

RL series

Ultra-Low ESR & High Ripple Current

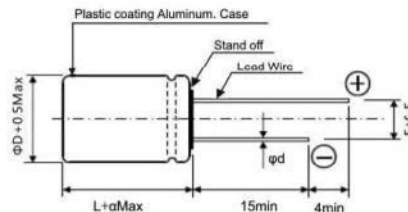
- Ultra-Low ESR, High ripple current
- Load life of 2000 hours at 105°C
- Compliant to the RoHS directive (2011/65/EU)
- Suitable for Motherboard, Server Board, VGA

具有超低ESR和超大纹波电流,产品满足RoHS指令(2011/65/EU), 适用于计算机主板、服务器、显卡等。

» Specifications

| Items | Characteristics | |
|---|--|---|
| Capacitance Range | -55°C ~ +105°C | |
| Capacitance Tolerance | 220 ~ 4000 uF | |
| Rated Voltage Range | M: ± 20% | |
| Dissipation Factor (at 120Hz, 20°C) | 2.5V ~ 14V DC Not to exceed the value specified | |
| Leakage Current | Not to exceed the value specified (after 2 minutes) | |
| ESR (100K-300KHz) | Not to exceed the value specified | |
| Endurance 105°C, 2000h, at rated voltage | Capacitance Change | Within ± 20% of the value before test |
| | Leakage current | Not to exceed the value specified |
| | ESR | Not to exceed 150% of the value specified |
| | Dissipation Factor | Not to exceed 150% of the value specified |
| Moisture Resistance Stored at 60°C, Rh90 - 95%, 1000h | Capacitance Change | Within ± 20% of the value before test |
| | Leakage Current | Not to exceed the value specified |
| | ESR | Not to exceed 150% of the value specified |
| | Dissipation Factor | Not to exceed 150% of the value specified |

» Dimensions



Unit: mm

| φD×L | ΦD +0.5max. | α | F ±0.5 | Φrl ±0.05 |
|----------|----------------|-----|-----------|--------------|
| 6.3 × 8 | 6.3 | 1.0 | 2.5 | 0.5 |
| 6.3 × 9 | 6.3 | 1.0 | 2.5 | 0.5 |
| 6.3 × 11 | 6.3 | 1.0 | 2.5 | 0.5 |
| 6.3 × 12 | 6.3 | 1.0 | 2.5 | 0.5 |
| 6.3 × 13 | 6.3 | 1.0 | 2.5 | 0.5 |
| 6.3 × 15 | 6.3 | 1.0 | 2.5 | 0.5 |
| 8 × 8 | 8.0 | 1.0 | 3.5 | 0.6 |
| 8 × 11.5 | 8.0 | 1.0 | 3.5 | 0.6 |

| φD×L | ΦD +0.5max. | α | F ±0.5 | Φrl ±0.05 |
|-----------|----------------|-----|-----------|--------------|
| 8 × 14 | 8.0 | 1.0 | 3.5 | 0.6 |
| 8 × 16 | 8.0 | 1.5 | 3.5 | 0.6 |
| 8 × 20 | 8.0 | 1.5 | 3.5 | 0.6 |
| 10 × 10 | 10.0 | 1.0 | 5.0 | 0.6 |
| 10 × 12.5 | 10.0 | 1.0 | 5.0 | 0.6 |
| 10 × 14 | 10.0 | 1.0 | 5.0 | 0.6 |
| 10 × 16 | 10.0 | 1.5 | 5.0 | 0.6 |
| 10 × 20 | 10.0 | 1.5 | 5.0 | 0.6 |

» Capacitance List

| W.V (S.V) SIZE | 2.5 (2.8) | 4 (4.6) | 6.3 (7.2) | 7.5 (8.6) | 10 (11.5) | 12 (13.8) | 14 (16.1) |
|----------------------|--------------|--------------|--------------|--------------|-------------|--------------|------------|
| 6.3 × 8 | 680~1200 uF | 560~820 uF | 470~820 uF | 470~680 uF | 330~560 uF | 470~680 uF | 270~470 uF |
| 6.3 × 9 | | | 560~1000 uF | 560~820 uF | 390~560 uF | 560~820 uF | 330~560 uF |
| 6.3 × 11 | | | 680~1200 uF | 560~1000 uF | 470~680 uF | 560~1000 uF | 390~560 uF |
| 6.3 × 12 | | | 820~1500 uF | 680~1200 uF | 560~820 uF | 680~1200 uF | 470~680 uF |
| 6.3 × 13 | | | 820~1500 uF | 820~1200 uF | 560~820 uF | 820~1200 uF | 470~680 uF |
| 6.3 × 15 | | | 1000~1500 uF | 1000~1500 uF | 680~1200 uF | 1000~1500 uF | 560~820 uF |
| 8 × 8 | 1000~1800 uF | 680~1500 uF | 560~1500 uF | | 470~820 uF | | |
| 8 × 11.5 | 1200~2700 uF | 1000~1800 uF | 820~1800 uF | | 560~1200 uF | | |
| 8 × 14 | | | 1000~1800 uF | | 820~1200 uF | | |
| 8 × 16 | | | 1200~2700 uF | | 820~1800 uF | | |
| 10 × 10 | | | 820~1800 uF | | 680~1200 uF | | |
| 10 × 12.5 | 1800~3900 uF | 1500~2700 uF | 1200~2200 uF | | 560~1200 uF | | |
| 10 × 14 | | | 1500~3300 uF | | 820~1500 uF | | |
| 10 × 16 | | | 2200~3900 uF | | 820~1800 uF | | |

» Characteristics List

| W.V. (V) | Capacitance (uF) | L.C. (uA, 2min) | tg δ (120Hz, 20°C) | ESR (mΩ, 100kHz) | Rated Ripple Current (mA, r. m. s) | Size Φ D × L (mm) | Part Number |
|-------------|---------------------|--------------------|-----------------------|---------------------|---------------------------------------|----------------------|-----------------|
| 2.5 | 820 | 410 | 0.08 | 8 | 5400 | 6.3 × 8 | RL821M2R5E080□□ |
| | 1200 | 600 | 0.08 | 8 | 5600 | 8 × 8 | RL122M2R5F080□□ |
| | 2200 | 1100 | 0.08 | 8 | 6100 | 8 × 11.5 | RL222M2R5F115□□ |
| | 3300 | 1650 | 0.08 | 8 | 6400 | 10 × 12.5 | RL332M2R5G125□□ |
| 4 | 560 | 448 | 0.08 | 8 | 5400 | 6.3 × 8 | RL561M004E080□□ |
| | 1200 | 960 | 0.08 | 8 | 5600 | 8 × 8 | RL122M004F080□□ |
| | 1500 | 1200 | 0.08 | 8 | 6100 | 8 × 11.5 | RL152M004F115□□ |
| | 2200 | 1760 | 0.08 | 8 | 6400 | 10 × 12.5 | RL222M004G125□□ |
| 6.3 | 560 | 705.6 | 0.08 | 8 | 5300 | 6.3 × 8 | RL561M6R3E080□□ |
| | 680 | 856.8 | 0.08 | 8 | 5400 | 6.3 × 9 | RL681M6R3E090□□ |
| | 820 | 1033.2 | 0.08 | 8 | 5600 | 6.3 × 11 | RL821M6R3E110□□ |
| | 1200 | 1512 | 0.08 | 8 | 5600 | 6.3 × 12 | RL122M6R3E120□□ |
| | 1200 | 1512 | 0.08 | 8 | 5600 | 6.3 × 13 | RL122M6R3E130□□ |
| | 1500 | 1890 | 0.08 | 8 | 6100 | 6.3 × 15 | RL152M6R3E150□□ |
| | 820 | 1260 | 0.08 | 8 | 5600 | 8 × 8 | RL821M6R3F080□□ |
| | 1200 | 1512 | 0.08 | 8 | 6100 | 8 × 11.5 | RL122M6R3F115□□ |
| | 1500 | 1890 | 0.08 | 8 | 6100 | 8 × 14 | RL152M6R3F140□□ |
| | 1800 | 2268 | 0.08 | 8 | 6400 | 8 × 16 | RL182M6R3F160□□ |
| | 1500 | 1890 | 0.08 | 8 | 5800 | 10 × 10 | RL152M6R3G100□□ |
| | 2200 | 2772 | 0.08 | 8 | 6400 | 10 × 12.5 | RL222M6R3G125□□ |
| | 3300 | 3000 | 0.08 | 8 | 6400 | 10 × 14 | RL332M6R3G140□□ |
| 3300 | 3000 | 0.08 | 8 | 6700 | 10 × 16 | RL332M6R3G160□□ | |

| W.V. (V) | Capacitance (μ F) | L.C. (μ A, 2min) | tg δ (120Hz, 20°C) | ESR (m Ω , 100kHz) | Rated Ripple Current (mA, r. m. s) | Size Φ D \times L (mm) | Part Number |
|-------------|---------------------------|--------------------------|------------------------------|------------------------------|---------------------------------------|----------------------------------|-----------------|
| 7.5 | 560 | 840 | 0.08 | 8 | 5300 | 6.3 \times 8 | RL561M7R5E080□□ |
| | 680 | 1020 | 0.08 | 8 | 5400 | 6.3 \times 9 | RL681M7R5E090□□ |
| | 1000 | 1500 | 0.08 | 8 | 5600 | 6.3 \times 11 | RL102M7R5E110□□ |
| | 1200 | 1800 | 0.08 | 8 | 5600 | 6.3 \times 12 | RL122M7R5E120□□ |
| | 1200 | 1800 | 0.08 | 8 | 5600 | 6.3 \times 13 | RL122M7R5E130□□ |
| | 1500 | 2250 | 0.08 | 8 | 6100 | 6.3 \times 15 | RL152M7R5E150□□ |
| 10 | 330 | 660 | 0.08 | 8 | 5300 | 6.3 \times 8 | RL331M010E080□□ |
| | 470 | 940 | 0.08 | 8 | 5400 | 6.3 \times 9 | RL471M010E090□□ |
| | 680 | 1120 | 0.08 | 8 | 5600 | 6.3 \times 11 | RL681M010E110□□ |
| | 820 | 1640 | 0.08 | 8 | 5600 | 6.3 \times 12 | RL821M010E120□□ |
| | 820 | 1640 | 0.08 | 8 | 5600 | 6.3 \times 13 | RL821M010E130□□ |
| | 1000 | 2000 | 0.08 | 8 | 6100 | 6.3 \times 15 | RL102M010E150□□ |
| | 820 | 1640 | 0.08 | 8 | 5600 | 8 \times 8 | RL821M010F080□□ |
| | 1000 | 2000 | 0.08 | 8 | 6100 | 8 \times 11.5 | RL102M010F115□□ |
| | 1200 | 2400 | 0.08 | 8 | 6100 | 8 \times 14 | RL122M010F140□□ |
| | 1200 | 2400 | 0.08 | 8 | 6400 | 8 \times 16 | RL122M010F160□□ |
| | 1200 | 2400 | 0.08 | 8 | 5800 | 10 \times 10 | RL122M010G100□□ |
| | 1800 | 3000 | 0.08 | 8 | 6400 | 10 \times 12.5 | RL182M010G125□□ |
| | 2200 | 3000 | 0.08 | 8 | 6400 | 10 \times 14 | RL222M010G140□□ |
| | 2700 | 3000 | 0.08 | 8 | 6700 | 10 \times 16 | RL272M010G160□□ |
| 12 | 470 | 1128 | 0.08 | 15 | 4200 | 6.3 \times 8 | RL471M012E080□□ |
| | 560 | 1344 | 0.08 | 15 | 4200 | 6.3 \times 9 | RL561M012E090□□ |
| | 560 | 1344 | 0.08 | 15 | 4600 | 6.3 \times 11 | RL561M012E110□□ |
| | 820 | 1968 | 0.08 | 12 | 5200 | 6.3 \times 12 | RL821M012E120□□ |
| | 820 | 1968 | 0.08 | 12 | 5200 | 6.3 \times 13 | RL821M012E130□□ |
| | 1000 | 2400 | 0.08 | 12 | 5600 | 6.3 \times 15 | RL102M012E150□□ |
| 14 | 470 | 1316 | 0.08 | 15 | 4200 | 6.3 \times 8 | RL471M014E080□□ |
| | 560 | 1568 | 0.08 | 15 | 4200 | 6.3 \times 9 | RL561M014E090□□ |
| | 560 | 1568 | 0.08 | 15 | 4600 | 6.3 \times 11 | RL561M014E110□□ |
| | 680 | 1904 | 0.08 | 12 | 5200 | 6.3 \times 12 | RL681M014E120□□ |
| | 680 | 1904 | 0.08 | 12 | 5200 | 6.3 \times 13 | RL681M014E130□□ |
| | 820 | 2296 | 0.08 | 12 | 5600 | 6.3 \times 15 | RL821M014E150□□ |

» Frequency Coefficient for Ripple Current

| Frequency | 120Hz \leq freq. < 1KHz | 1KHz \leq freq. < 10KHz | 10KHz \leq freq. < 100KHz | 100KHz \leq freq. < 300KHz |
|-------------|---------------------------|---------------------------|-----------------------------|------------------------------|
| Coefficient | 0.05 | 0.3 | 0.7 | 1 |