



TG Series

- Load life 5,000 hours at 125°C
- High ripple current, High reliability



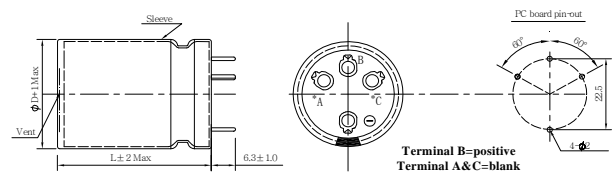
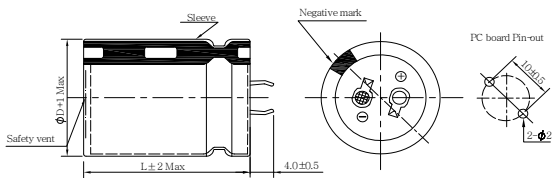
◆ SPECIFICATIONS

| Item | Performance Characteristics | | | | | | | | | | | | | | | | | | |
|--|--|-------------------------------|-----------------------------|--------------------------|-------------------------------|-----------------|-------------------------------|------|-----|-----|-------------------|------|------|------|------|------|------|------|------|
| Category Temperature Range | -40 ~ +125°C | | | | | | | | | | | | | | | | | | |
| Working Voltage Range | 10 ~ 100Vdc | | | | | | | | | | | | | | | | | | |
| Capacitance Range | 680 ~ 47,000µF | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (at 25°C and 120Hz) | | | | | | | | | | | | | | | | | | |
| Dissipation Factor (tanδ) (at 25°C, 120Hz) | <table border="1"> <tr> <td>Rated Voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td>tanδ(Max)</td> <td>0.35</td> <td>0.35</td> <td>0.35</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> </tr> </table> | Rated Voltage (V) | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | tanδ(Max) | 0.35 | 0.35 | 0.35 | 0.25 | 0.25 | 0.25 | 0.20 | 0.15 |
| | Rated Voltage (V) | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | | | | | | | | | | |
| tanδ(Max) | 0.35 | 0.35 | 0.35 | 0.25 | 0.25 | 0.25 | 0.20 | 0.15 | | | | | | | | | | | |
| The above values should be increased by 0.02 for every additional 1000µF | | | | | | | | | | | | | | | | | | | |
| Leakage Current | $I=0.02CV$ or $3000\mu A$, whichever is smaller I : Leakage current (µA) C : Rated capacitance (µF) V : Rated voltage (V) Impress the rated voltage for 5 minutes | | | | | | | | | | | | | | | | | | |
| Low Temperature Characteristics Impedance Ratio(MAX) | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>15</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>6</td> <td>5</td> <td>5</td> </tr> </table> | Rated voltage (V) | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | Z(-40°C)/Z(+20°C) | 15 | 15 | 10 | 8 | 6 | 6 | 5 | 5 |
| | Rated voltage (V) | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | | | | | | | | | | |
| Z(-40°C)/Z(+20°C) | 15 | 15 | 10 | 8 | 6 | 6 | 5 | 5 | | | | | | | | | | | |
| (at 120Hz) | | | | | | | | | | | | | | | | | | | |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 25°C after subjected to DC voltage with the rated ripple current is applied for 5,000 hours at 125°C. | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <tr> <td>Capacitance change</td> <td>≒ ±20% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≒ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≒ specified value</td> </tr> </table> | Capacitance change | ≒ ±20% of the initial value | Dissipation factor(tanδ) | ≒ 200% of the specified value | Leakage current | ≒ specified value | | | | | | | | | | | | |
| | Capacitance change | ≒ ±20% of the initial value | | | | | | | | | | | | | | | | | |
| | Dissipation factor(tanδ) | ≒ 200% of the specified value | | | | | | | | | | | | | | | | | |
| Leakage current | ≒ specified value | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Shelf Life | The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 1,000 hours at 125°C without voltage applied. | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <tr> <td>Capacitance change</td> <td>≒ ±20% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≒ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≒ 200% of the specified value</td> </tr> </table> | Capacitance change | ≒ ±20% of the initial value | Dissipation factor(tanδ) | ≒ 200% of the specified value | Leakage current | ≒ 200% of the specified value | | | | | | | | | | | | |
| | Capacitance change | ≒ ±20% of the initial value | | | | | | | | | | | | | | | | | |
| | Dissipation factor(tanδ) | ≒ 200% of the specified value | | | | | | | | | | | | | | | | | |
| Leakage current | ≒ 200% of the specified value | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Others | Conforms to JIS-C-5101-4 (1998), characteristic W | | | | | | | | | | | | | | | | | | |

◆ DIMENSIONS (mm)

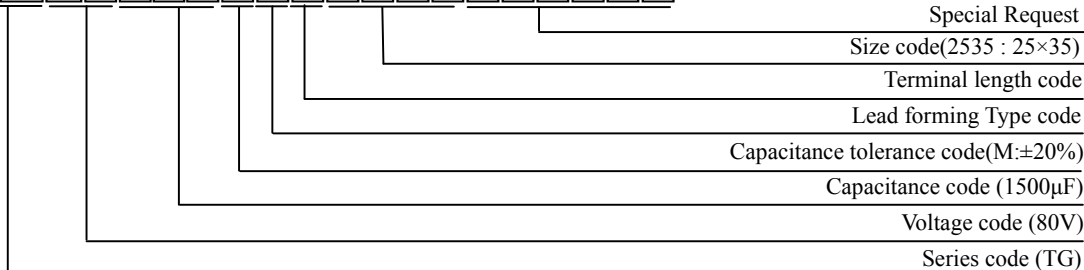
Terminal Code : ND : Standard

Terminal Code : K6 (ø35)



◆ PART NUMBER SYSTEM (Example : 80V 1500µF)

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|
| T | G | I | K | I | 5 | 2 | M | N | D | 2 | 5 | 3 | 5 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|





TG Series

◆ Case size & Permissible rated ripple current (mA rms) at 125°C / 120Hz

| Vdc ΦD uF | 10 | | | | | | | | Vdc ΦD uF | 16 | | | | | | | |
|-----------------|-------|------|-------|------|-------|------|-------|------|-----------------|-------|------|-------|------|-------|------|-------|------|
| | Φ 22 | | Φ 25 | | Φ 30 | | Φ 35 | | | Φ 22 | | Φ 25 | | Φ 30 | | Φ 35 | |
| | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 6800 | 22×25 | 1140 | | | | | | | 5600 | 22×25 | 1200 | | | | | | |
| 8200 | 22×30 | 1220 | 25×25 | 1220 | | | | | 6800 | 22×30 | 1340 | 25×25 | 1340 | | | | |
| 10000 | 22×35 | 1445 | 25×30 | 1445 | | | | | 8200 | 22×35 | 1470 | 25×30 | 1470 | 30×25 | 1470 | | |
| 12000 | 22×40 | 1660 | 25×35 | 1660 | 30×25 | 1660 | | | 10000 | 22×40 | 1700 | 25×35 | 1700 | 30×30 | 1700 | | |
| 15000 | 22×45 | 1910 | 25×40 | 1910 | 30×30 | 1910 | | | 12000 | 22×45 | 1930 | 25×40 | 1930 | 30×35 | 1930 | | |
| 18000 | 22×50 | 2140 | 25×45 | 2140 | 30×35 | 2140 | 35×25 | 2140 | 15000 | 22×50 | 2250 | 25×45 | 2250 | 30×40 | 2250 | 35×25 | 2250 |
| 22000 | | | 25×50 | 2510 | 30×40 | 2510 | 35×30 | 2510 | 18000 | | | 25×50 | 2580 | 30×45 | 2580 | 35×30 | 2580 |
| 27000 | | | | | 30×45 | 2800 | 35×35 | 2800 | 22000 | | | | | 30×50 | 2990 | 35×35 | 2990 |
| 33000 | | | | | 30×50 | 3185 | 35×40 | 3185 | 27000 | | | | | | | 35×40 | 3293 |
| 39000 | | | | | | | 35×45 | 3570 | 33000 | | | | | | | 35×45 | 3750 |
| 47000 | | | | | | | 35×50 | 3900 | 39000 | | | | | | | 35×50 | 4200 |

| Vdc ΦD uF | 25 | | | | | | | | Vdc ΦD uF | 35 | | | | | | | |
|-----------------|-------|------|-------|------|-------|------|-------|------|-----------------|-------|------|-------|------|-------|------|-------|------|
| | Φ 22 | | Φ 25 | | Φ 30 | | Φ 35 | | | Φ 22 | | Φ 25 | | Φ 30 | | Φ 35 | |
| | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 3900 | 22×25 | 1150 | | | | | | | 2700 | 22×25 | 1085 | | | | | | |
| 4700 | 22×30 | 1280 | 25×25 | 1280 | | | | | 3300 | 22×30 | 1200 | | | | | | |
| 5600 | 22×35 | 1390 | 25×30 | 1390 | | | | | 3900 | 22×35 | 1365 | 25×25 | 1365 | | | | |
| 6800 | 22×40 | 1590 | 25×35 | 1590 | | | | | 4700 | 22×40 | 1470 | 25×30 | 1470 | 30×25 | 1470 | | |
| 8200 | 22×45 | 1800 | 25×40 | 1800 | 30×25 | 1800 | | | 5600 | 22×45 | 1700 | 25×35 | 1700 | 30×30 | 1700 | | |
| 10000 | 22×50 | 2045 | 25×45 | 2045 | 30×30 | 2045 | 35×25 | 2045 | 6800 | 22×50 | 1880 | 25×40 | 1880 | 30×35 | 1880 | 35×25 | 1880 |
| 12000 | | | 25×50 | 2340 | 30×35 | 2340 | 35×30 | 2340 | 8200 | | | 25×45 | 2350 | 30×40 | 2350 | 35×30 | 2350 |
| 15000 | | | | | 30×40 | 2750 | 35×35 | 2750 | 10000 | | | 25×50 | 2510 | 30×45 | 2510 | 35×35 | 2510 |
| 18000 | | | | | 30×45 | 3025 | 35×40 | 3025 | 12000 | | | | | 30×50 | 2830 | 35×40 | 2830 |
| 22000 | | | | | 30×50 | 3420 | 35×45 | 3420 | 15000 | | | | | | | 35×45 | 3250 |
| 27000 | | | | | | | 35×50 | 4040 | 18000 | | | | | | | 35×50 | 3820 |

| Vdc ΦD uF | 50 | | | | | | | | Vdc ΦD uF | 63 | | | | | | | |
|-----------------|-------|------|-------|------|-------|------|-------|------|-----------------|-------|------|-------|------|-------|------|-------|------|
| | Φ 22 | | Φ 25 | | Φ 30 | | Φ 35 | | | Φ 22 | | Φ 25 | | Φ 30 | | Φ 35 | |
| | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 1500 | 22×25 | 1030 | | | | | | | 1000 | 22×25 | 950 | | | | | | |
| 1800 | 22×30 | 1170 | 25×25 | 1170 | | | | | 1200 | 22×30 | 1030 | | | | | | |
| 2200 | 22×35 | 1440 | 25×30 | 1440 | | | | | 1500 | 22×35 | 1050 | 25×25 | 1050 | | | | |
| 3300 | 22×40 | 1665 | 25×35 | 1665 | 30×25 | 1665 | | | 1800 | 22×40 | 1320 | 25×30 | 1320 | | | | |
| 3900 | 22×45 | 1860 | 25×35 | 1860 | 30×30 | 1860 | | | 2200 | 22×45 | 1515 | 25×35 | 1515 | 30×25 | 1515 | | |
| 4700 | 22×50 | 2150 | 25×40 | 2150 | 30×35 | 2150 | 35×25 | 2150 | 2700 | 22×50 | 1740 | 25×40 | 1740 | 30×30 | 1740 | | |
| 5600 | | | 25×50 | 2330 | 30×40 | 2330 | 35×30 | 2330 | 3300 | | | 25×45 | 1980 | 30×35 | 1980 | 35×25 | 1980 |
| 6800 | | | | | 30×45 | 2820 | 35×35 | 2820 | 3900 | | | 25×50 | 2200 | 30×40 | 2200 | 35×30 | 2200 |
| 8200 | | | | | 30×50 | 3080 | 35×40 | 3080 | 4700 | | | | | 30×45 | 1980 | 35×35 | 1980 |
| 10000 | | | | | | | 35×45 | 3450 | 5600 | | | | | 30×50 | 2200 | 35×40 | 2200 |
| 12000 | | | | | | | 35×50 | 3930 | 6800 | | | | | | | 35×45 | 3155 |
| | | | | | | | | | 8200 | | | | | | | 35×50 | 3400 |



TG Series

◆ Case size & Permissible rated ripple current (mA rms) at 125°C / 120Hz

| Vdc ΦD uF | 80 | | | | | | | | Vdc ΦD uF | 100 | | | | | | | |
|-----------------|-------|------|-------|------|-------|------|-------|------|-----------------|-------|------|-------|------|-------|------|-------|------|
| | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | | | Φ 22 | | Φ 25 | | Φ30 | | Φ35 | |
| | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC | ΦD×L | RC |
| 820 | 22×25 | 945 | | | | | | | 680 | 22×25 | 1030 | | | | | | |
| 1000 | 22×30 | 1050 | 25×25 | 1050 | | | | | 820 | 22×30 | 1145 | 25×25 | 1145 | | | | |
| 1200 | 22×35 | 1200 | 25×30 | 1200 | | | | | 1000 | 22×35 | 1280 | 25×30 | 1280 | | | | |
| 1500 | 22×40 | 1380 | 25×35 | 1380 | 30×25 | 1380 | | | 1200 | 22×40 | 1460 | 25×35 | 1460 | 30×25 | 1460 | | |
| 1800 | 22×45 | 1555 | 25×40 | 1555 | 30×30 | 1555 | | | 1500 | 22×45 | 1700 | 25×40 | 1700 | 30×30 | 1700 | | |
| 2200 | 22×50 | 1790 | 25×45 | 1790 | 30×35 | 1790 | 35×25 | 1790 | 1800 | 22×50 | 1900 | 25×45 | 1900 | 30×35 | 1900 | 35×25 | 1900 |
| 2700 | | | 25×50 | 2040 | 30×40 | 2040 | 35×30 | 2040 | 2200 | | | 25×50 | 2300 | 30×40 | 2300 | 35×30 | 2300 |
| 3300 | | | | | 30×45 | 2320 | 35×35 | 2320 | 2700 | | | | | 30×45 | 2460 | 35×35 | 2460 |
| 3900 | | | | | 30×50 | 2650 | 35×40 | 2650 | 3300 | | | | | 30×50 | 2800 | 35×40 | 2800 |
| 4700 | | | | | | | 35×45 | 2930 | 3900 | | | | | | | 35×45 | 3140 |
| 5600 | | | | | | | 35×50 | 3290 | 4700 | | | | | | | 35×50 | 3250 |

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

| Vdc | Frequency (Hz) | | | | |
|----------|----------------|------|------|------|------|
| | 50 | 120 | 1K | 10K | ≥50K |
| 10 ~ 100 | 0.95 | 1.00 | 1.05 | 1.08 | 1.08 |