

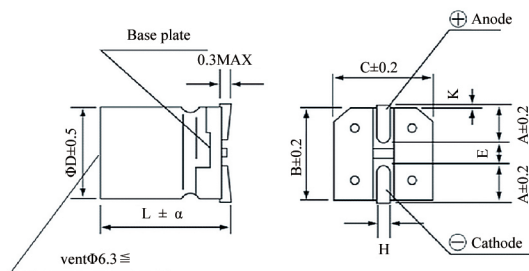
# VK7

- ◆ 105°C 4000~6000 Hours
- ◆ 7mm Height, Super Small Size
- ◆ Available For High Density And Full-Automatic Mounting
- ◆ High Temperature Reflow Soldering Product
- ◆ RoHS Compliant



## ■ Specification

| Items  | Characteristics   |   |         |      |      |      |      |      |
|--|---|---|---------|------|------|------|------|------|
| Operation Temperature Range  | ≤100V.DC -55°C ~ +105°C ; 160 ~ 400V.DC -40°C ~ +105°C  |   |         |      |      |      |      |      |
| Rated Voltage  | 6.3 ~ 400V.DC   |   |         |      |      |      |      |      |
| Capacitance Tolerance  | ±20% ( 25±2°C 120Hz )   |   |         |      |      |      |      |      |
| Leakage Current(μA)  | 6.3WV~100WV I≤0.01CV or 3μA whichever is greater C:rated capacitance(μF) V:rated voltage(V) 2 minutes reading<br>160 ~ 400WV I≤0.02CV+10(μA) C:rated capacitance(μF) V:rated voltage(V) 2 minutes reading |   |         |      |      |      |      |      |
| Dissipation Factor<br>(25±2°C 120Hz)   | Rated Voltage(V)  | 6.3                                       | 10      | 16   | 25   | 35   | 50   | 63   |
|  | tgδ   | 0.32                                      | 0.28    | 0.24 | 0.20 | 0.16 | 0.14 | 0.14 |
|  | Rated Voltage(V)  | 80  | 100     | 160  | 200  | 250  | 350  | 400  |
|  | tgδ   | 0.12                                      | 0.12    | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| For those with rated capacitance larger than 1000μF, when the rated capacitance is increased by 1000μF, then tgδ will be increased by 0.02 |   |   |         |      |      |      |      |      |
| Temperature Characteristics<br>(120Hz)   | Rated Voltage(V)  | 6.3                                       | 10      | 16   | 25   | 35   | 50   | 63   |
|  | Z(-40°C)/Z(20°C)  | 14  | 12      | 8    | 6    | 4    | 4    | 4    |
|  | Rated Voltage(V)  | 80  | 100     | 160  | 200  | 250  | 350  | 400  |
|  | Z(-40°C)/Z(20°C)  | 4   | 4       | 5    | 5    | 5    | 7    | 7    |
| Endurance  | After standard test time with applying the rated voltage with the rated ripple current in the oven at 105°C, the following specification shall be satisfied after 16 hours at 25±2°C.                     |   |         |      |      |      |      |      |
|  | Capacitance change  | within±30% of the intial value            |         |      |      |      |      |      |
|  | Dissipation Factor  | Not more than 300% of the specified value |         |      |      |      |      |      |
|  | Leakage current   | Not more than the specified value         |         |      |      |      |      |      |
|  | Load life( hours)   | Φ5  | 4000hrs |      |      |      |      |      |
| Φ6.3   |   | 5000hrs                                   |         |      |      |      |      |      |
| Φ8、Φ10   |   | 6000hrs                                   |         |      |      |      |      |      |
| Shelf Life<br>At High Temperature  | After leaving capacitors under no load at 105°C for 1000 hours, the following specification shall be satisfied at 25±2°C.   |   |         |      |      |      |      |      |
|  | Capacitance change  | within±30% of the intial value            |         |      |      |      |      |      |
|  | Dissipation Factor  | Not more than 300% of the specified value |         |      |      |      |      |      |
|  | Leakage current   | Not more than 200% of the specified value |         |      |      |      |      |      |

**Standard Size** (Unit: mm)


| $\phi D$ | L   | B    | C    | A   | H              | E   | K      | $\alpha$  |
|----------|-----|------|------|-----|----------------|-----|--------|-----------|
| 5        | 7.9 | 5.3  | 5.3  | 2.2 | $0.75 \pm 0.1$ | 1.5 | 0.7MAX | $\pm 0.3$ |
| 6.3      | 7.7 | 6.6  | 6.6  | 2.6 | $0.75 \pm 0.1$ | 1.8 | 0.7MAX | $\pm 0.3$ |
| 8        | 7.9 | 8.3  | 8.3  | 3.4 | $0.90 \pm 0.2$ | 3.1 | 0.7MAX | $\pm 0.3$ |
| 10       | 8.4 | 10.3 | 10.3 | 3.5 | $0.90 \pm 0.2$ | 4.6 | 0.7MAX | $\pm 0.3$ |

**Ripple Current Correction Factor**

|               |      |      |      |            |
|---------------|------|------|------|------------|
| Frequency(Hz) | 50   | 120  | 1K   | $\geq 10K$ |
| Coefficient   | 0.65 | 1.00 | 1.37 | 1.50       |

# VK7

## ■ Standard Size

| Voltage (V) | 6.3          |                                       | 10           |                                       | 16           |                                       | 25           |                                       | 35           |                                       | 50           |                                       |
|-------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|
| Items       | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) |
| 2.2         |              |                                       |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 31                                    |
| 2.7         |              |                                       |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 31                                    |
| 3.3         |              |                                       |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 31                                    |
| 3.9         |              |                                       |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 31                                    |
| 4.7         |              |                                       |              |                                       |              |                                       | 5×7.9        | 50                                    | 5×7.9        | 50                                    | 5×7.9        | 31                                    |
| 5.6         |              |                                       |              |                                       |              |                                       | 5×7.9        | 50                                    | 5×7.9        | 50                                    | 5×7.9        | 31                                    |
| 6.8         |              |                                       |              |                                       |              |                                       | 5×7.9        | 55                                    | 5×7.9        | 50                                    | 5×7.9        | 31                                    |
| 8.2         |              |                                       |              |                                       |              |                                       | 5×7.9        | 55                                    | 5×7.9        | 50                                    | 5×7.9        | 31                                    |
| 10          | 5×7.9        | 55                                    | 5×7.9        | 55                                    | 5×7.9        | 55                                    | 5×7.9        | 60                                    | 5×7.9        | 50                                    | 5×7.9        | 31                                    |
| 12          | 5×7.9        | 55                                    | 5×7.9        | 55                                    | 5×7.9        | 55                                    | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 37                                    |
| 15          | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 44                                    |
| 18          | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 5×7.9        | 60                                    | 6.3×7.7      | 55                                    |
| 22          | 5×7.9        | 60                                    | 5×7.9        | 70                                    | 5×7.9        | 70                                    | 5×7.9        | 60                                    | 5×7.9        | 70                                    | 6.3×7.7      | 65                                    |
| 27          | 5×7.9        | 70                                    | 5×7.9        | 70                                    | 5×7.9        | 70                                    | 5×7.9        | 70                                    | 6.3×7.7      | 80                                    | 6.3×7.7      | 78                                    |
| 33          | 5×7.9        | 80                                    | 5×7.9        | 80                                    | 5×7.9        | 80                                    | 5×7.9        | 85                                    | 6.3×7.7      | 90                                    | 8×7.9        | 85                                    |
| 39          | 5×7.9        | 80                                    | 5×7.9        | 80                                    | 5×7.9        | 80                                    | 5×7.9        | 85                                    | 6.3×7.7      | 98                                    | 8×7.9        | 100                                   |
| 47          | 5×7.9        | 90                                    | 5×7.9        | 90                                    | 5×7.9        | 90                                    | 5×7.9        | 90                                    | 6.3×7.7      | 105                                   | 8×7.9        | 120                                   |
| 56          | 5×7.9        | 90                                    | 5×7.9        | 90                                    | 5×7.9        | 90                                    | 6.3×7.7      | 98                                    | 8×7.9        | 115                                   | 8×7.9        | 125                                   |
| 68          | 5×7.9        | 90                                    | 5×7.9        | 90                                    | 5×7.9        | 90                                    | 6.3×7.7      | 105                                   | 8×7.9        | 125                                   | 10×8.4       | 140                                   |
| 82          | 5×7.9        | 100                                   | 5×7.9        | 98                                    | 6.3×7.7      | 105                                   | 6.3×7.7      | 115                                   | 8×7.9        | 140                                   | 10×8.4       | 160                                   |
| 100         | 5×7.9        | 105                                   | 6.3×7.7      | 115                                   | 6.3×7.7      | 115                                   | 8×7.9        | 125                                   | 8×7.9        | 170                                   | 10×8.4       | 180                                   |
| 120         | 5×7.9        | 110                                   | 6.3×7.7      | 115                                   | 6.3×7.7      | 128                                   | 8×7.9        | 140                                   | 10×8.4       | 180                                   |              |                                       |
| 150         | 6.3×7.7      | 115                                   | 6.3×7.7      | 135                                   | 8×7.9        | 140                                   | 8×7.9        | 170                                   | 10×8.4       | 210                                   |              |                                       |
| 180         | 6.3×7.7      | 135                                   | 8×7.9        | 160                                   | 8×7.9        | 170                                   | 10×8.4       | 190                                   |              |                                       |              |                                       |
| 220         | 6.3×7.7      | 160                                   | 8×7.9        | 170                                   | 8×7.9        | 190                                   | 10×8.4       | 220                                   |              |                                       |              |                                       |
| 270         | 8×7.9        | 170                                   | 8×7.9        | 190                                   | 10×8.4       | 220                                   |              |                                       |              |                                       |              |                                       |
| 330         | 8×7.9        | 180                                   | 10×8.4       | 220                                   | 10×8.4       | 240                                   |              |                                       |              |                                       |              |                                       |
| 390         | 8×7.9        | 190                                   | 10×8.4       | 240                                   | 10×8.4       | 260                                   |              |                                       |              |                                       |              |                                       |
| 470         | 8×7.9        | 200                                   | 10×8.4       | 260                                   |              |                                       |              |                                       |              |                                       |              |                                       |
| 560         | 10×8.4       | 240                                   |              |                                       |              |                                       |              |                                       |              |                                       |              |                                       |
| 680         | 10×8.4       | 280                                   |              |                                       |              |                                       |              |                                       |              |                                       |              |                                       |

# VK7

## ■ Standard Size

| Voltage (V) | 63           |                                       | 80           |                                       | 100          |                                       | 160          |                                       | 200          |                                       | 250          |                                       |
|-------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|--------------|---------------------------------------|
| Items       | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) |
| 1.0         |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 20                                    | 5×7.9        | 20                                    |
| 1.2         |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 20                                    | 5×7.9        | 20                                    |
| 1.5         |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 22                                    | 5×7.9        | 22                                    |
| 1.8         |              |                                       |              |                                       |              |                                       |              |                                       | 5×7.9        | 22                                    | 5×7.9        | 22                                    |
| 2.2         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 5×7.9        | 28                                    | 5×7.9        | 20                                    | 6.3×7.7      | 25                                    | 6.3×7.7      | 25                                    |
| 2.7         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 5×7.9        | 28                                    | 5×7.9        | 20                                    | 6.3×7.7      | 35                                    | 6.3×7.7      | 35                                    |
| 3.3         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 5×7.9        | 28                                    | 6.3×7.7      | 22                                    | 6.3×7.7      | 40                                    | 6.3×7.7      | 40                                    |
| 3.9         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 5×7.9        | 28                                    | 6.3×7.7      | 22                                    | 8×7.9        | 50                                    | 8×7.9        | 50                                    |
| 4.7         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 5×7.9        | 28                                    | 6.3×7.7      | 22                                    | 8×7.9        | 55                                    | 8×7.9        | 55                                    |
| 5.6         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 5×7.9        | 28                                    | 8×7.9        | 50                                    | 8×7.9        | 65                                    | 8×7.9        | 65                                    |
| 6.8         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 6.3×7.7      | 30                                    | 8×7.9        | 55                                    | 8×7.9        | 72                                    | 10×8.4       | 80                                    |
| 8.2         | 5×7.9        | 30                                    | 5×7.9        | 30                                    | 6.3×7.7      | 40                                    | 8×7.9        | 60                                    | 10×8.4       | 95                                    | 10×8.4       | 95                                    |
| 10          | 5×7.9        | 30                                    | 6.3×7.7      | 50                                    | 6.3×7.7      | 50                                    | 8×7.9        | 65                                    | 10×8.4       | 108                                   | 10×8.4       | 108                                   |
| 12          | 6.3×7.7      | 50                                    | 6.3×7.7      | 55                                    | 8×7.9        | 75                                    | 10×8.4       | 95                                    |              |                                       |              |                                       |
| 15          | 6.3×7.7      | 56                                    | 6.3×7.7      | 70                                    | 8×7.9        | 85                                    | 10×8.4       | 115                                   |              |                                       |              |                                       |
| 18          | 6.3×7.7      | 70                                    | 6.3×7.7      | 75                                    | 8×7.9        | 100                                   |              |                                       |              |                                       |              |                                       |
| 22          | 8×7.9        | 75                                    | 8×7.9        | 85                                    | 8×7.9        | 120                                   |              |                                       |              |                                       |              |                                       |
| 27          | 8×7.9        | 85                                    | 8×7.9        | 100                                   | 10×8.4       | 130                                   |              |                                       |              |                                       |              |                                       |
| 33          | 8×7.9        | 100                                   | 8×7.9        | 120                                   | 10×8.4       | 150                                   |              |                                       |              |                                       |              |                                       |
| 39          | 8×7.9        | 120                                   | 10×8.4       | 130                                   |              |                                       |              |                                       |              |                                       |              |                                       |
| 47          | 10×8.4       | 130                                   | 10×8.4       | 150                                   |              |                                       |              |                                       |              |                                       |              |                                       |
| 56          | 10×8.4       | 150                                   | 10×8.4       | 160                                   |              |                                       |              |                                       |              |                                       |              |                                       |
| 68          | 10×8.4       | 160                                   |              |                                       |              |                                       |              |                                       |              |                                       |              |                                       |

| Voltage (V) | 350          |                                       | 400          |                                       |
|-------------|--------------|---------------------------------------|--------------|---------------------------------------|
| Items       | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) | Size D×L(mm) | Ripple Current (mA/r.m.s /105°C120Hz) |
| 1.0         | 6.3×7.7      | 25                                    | 6.3×7.7      | 25                                    |
| 1.2         | 6.3×7.7      | 30                                    | 6.3×7.7      | 30                                    |
| 1.5         | 6.3×7.7      | 35                                    | 6.3×7.7      | 35                                    |
| 1.8         | 6.3×7.7      | 40                                    | 6.3×7.7      | 40                                    |
| 2.2         | 8×7.9        | 50                                    | 8×7.9        | 50                                    |
| 2.7         | 8×7.9        | 55                                    | 8×7.9        | 55                                    |
| 3.3         | 8×7.9        | 70                                    | 8×7.9        | 70                                    |
| 3.9         | 10×8.4       | 80                                    | 10×8.4       | 80                                    |
| 4.7         | 10×8.4       | 95                                    | 10×8.4       | 95                                    |
| 5.6         | 10×8.4       | 108                                   |              |                                       |