

GF

ESR (CD288HE)

- ⊙ High frequency and power supply Low ESR ,Life time:2000 hours at 105°C
- ⊙ Used in main board ,switching power supply, hi-fi acoustics, numeral color-TV circuits etc.
- ⊙ Adapted to the ROHS directive (2002/95/EC).



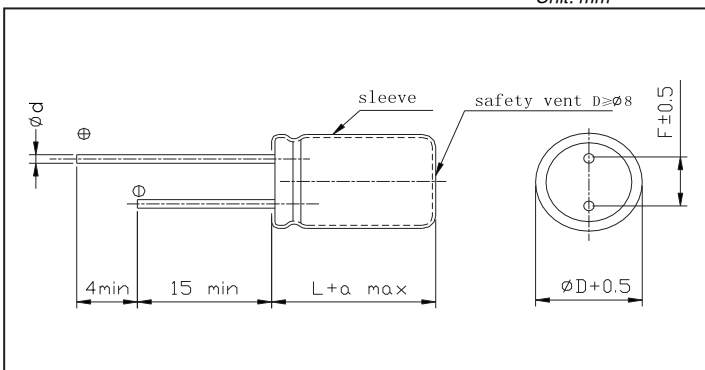
Specifications

| Item | Performance Characteristics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|-------|------|------|------|------|------|---------|---------|-----|-----------|-------|------|-------|-----------|-------|-------|-------|-----|---------|---------|-------------|-----------------|------|------|------|------|------|------|------|------|------|---|---|-----------------|---|---|---|---|---|---|---|---|--|--|--|
| Operating temperature range | -40 ~ +105°C | -25 ~ +105°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated voltage range | 6.3 ~ 100V | 160 ~ 450V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal capacitance range | 33 ~ 18000 μ F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance tolerance | $\pm 20\%$ (120Hz, +20°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage current | $I \leq 0.01CV$ (μ A) 3μ A 2 (at 20°C, after 2 minutes) (Whichever is greater) | CV ≤ 1000 : $I = 0.01CV + 40(\mu$ A) max CV ≤ 1000 : $I = 0.01CV + 40(\mu$ A) max 20°C 1 After 1 minute application of rated working voltage at +20°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation factor (tg δ) (+20°C, 120Hz) | <table border="1"> <thead> <tr> <th>U_R (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160~250</th> <th>400~450</th> </tr> </thead> <tbody> <tr> <td>tg δ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> <td>0.20</td> <td>0.24</td> </tr> </tbody> </table> <p>For capacitance value >1000μF, add 0.02 per another 1000μF</p> | | | | | | | | | | | U_R (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160~250 | 400~450 | tg δ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | 0.20 | 0.24 | | | | | | | | | | | | | | |
| U_R (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160~250 | 400~450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tg δ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | 0.20 | 0.24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature Characteristics (Impedance ratio at 120Hz) | <table border="1"> <thead> <tr> <th>U_R (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160~250</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Z-25°C / Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | U_R (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160~250 | 400 | 450 | Z-25°C / Z+20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 6 | Z-40°C / Z+20°C | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 3 | | | |
| U_R (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160~250 | 400 | 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z-25°C / Z+20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z-40°C / Z+20°C | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Load life | <p>Test conditions</p> <p>Duration:</p> <table border="1"> <thead> <tr> <th>ϕ D</th> <th>5~6.3</th> <th>8~10</th> <th>12.5~</th> </tr> </thead> <tbody> <tr> <td>Load life</td> <td>2000h</td> <td>3000h</td> <td>4000h</td> </tr> </tbody> </table> <p>After applying rated voltage at +105°C and then resumed 16 hours: Capacitance change : $\pm 20\%$ Initial measured value Leakage current : \leq Initial specified value Dissipation factor : ≤ 1.5 times Initial specified value</p> | | | | | | | | | | | ϕ D | 5~6.3 | 8~10 | 12.5~ | Load life | 2000h | 3000h | 4000h | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ϕ D | 5~6.3 | 8~10 | 12.5~ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Load life | 2000h | 3000h | 4000h | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf life | <p>After storage for 1000 hours at +105°C and then resumed 16 hours Capacitance change : $\pm 20\%$ Initial measured value Leakage current : ≤ 2 times Initial specified value Dissipation factor : ≤ 2 times Initial specified value</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

LOW Z

Case size table

Unit: mm



| D | 5 | 6.3 | 8 | 10 | 13 | 16 |
|--------------|-------------------|-----|---------|-----|-----|-----|
| F | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 |
| d | 0.5 | | 0.5、0.6 | 0.6 | | 0.8 |
| α MAX | (L < 20) 1.5 | | | | | |
| | (L \geq 20) 2.0 | | | | | |

■ **Ripple Current Multiplier**

| Temperature Coefficient | | | | | |
|-------------------------|------|------|------|------|------|
| Temperature(°C) | ~55 | 60 | 70 | 85 | 105 |
| Factor | 2.23 | 2.17 | 2.00 | 1.75 | 1.00 |

| Frequency Coefficient | | | | | |
|-----------------------|-----------|------|------|------|--|
| Cap. (μF) | Freq.(Hz) | | | | |
| | 120 | 1K | 10K | 100K | |
| ~180 | 0.40 | 0.75 | 0.90 | 1.00 | |
| 220~560 | 0.50 | 0.85 | 0.94 | 1.00 | |
| 680~1800 | 0.60 | 0.87 | 0.95 | 1.00 | |
| 2200~3900 | 0.75 | 0.90 | 0.95 | 1.00 | |
| 4700~18000 | 0.85 | 0.95 | 0.98 | 1.00 | |

∅D × L(mm)
 Impedance (20°C/100 KHz)
 Rated Ripple Current (+105°C,120HZ)

| C _R (μF) | Code | U _R Item | 6.3V(0J) | | | 10V(1A) | | | 16V(1C) | | |
|---------------------|------|------------------------|-----------|-----------|---------|-----------|-----------|--------|-----------|-----------|--------|
| | | | case size | Impedance | Ripple | case size | Impedance | Ripple | case size | Impedance | Ripple |
| | | | ∅D×L | (Ω max) | (Ω max) | ∅D×L | (Ω max) | mArms | ∅D×L | (Ω max) | mArms |
| 100 | 101 | | | | | | | 6.3×11 | 0.198 | 345 | |
| 120 | 121 | | | | | | | 6.3×11 | 0.198 | 345 | |
| 150 | 151 | | | | 6.3×11 | 0.198 | 345 | 8×12 | 0.117 | 645 | |
| 180 | 181 | | 6.3×11 | 0.198 | 345 | 6.3×11 | 0.198 | 345 | 8×12 | 0.117 | 645 |
| 220 | 221 | | 6.3×11 | 0.198 | 345 | 6.3×11 | 0.198 | 345 | 8×12 | 0.117 | 645 |
| 270 | 271 | | 6.3×11 | 0.198 | 345 | 8×12 | 0.117 | 645 | 8×12 | 0.117 | 645 |
| 330 | 331 | | 6.3×11 | 0.198 | 345 | 6.3×11 | 0.198 | 345 | 8×12 | 0.117 | 645 |
| | | | 8×12 | 0.117 | 645 | 8×12 | 0.117 | 645 | | | |
| 390 | 391 | | 8×12 | 0.117 | 645 | 8×12 | 0.117 | 645 | 10×12.5 | 0.072 | 870 |
| 470 | 471 | | 6.3×11 | 0.198 | 345 | 8×12 | 0.117 | 645 | 8×16 | 0.078 | 845 |
| | | | 8×12 | 0.117 | 645 | 8×12 | 0.117 | 645 | 10×12.5 | 0.072 | 870 |
| 560 | 561 | | 8×12 | 0.117 | 645 | 10×12.5 | 0.072 | 870 | 10×12.5 | 0.072 | 870 |
| 680 | 681 | | 8×12 | 0.117 | 645 | 8×12 | 0.117 | 645 | 8×16 | 0.078 | 845 |
| | | | | | | 10×12.5 | 0.072 | 870 | 10×16 | 0.054 | 1216 |
| 820 | 821 | | 8×16 | 0.078 | 845 | 8×16 | 0.078 | 845 | 10×20 | 0.041 | 1406 |
| | | | 10×12.5 | 0.072 | 870 | | | | 12.5×15 | 0.044 | 1456 |
| 1000 | 102 | | 10×12.5 | 0.072 | 870 | 8×20 | 0.062 | 1056 | 8×20 | 0.062 | 1056 |
| | | | | | | 10×16 | 0.054 | 1216 | 10×16 | 0.054 | 1216 |
| 1200 | 122 | | 8×14 | 0.078 | 845 | 10×20 | 0.041 | 1406 | 10×25 | 0.038 | 1656 |
| | | | 10×12.5 | 0.072 | 870 | 12.5×15 | 0.044 | 1456 | 16×15 | 0.045 | 1886 |
| 1500 | 152 | | 8×16 | 0.078 | 845 | 10×20 | 0.041 | 1406 | 10×30 | 0.028 | 1916 |
| | | | 10×16 | 0.054 | 1216 | | | | 12.5×20 | 0.032 | 1906 |
| | | | | | | | | | 16×15 | 0.045 | 1886 |
| 1800 | 182 | | 10×25 | 0.038 | 1656 | 12.5×20 | 0.032 | 1906 | 10×25 | 0.038 | 1656 |
| | | | | | | 10×20 | 0.041 | 1406 | 18×15 | 0.046 | 2028 |
| 2200 | 222 | | 10×25 | 0.038 | 1656 | 10×25 | 0.038 | 1656 | 12.5×25 | 0.027 | 2132 |
| | | | 16×15 | 0.045 | 1886 | 12.5×20 | 0.032 | 1906 | 16×20 | 0.032 | 2218 |
| 2700 | 272 | | 10×30 | 0.028 | 1916 | 12.5×25 | 0.027 | 2132 | 12.5×30 | 0.023 | 2532 |
| | | | 12.5×20 | 0.032 | 1906 | | | | | | |
| | | | 16×15 | 0.045 | 1886 | 18×15 | 0.046 | 2028 | 16×20 | 0.032 | 2218 |
| 3300 | 332 | | 12.5×20 | 0.032 | 1906 | 12.5×30 | 0.023 | 2532 | 12.5×35 | 0.020 | 2751 |
| | | | 18×15 | 0.046 | 2026 | 16×20 | 0.032 | 2218 | 18×20 | 0.031 | 2503 |
| | | | | | | 12.5×35 | 0.020 | 2751 | 16×25 | 0.025 | 2560 |
| 3900 | 392 | | 12.5×20 | 0.032 | 1906 | 16×20 | 0.032 | 2218 | 18×20 | 0.031 | 2503 |
| 4700 | 472 | | 12.5×25 | 0.027 | 2130 | 12.5×25 | 0.027 | 2132 | 16×30 | 0.020 | 3037 |
| | | | 16×20 | 0.032 | 2216 | 10×40 | 0.028 | 1318 | 18×25 | 0.022 | 2779 |
| 5600 | 562 | | 12.5×30 | 0.023 | 2532 | 16×25 | 0.025 | 2560 | 16×35 | 0.018 | 3132 |
| | | | 16×20 | 0.032 | 2218 | 18×20 | 0.031 | 2503 | 18×30 | 0.018 | 3608 |
| 6800 | 682 | | 12.5×40 | 0.017 | 2198 | 16×30 | 0.020 | 3037 | 16×40 | 0.015 | 3894 |
| | | | 16×25 | 0.025 | 2560 | 18×25 | 0.022 | 2779 | | | |
| | | | 18×20 | 0.031 | 2503 | 16×35 | 0.018 | 3132 | 18×35 | 0.017 | 3646 |
| 8200 | 822 | | 16×30 | 0.020 | 3035 | 18×30 | 0.018 | 3608 | | | |
| 10000 | 103 | | 16×35 | 0.018 | 3132 | 18×35 | 0.017 | 3646 | 18×40 | 0.014 | 3789 |
| | | | 18×25 | 0.022 | 2779 | | | | | | |
| 12000 | 123 | | 16×40 | 0.015 | 3894 | 18×40 | 0.014 | 3789 | | | |
| | | | 18×30 | 0.018 | 3608 | | | | | | |
| 15000 | 153 | | 18×35 | 0.017 | 3646 | | | | | | |
| 18000 | 183 | | 18×40 | 0.014 | 3789 | | | | | | |

LOW Z

$\varnothing D \times L(mm)$
 Impedance (20°C / 100KHz)
 Rated Ripple Current (+105°C, 120HZ)

Dimensions

| C _R (μ F) | U _R Item Code | 25V(1E) | | | 35V(1V) | | | 50V(1H) | | |
|---------------------------|--------------------------------|---------------------------------------|-----------------|--------|---------------------------------------|-----------------|--------|---------------------------------------|-----------------|--------|
| | | case size $\varnothing D \times L$ | Impedance | Ripple | case size $\varnothing D \times L$ | Impedance | Ripple | case size $\varnothing D \times L$ | Impedance | Ripple |
| | | | (Ω max) | mArms | | (Ω max) | mArms | | (Ω max) | mArms |
| 33 | 330 | | | | | | | 6.3x11 | 0.270 | 300 |
| 39 | 390 | | | | | | | 6.3x11 | 0.270 | 300 |
| 47 | 470 | | | | 6.3x11 | 0.198 | 345 | 6.3x11 | 0.270 | 300 |
| 56 | 560 | | | | 6.3x11 | 0.198 | 345 | 8x12 | 0.153 | 560 |
| 68 | 680 | | | | 6.3x11 | 0.198 | 345 | 8x12 | 0.153 | 560 |
| 82 | 820 | 6.3x11 | 0.198 | 345 | 8x12 | 0.117 | 645 | 8x12 | 0.153 | 560 |
| 100 | 101 | 6.3x11 | 0.198 | 345 | 8x12 | 0.117 | 645 | 10x12.5 | 0.108 | 765 |
| 120 | 121 | 8x12 | 0.117 | 645 | 8x12 | 0.117 | 645 | 8x16 | 0.108 | 735 |
| | | | | | | | | 10x12.5 | 0.108 | 765 |
| 150 | 151 | 8x12 | 0.117 | 645 | 8x12 | 0.117 | 645 | 10x16 | 0.076 | 1056 |
| 180 | 181 | 8x12 | 0.117 | 645 | 10x12.5 | 0.072 | 870 | 8x20 | 0.082 | 915 |
| | | | | | | | | 10x16 | 0.076 | 1056 |
| 220 | 221 | 8x12 | 0.117 | 645 | 8x16 | 0.078 | 845 | 10x20 | 0.054 | 1226 |
| | | | | | 10x12.5 | 0.072 | 870 | 12.5x15 | 0.055 | 1266 |
| 270 | 271 | 10x12.5 | 0.072 | 870 | 10x16 | 0.054 | 1216 | 10x25 | 0.050 | 1446 |
| 330 | 331 | 8x16 | 0.078 | 645 | 8x20 | 0.062 | 1056 | 10x30 | 0.039 | 1696 |
| | | 10x12.5 | 0.072 | 870 | 10x16 | 0.054 | 1216 | 12.5x20 | 0.041 | 1666 |
| 390 | 391 | 10x16 | 0.054 | 1216 | 10x20 | 0.041 | 1406 | 12.5x20 | 0.041 | 1666 |
| | | | | | 12.5x15 | 0.044 | 1456 | 16x15 | 0.050 | 1696 |
| 470 | 471 | 8x20 | 0.062 | 1056 | 10x20 | 0.041 | 1406 | 10x30 | 0.039 | 1696 |
| | | 10x16 | 0.054 | 1216 | | | | 12.5x25 | 0.031 | 1956 |
| 560 | 561 | 10x20 | 0.041 | 1406 | 10x25 | 0.038 | 1656 | 12.5x25 | 0.031 | 1956 |
| | | 12.5x15 | 0.044 | 1456 | 12.5x20 | 0.032 | 1906 | 18x15 | 0.049 | 1936 |
| 680 | 681 | 10x20 | 0.041 | 1406 | 10x30 | 0.028 | 1916 | 12.5x30 | 0.027 | 2318 |
| | | | | | 12.5x20 | 0.032 | 1906 | | | |
| | | | | | 16x15 | 0.045 | 1886 | 16x20 | 0.031 | 2218 |
| 820 | 821 | 10x20 | 0.041 | 1406 | 12.5x25 | 0.027 | 2132 | 12.5x35 | 0.023 | 2518 |
| | | | | | 18x15 | 0.046 | 2028 | 18x20 | 0.032 | 2498 |
| 1000 | 102 | 10x30 | 0.028 | 1916 | 12.5x25 | 0.027 | 2132 | 12.5x35 | 0.019 | 2928 |
| | | 12.5x20 | 0.032 | 1906 | | | | | | |
| | | 16x15 | 0.045 | 1886 | 16x20 | 0.032 | 2218 | 16x25 | 0.023 | 2563 |
| 1200 | 122 | 12.5x25 | 0.027 | 2132 | 12.5x30 | 0.023 | 2532 | 16x30 | 0.020 | 3018 |
| | | 18x15 | 0.046 | 2028 | 16x20 | 0.032 | 2218 | 18x25 | 0.023 | 2748 |
| 1500 | 152 | 12.5x25 | 0.027 | 2132 | 12.5x35 | 0.020 | 2751 | 16x35 | 0.017 | 3158 |
| | | 16x20 | 0.032 | 2218 | 16x25 | 0.025 | 2560 | | | |
| 1800 | 182 | 12.5x30 | 0.023 | 2532 | 18x20 | 0.031 | 2503 | 16x40 | 0.014 | 3718 |
| | | | | | 12.5x40 | 0.017 | 3198 | | | |
| | | 16x20 | 0.032 | 2218 | 16x25 | 0.025 | 2560 | 18x30 | 0.019 | 3643 |
| 2200 | 222 | 12.5x35 | 0.020 | 2751 | 16x30 | 0.020 | 3037 | 18x35 | 0.015 | 3688 |
| | | 18x20 | 0.031 | 2503 | 18x25 | 0.022 | 2779 | | | |
| 2700 | 272 | 16x25 | 0.025 | 2560 | 16x35 | 0.018 | 3132 | 18x40 | 0.013 | 3808 |
| | | | | | 18x30 | 0.018 | 3608 | | | |
| 3300 | 332 | 16x30 | 0.020 | 3037 | 18x35 | 0.017 | 3646 | | | |
| | | 18x25 | 0.022 | 2779 | | | | | | |
| 3900 | 392 | 16x35 | 0.018 | 3132 | 18x40 | 0.014 | 3789 | | | |
| | | 18x30 | 0.018 | 3608 | | | | | | |
| 4700 | 472 | 18x35 | 0.017 | 3646 | | | | | | |
| 5600 | 562 | 18x40 | 0.014 | 3789 | | | | | | |

LOW Z

∅D × L(mm)
Impedance (20°C / 100KHz)
Rated Ripple Current (+105°C, 120HZ)

■ Dimensions

| C _R (μF) | Item Code | U _R | | 63V(1J) | | | 100V(2A) | | | 160V(2C) | | |
|---------------------|-----------|----------------|------------------|--------------|----------------|------------------|--------------|----------------|------------------|--------------|------|--|
| | | case size ∅D×L | Impedance (Ωmax) | Ripple mArms | case size ∅D×L | Impedance (Ωmax) | Ripple mArms | case size ∅D×L | Impedance (Ωmax) | Ripple mArms | | |
| | | | | | | | | | | | Code | |
| 15 | 150 | | | | 6.3×11 | 0.864 | 120 | | | | | |
| 18 | 180 | | | | | | | | | | | |
| 22 | 220 | 6.3×11 | 0.864 | 120 | | | | 10×20 | 1.63 | 270 | | |
| 27 | 270 | | | | 8×12 | 0.454 | 237 | | | | | |
| 33 | 330 | 6.3×11 | 0.864 | 120 | | | | 12.5×20 | 1.05 | 370 | | |
| 39 | 390 | 8×12 | 0.454 | 237 | 8×16 | 0.324 | 305 | | | | | |
| 47 | 470 | 8×12 | 0.454 | 237 | 10×12.5 | 0.310 | 293 | 12.5×25 | 0.68 | 508 | | |
| 56 | 560 | 8×12 | 0.454 | 237 | 8×20 | 0.238 | 367 | | | | | |
| 68 | 680 | 8×12 | 0.454 | 237 | 10×16 | 0.223 | 362 | | | | | |
| 82 | 820 | 10×12.5 | 0.310 | 293 | 10×20 | 0.151 | 471 | | | | | |
| | | | | | 12.5×16 | 0.166 | 471 | | | | | |
| 100 | 101 | 8×16 | 0.324 | 305 | 10×25 | 0.144 | 536 | 16×25 | 0.34 | 678 | | |
| | | 10×12.5 | 0.310 | 293 | | | | | | | | |
| 120 | 121 | 10×16 | 0.223 | 342 | 10×30 | 0.108 | 668 | | | | | |
| | | | | | 12.5×20 | 0.115 | 695 | | | | | |
| 150 | 151 | 8×20 | 0.238 | 367 | 16×16 | 0.101 | 800 | | | | | |
| 180 | 181 | 10×20 | 0.151 | 471 | 12.5×25 | 0.086 | 789 | | | | | |
| | | 12.5×15 | 0.166 | 471 | 18×16 | 0.086 | 925 | | | | | |
| 220 | 221 | 10×20 | 0.151 | 471 | 12.5×25 | 0.086 | 789 | 16×35 | 0.28 | 892 | | |
| | | 10×25 | 0.144 | 536 | | | | 18×35 | 0.20 | 1145 | | |
| | | 12.5×20 | 0.115 | 695 | 16×20 | 0.066 | 1046 | | | | | |
| 270 | 271 | 16×15 | 0.101 | 800 | 12.5×35 | 0.059 | 1056 | | | | | |
| | | | | | 16×25 | 0.052 | 1256 | | | | | |
| 330 | 331 | 10×30 | 0.108 | 668 | 12.5×40 | 0.051 | 1186 | | | | | |
| | | 12.5×20 | 0.115 | 695 | 18×20 | 0.058 | 1246 | | | | | |
| 390 | 391 | 12.5×25 | 0.086 | 789 | 16×30 | 0.039 | 1576 | | | | | |
| | | 18×15 | 0.086 | 925 | 18×25 | 0.041 | 1496 | | | | | |
| 470 | 471 | 12.5×30 | 0.072 | 910 | 16×35 | 0.032 | 1796 | 18×40 | 0.17 | 1310 | | |
| | | 16×20 | 0.066 | 1046 | 18×30 | 0.034 | 1636 | | | | | |
| 560 | 561 | 16×25 | 0.052 | 1256 | 18×40 | 0.029 | 2028 | | | | | |
| 680 | 681 | 12.5×35 | 0.059 | 1056 | 18×35 | 0.029 | 1796 | | | | | |
| | | 16×25 | 0.052 | 1256 | | | | | | | | |
| | | 18×20 | 0.058 | 1246 | | | | | | | | |
| 820 | 821 | 12.5×40 | 0.051 | 1186 | 18×40 | 0.026 | 2338 | | | | | |
| | | 16×30 | 0.039 | 1576 | | | | | | | | |
| | | 18×25 | 0.041 | 1496 | | | | | | | | |
| 1000 | 102 | 16×30 | 0.039 | 1576 | | | | | | | | |
| | | 16×35 | 0.032 | 1796 | | | | | | | | |
| 1200 | 122 | 16×40 | 0.029 | 2028 | | | | | | | | |
| | | 18×30 | 0.034 | 1636 | | | | | | | | |
| 1500 | 152 | 18×35 | 0.029 | 1796 | | | | | | | | |
| 1800 | 182 | 18×40 | 0.026 | 2338 | | | | | | | | |

| C _R (μF) | Item Code | U _R | | 160V(2C) | | | 200V(2D) | | | 250V(2E) | | |
|---------------------|-----------|----------------|------------------|--------------|----------------|------------------|--------------|----------------|------------------|--------------|------|--|
| | | case size ∅D×L | Impedance (Ωmax) | Ripple mArms | case size ∅D×L | Impedance (Ωmax) | Ripple mArms | case size ∅D×L | Impedance (Ωmax) | Ripple mArms | | |
| | | | | | | | | | | | Code | |
| 3.3 | 3R3 | | | | | | | 8×12 | 9.9 | 92 | | |
| 4.7 | 4R7 | 8×12 | 3.602 | 125 | | | | 10×12.5 | 7.2 | 95 | | |
| 10 | 100 | 8×12 | 3.602 | 155 | 10×12.5 | 2.700 | 167 | 10×12.5 | 7.2 | 135 | | |
| 22 | 220 | 10×12.5 | 2.712 | 185 | 10×16 | 2.025 | 213 | 12.5×20 | 2.34 | 245 | | |
| 33 | 330 | 10×20 | 1.485 | 271 | 10×20 | 1.485 | 271 | 12.5×25 | 1.62 | 345 | | |
| 47 | 470 | 10×20 | 1.485 | 325 | 12.5×20 | 0.963 | 371 | 12.5×25 | 1.62 | 395 | | |
| 100 | 101 | 16×25 | 0.324 | 680 | 16×30 | 0.324 | 972 | 16×30 | 0.63 | 705 | | |
| 220 | 221 | 16×35 | 0.27 | 1230 | 18×35 | 0.189 | 1148 | 18×40 | 0.37 | 838 | | |
| | | 18×35 | 0.189 | 1306 | | | | | | | | |
| 470 | 471 | 18×40 | 0.162 | 1313 | 18×50 | 0.072 | 1386 | | | | | |

■ Dimensions

$\varnothing D \times L$ (mm)
 Impedance (20°C / 100KHz)
 Rated Ripple Current (+105°C, 20HZ)

| C _R (μF) | Code | U _R | 400V(2G) | | | 450V(2W) | | |
|---------------------|------|----------------|-------------------|-----------|--------|-------------------|-----------|--------|
| | | | case size ∅D×L | Impedance | Ripple | case size ∅D×L | Impedance | Ripple |
| | | | | (Ωmax) | mArms | | (Ωmax) | mArms |
| 2.2 | 2R2 | | | | 8×12 | 11.60 | 50 | |
| 3.3 | 3R3 | | 10×12.5 | 5.20 | 93 | 10×12.5 | 6.12 | 142 |
| 4.7 | 4R7 | | 10×16 | 3.65 | 188 | 12.5×20 | 3.53 | 185 |
| 10 | 100 | | 10×16 | 3.36 | 198 | 12.5×25 | 2.56 | 245 |
| 22 | 220 | | 12.5×20 | 3.36 | 200 | 16×30 | 0.98 | 485 |
| 33 | 330 | | 16×25 | 1.78 | 310 | 18×25 | 0.60 | 665 |
| 47 | 470 | | 18×25 | 0.62 | 613 | 18×35 | 0.59 | 625 |
| 68 | 680 | | | | | 18×40 | 0.58 | 715 |
| 100 | 101 | | 18×40 | 0.39 | 910 | 18×40 | 0.58 | 715 |