       | 2.00                          | 220                   | 6.3X18       | 2.20                          | 220                   |
| 12                               | 8.2X10       | 2.00                          | 220                   | 8.2X13       | 2.20                          | 220                   |
| 12                               | 7.2X13       | 2.00                          | 220                   | 7.2X15       | 2.20                          | 220                   |
| 15                               | 6.3X18       | 1.50                          | 240                   | 6.3X20       | 1.50                          | 240                   |
| 15                               | 7.2X15       | 1.50                          | 240                   | 7.2X16       | 1.50                          | 240                   |
| 15                               | 8.2X11       | 1.50                          | 240                   | 8.0X13       | 1.50                          | 240                   |
| 18                               | 6.3X16       | 2.00                          | 265                   | 6.3X21       | 2.00                          | 265                   |
| 18                               | 7.2X15       | 2.00                          | 265                   | 7.2X17       | 2.00                          | 265                   |
| 18                               | 8.2X13       | 2.00                          | 265                   | 8.2X14       | 2.00                          | 265                   |
| 22                               | 6.3X20       | 1.00                          | 305                   | 7.2x20       | 1.00                          | 305                   |
| 22                               | 7.2X18       | 1.00                          | 305                   | 8.0x16       | 1.00                          | 305                   |
| 22                               | 8.2X15       | 1.00                          | 305                   | 9.0X14       | 1.00                          | 305                   |
| 25                               | 7.2X24       | 0.60                          | 350                   | 8.2X17       | 0.60                          | 350                   |
| 27                               | 8.2X17       | 0.60                          | 350                   | 8.0X18       | 0.60                          | 350                   |
| 27                               | 10.2X13      | 0.60                          | 350                   | 10.2X14      | 0.60                          | 350                   |
| 33                               | 7.2x26       | 0.50                          | 370                   | 8.0X20       | 0.50                          | 370                   |
| 33                               | 8.2x19       | 0.50                          | 370                   | 9.0x23       | 0.50                          | 370                   |
| 33                               | 10.2X14      | 0.50                          | 370                   | 10 X 15      | 0.50                          | 370                   |
| 39                               | 8.2x25       | 0.50                          | 435                   | 8.0x28       | 0.50                          | 435                   |
| 39                               | 9.0x18       | 0.50                          | 435                   | 9.0x25       | 0.50                          | 435                   |
| 39                               | 10.2x17      | 0.50                          | 435                   | 10.0x18      | 0.50                          | 435                   |
| 47                               | 8.2x25       | 0.50                          | 610                   | 8.0x30       | 0.50                          | 610                   |
| 47                               | 9.0x23       | 0.50                          | 610                   | 9.0x25       | 0.50                          | 610                   |
| 47                               | 10.2x19      | 0.50                          | 610                   | 10.0X20      | 0.50                          | 610                   |
| 47                               | 13x16        | 0.50                          | 610                   | 13X18        | 0.50                          | 610                   |
| 56                               | 9.0x30       | 0.48                          | 815                   | 9.0x32       | 0.48                          | 815                   |
| 56                               | 10.2x23      | 0.48                          | 815                   | 10.0x25      | 0.48                          | 815                   |
| 56                               | 13X18        | 0.48                          | 815                   | 13x20        | 0.48                          | 815                   |
| 68                               | 13x21        | 0.45                          | 1000                  | 16x18        | 0.45                          | 1000                  |
| 82                               | 16x18        | 0.40                          | 1220                  | 16x20        | 0.40                          | 1220                  |
| 100                              | 16x22        | 0.35                          | 1315                  | 16x25        | 0.35                          | 1315                  |

# SPD Series (ordinary materials)

## STANDARD RATINGS

| Cap (μF) | Parameter<br>VV(Vdc) | 420V(540VF)  |                               |  | 450V(560VF)  |                               |  |
|----------|----------------------|--------------|-------------------------------|--|--------------|-------------------------------|--|
|          |                      | ΦDxL<br>(mm) | Impedance<br>Ω<br>20°C,100KHZ | Ripple Current(mArms)<br>105°C<br>100KHZ | ΦDxL<br>(mm) | Impedance<br>Ω<br>20°C,100KHZ | Ripple Current(mArms)<br>105°C<br>100KHZ |
| 4.7      |                      | 6.2x13       | 4.00                          | 110                                      | 8.2x9        | 15.70                         | 110                                      |
| 6.8      |                      | 8.2x9        | 3.20                          | 125                                      | 8.2x12       | 12.80                         | 125                                      |
| 8.2      |                      | 8.2x12       | 3.00                          | 165                                      | 8.2x13       | 9.30                          | 165                                      |
| 10       |                      | 8.2x13       | 2.80                          | 185                                      | 8.2x13       | 8.20                          | 185                                      |
| 15       |                      | 8 x 14       | 2.00                          | 252                                      | 8.2x14       | 6.10                          | 252                                      |
| 15       |                      | 10.2x12      | 2.00                          | 252                                      | 10.2x14      | 6.10                          | 252                                      |
| 18       |                      | 8.2x15       | 1.80                          | 290                                      | 8.2x16       | 5.70                          | 290                                      |
| 18       |                      | 10.2x13      | 1.80                          | 290                                      | 10.2x15      | 5.70                          | 290                                      |
| 22       |                      | 8.2x16       | 1.50                          | 312                                      | 8.2x18       | 5.50                          | 312                                      |
| 22       |                      | 10.2x14      | 1.50                          | 312                                      | 10.2x16      | 5.50                          | 312                                      |
| 27       |                      | 8.2x19       | 1.20                          | 370                                      | 8.2x23       | 4.50                          | 370                                      |
| 27       |                      | 10 x 15      | 1.20                          | 370                                      | 10.2x18      | 4.50                          | 370                                      |
| 33       |                      | 8 x 23       | 1.00                          | 430                                      | 8.2x25       | 3.20                          | 430                                      |
| 33       |                      | 10 x 16      | 1.00                          | 430                                      | 13x20        | 3.20                          | 430                                      |
| 39       |                      | 10.2x22      | 0.95                          | 505                                      | 10.2x28      | 3.20                          | 505                                      |
| 39       |                      | 13x18        | 0.95                          | 505                                      | 13x22        | 3.20                          | 505                                      |
| 47       |                      | 13x19        | 0.90                          | 610                                      | 13x22        | 2.70                          | 610                                      |
| 47       |                      | 10.0x23      | 0.90                          | 610                                      | 16x18        | 2.70                          | 610                                      |
| 56       |                      | 10.0x25      | 0.85                          | 830                                      | 16x20        | 1.80                          | 830                                      |
| 56       |                      | 13x21        | 0.85                          | 830                                      | 16x20        | 1.80                          | 830                                      |
| 68       |                      | 13x22        | 0.80                          | 1000                                     | 16x25        | 1.60                          | 1000                                     |
| 68       |                      | 16x20        | 0.80                          | 1000                                     | 16x25        | 1.60                          | 1000                                     |
| 82       |                      | 13x25        | 0.70                          | 1160                                     | 18x25        | 1.40                          | 1160                                     |
| 82       |                      | 16x22        | 0.70                          | 1160                                     | 18x25        | 1.40                          | 1160                                     |
| 100      |                      | 18x20        | 0.50                          | 1315                                     | 18x25        | 1.10                          | 1315                                     |
| 100      |                      | 16x25        | 0.50                          | 1315                                     | 16x30        | 1.10                          | 1315                                     |