

CODIGO

RXXXMXX

DESCRIPCION

Electroliticos de aluminio

ECR SERIES

- **Life 1000 hours at 85°C**
- Small size allows wider choice of capacitance and voltage for automatic insertion.

Characteristics

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------|------|------|--|------|--|---------------|---------------|------|------|------|------|------|-----------------|--------------------|------|--------------------|------|------|------|------|------|------|------|------|-----------------|---|---|---|---|---|---|---|---|
| Voltage Range | 6.3 to 100 VDC | | | | 160 to 450 VDC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Range | 0.47 to 10000 μ F | | | | 0.47 to 220 μ F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature Range | - 40 to + 85°C | | | | - 25 to + 85°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | + 20 % - 20 % (at 20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | $I \leq 0.01CV$ or $3\mu A$ Whichever is greater 3 minutes after Rated Voltage applied | | | | $I \leq 0.03CV$ or $10\mu A$ Whichever is greater 3 minutes after Rated Voltage applied | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor (tan δ) | <table><tr><td>Rated voltage</td><td>6.3V</td><td>10V</td><td>16V</td><td>25V</td><td>35V</td><td>50V</td><td>63V</td><td>100V</td></tr><tr><td>tan δ(max)</td><td>0.22</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.12</td><td>0.10</td><td>0.10</td><td>0.08</td></tr></table> | | | | | | | | Rated voltage | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V | tan δ (max) | 0.22 | 0.20 | 0.17 | 0.15 | 0.12 | 0.10 | 0.10 | 0.08 | | | | | | | | | |
| | Rated voltage | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | tan δ (max) | 0.22 | 0.20 | 0.17 | 0.15 | 0.12 | 0.10 | 0.10 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><td>Rated voltage</td><td>160V</td><td>200V</td><td>250V</td><td>350V</td><td>400V</td><td>450V</td></tr><tr><td>tan δ(max)</td><td>0.16</td><td>0.18</td><td>0.18</td><td>0.20</td><td>0.20</td><td>0.20</td></tr></table> | | | | | | | | Rated voltage | 160V | 200V | 250V | 350V | 400V | 450V | tan δ (max) | 0.16 | 0.18 | 0.18 | 0.20 | 0.20 | 0.20 | | | | | | | | | | | | | |
| Rated voltage | 160V | 200V | 250V | 350V | 400V | 450V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tan δ (max) | 0.16 | 0.18 | 0.18 | 0.20 | 0.20 | 0.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| For capacitance > 1000 μ F, add 0.02 for every 1000 μ F. (at 20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stability at Low Temperature | Impedance ratio at 120Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><td>Rated voltage</td><td>6.3V</td><td>10V</td><td>16V</td><td>25V</td><td>35V</td><td>50V</td><td>63V</td><td>100V</td></tr><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></tr><tr><td>Z-40°C / Z 20°C</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table> | | | | | | | | Rated voltage | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V | Z-25°C / Z 20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | Z-40°C / Z 20°C | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 3 |
| | Rated voltage | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Z-25°C / Z 20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z-40°C / Z 20°C | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table><tr><td>Rated voltage</td><td>160V</td><td>200V</td><td>250V</td><td>350V</td><td>400V</td><td>450V</td></tr><tr><td>Z-25°C / Z 20°C</td><td>2</td><td>2</td><td>3</td><td>5</td><td>15</td><td>15</td></tr></table> | | | | | | | | Rated voltage | 160V | 200V | 250V | 350V | 400V | 450V | Z-25°C / Z 20°C | 2 | 2 | 3 | 5 | 15 | 15 | | | | | | | | | | | | | | |
| Rated voltage | 160V | 200V | 250V | 350V | 400V | 450V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z-25°C / Z 20°C | 2 | 2 | 3 | 5 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Load Life | After the rated voltage has been applied for 1000 hours at 85°C | | | | Capacitance change | | Within ± 20 % of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | D.F. tan δ | | 150 % or less of initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Leakage current | | Initial specified value or less | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life | After storage for 500 hours at 85°C, with no voltage applied and being stabilized at + 20°C, Capacitor shall meet the limit specified in load life. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Maximum Ripple Current

mA rms 85°C 120Hz

| μ F \ VV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 |
|--------------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| 0.47 | | | | | | 8 | 8 | 10 | 10 | 10 | 10 | 11 | 12 | 12 |
| 1 | | | | | | 10 | 20 | 20 | 13 | 16 | 18 | 18 | 18 | 19 |
| 2.2 | | | | | | 20 | 30 | 30 | 22 | 27 | 31 | 28 | 28 | 29 |
| 3.3 | | | | | | 30 | 40 | 40 | 31 | 36 | 40 | 35 | 35 | 35 |
| 4.7 | | | | | | 40 | 45 | 50 | 40 | 45 | 49 | 40 | 45 | 50 |
| 10 | | | 45 | 45 | 50 | 60 | 65 | 70 | 66 | 72 | 81 | 70 | 70 | 75 |
| 22 | | | 75 | 90 | 95 | 100 | 105 | 115 | 110 | 126 | 144 | 110 | 110 | 110 |
| 33 | | | 85 | 95 | 105 | 120 | 130 | 145 | 140 | 160 | 170 | 140 | 140 | 150 |
| 47 | | 90 | 100 | 120 | 135 | 150 | 160 | 180 | 180 | 193 | 210 | 170 | 170 | 170 |
| 100 | 100 | 150 | 170 | 180 | 210 | 250 | 270 | 350 | 270 | 306 | 340 | 340 | | |
| 220 | 240 | 250 | 280 | 310 | 350 | 400 | 450 | 550 | 400 | | | | | |
| 330 | 300 | 330 | 350 | 370 | 440 | 500 | 550 | 700 | | | | | | |
| 470 | 380 | 400 | 440 | 480 | 550 | 650 | 750 | 900 | | | | | | |
| 1000 | 580 | 630 | 680 | 850 | 900 | 1050 | 1100 | 1050 | | | | | | |
| 2200 | 890 | 920 | 1000 | 1200 | 1250 | 1300 | 1400 | | | | | | | |
| 3300 | 1020 | 1090 | 1200 | 1300 | 1400 | 1500 | 1600 | | | | | | | |
| 4700 | 1170 | 1200 | 1360 | 1500 | 1600 | 1700 | 1800 | | | | | | | |
| 6800 | 1270 | 1400 | 1600 | 1700 | 1800 | 1900 | | | | | | | | |
| 10000 | 1450 | 1600 | 1800 | 1800 | 2000 | 2800 | | | | | | | | |

CODIGO

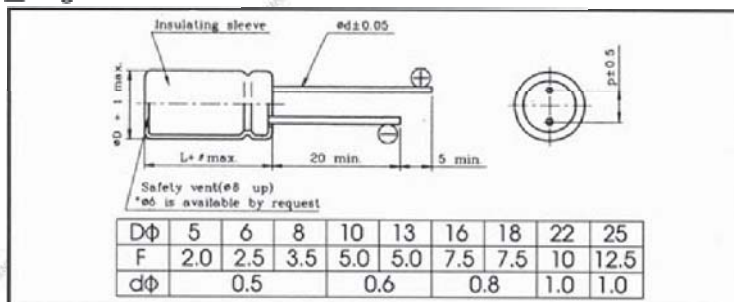
RXXXMXX

DESCRIPCION

Electroliticos de aluminio

ECR Series

■ Diagram of Dimensions



Unit(mm)

■ Case Size of Standard Products

DxL(mm)

| μF \ WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
|---------|--|-------|-------|-------|-------|-------|---------|-------|
| 0.47 | | | | | → | 5x11 | 5x11 | 5x11 |
| 1 | ALL BLANK VOLTAGE ON SLEEVE MARKING IS SAME VOLTAGE "→" POINT TO | | | | → | 5x11 | 5x11 | 5x11 |
| 2.2 | | | | | → | 5x11 | 5x11 | 5x11 |
| 3.3 | | | | | → | 5x11 | 5x11 | 5x11 |
| 4.7 | | | | | → | 5x11 | 5x11 | 5x11 |
| 10 | | → | 5x11 | 5x11 | 5x11 | 5x11 | 5x11 | 6x11 |
| 22 | | → | 5x11 | 5x11 | 5x11 | 5x11 | 6x11 | 8x12 |
| 33 | | → | 5x11 | 5x11 | 5x11 | 6x11 | 6x11 | 8x14 |
| 47 | → | 5x11 | 5x11 | 5x11 | 6x11 | 6x11 | 8x12 | 10x16 |
| 100 | 5x11 | 5x11 | 5x11 | 6x11 | 8x12 | 8x12 | 10x12.5 | 13x21 |
| 220 | 5x11 | 6x11 | 6x11 | 8x12 | 8x14 | 10x16 | 10x21 | 13x26 |
| 330 | 6x11 | 6x11 | 8x12 | 8x14 | 10x16 | 10x21 | 13x21 | 16x26 |
| 470 | 6x12 | 8x12 | 8x12 | 8x14 | 10x16 | 13x21 | 13x26 | 16x32 |
| 1000 | 8x12 | 8x14 | 10x16 | 10x21 | 13x21 | 16x26 | 16x32 | 22x41 |
| 2200 | 10x16 | 10x16 | 13x21 | 13x26 | 16x26 | 16x36 | 18x38 | |
| 3300 | 10x21 | 13x21 | 13x26 | 16x26 | 16x32 | 18x38 | 22x41 | |
| 4700 | 13x21 | 13x26 | 16x26 | 16x32 | 18x38 | 22x41 | 25x41 | |
| 6800 | 16x26 | 16x32 | 16x36 | 18x38 | 22x41 | 25x41 | | |
| 10000 | 16x32 | 16x36 | 18x38 | 22x41 | 25x41 | 25x50 | | |

| μF \ WV | 160 | 200 | 250 | 350 | 400 | 450 |
|---------|---------|-------|---------|---------|---------|-------|
| 0.47 | 5x11 | 5x11 | 5x11 | 6x11 | 6x11 | 6x11 |
| 1 | 5x11 | 6x11 | 6x11 | 8x12 | 8x12 | 8x12 |
| 2.2 | 6x11 | 6x11 | 8x12 | 10x12.5 | 10x12.5 | 10x16 |
| 3.3 | 6x11 | 8x12 | 8x12 | 10x12.5 | 10x12.5 | 10x16 |
| 4.7 | 8x12 | 8x12 | 10x12.5 | 10x12.5 | 10x16 | 10x21 |
| 10 | 10x12.5 | 10x16 | 10x16 | 10x21 | 13x21 | 13x26 |
| 22 | 10x16 | 10x21 | 13x21 | 13x21 | 13x26 | 16x26 |
| 33 | 10x21 | 13x21 | 13x26 | 16x26 | 16x32 | 16x32 |
| 47 | 13x21 | 13x26 | 16x26 | 16x32 | 16x36 | 16x36 |
| 100 | 16x26 | 16x32 | 16x32 | 18x38 | | |
| 220 | 18x38 | | | | | |