



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

MBZ

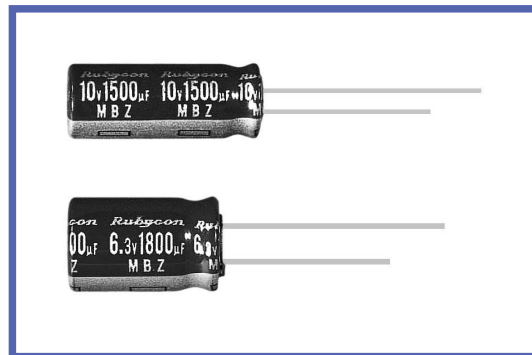
MBZ SERIES

Previous Series

105°C Ultra Low ESR.

◆ FEATURES

- Ultra Low ESR for VRM.
- Enabled high ripple current by a reduction of ESR at high frequency range.



◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | | | | | | |
|--|--|--------------------|-----------------------------------|--------------------|--|-----------------|------------------------------------|------|------|------|--|------------------|---|---|---|--|
| Category Temperature Range | -40~+105°C | | | | | | | | | | | | | | | |
| Rated Voltage Range | 6.3~16V.DC | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20%(20°C,120Hz) | | | | | | | | | | | | | | | |
| Leakage Current(MAX) | I=0.03CV (After 3 minutes application of rated voltage) I=Leakage Current(µA) C=Rated Capacitance(µF) V=Rated Voltage(V) | | | | | | | | | | | | | | | |
| Dissipation Factor(MAX) | <table border="1"> <tr> <td>Rated Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>(20°C,120Hz)</td> </tr> <tr> <td>tanδ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td></td> </tr> </table> <p>When rated capacitance is over 1000µF, tanδ shall be added 0.02 to the listed value with increase of every 1000µF.</p> | Rated Voltage (V) | 6.3 | 10 | 16 | (20°C,120Hz) | tanδ | 0.22 | 0.19 | 0.16 | | | | | | |
| Rated Voltage (V) | 6.3 | 10 | 16 | (20°C,120Hz) | | | | | | | | | | | | |
| tanδ | 0.22 | 0.19 | 0.16 | | | | | | | | | | | | | |
| Endurance | <p>After applying rated voltage with rated ripple current for 2000hrs at 105°C, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>Capacitance Change</td> <td>Within ±25% of the initial value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </table> | Capacitance Change | Within ±25% of the initial value. | Dissipation Factor | Not more than 200% of the specified value. | Leakage Current | Not more than the specified value. | | | | | | | | | |
| Capacitance Change | Within ±25% of the initial value. | | | | | | | | | | | | | | | |
| Dissipation Factor | Not more than 200% of the specified value. | | | | | | | | | | | | | | | |
| Leakage Current | Not more than the specified value. | | | | | | | | | | | | | | | |
| Low Temperature Stability Impedance Ratio(MAX) | <table border="1"> <tr> <td>Rated Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>(120Hz)</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>2</td> <td>2</td> <td>2</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td></td> </tr> </table> | Rated Voltage (V) | 6.3 | 10 | 16 | (120Hz) | Z(-25°C)/Z(20°C) | 2 | 2 | 2 | | Z(-40°C)/Z(20°C) | 3 | 3 | 3 | |
| Rated Voltage (V) | 6.3 | 10 | 16 | (120Hz) | | | | | | | | | | | | |
| Z(-25°C)/Z(20°C) | 2 | 2 | 2 | | | | | | | | | | | | | |
| Z(-40°C)/Z(20°C) | 3 | 3 | 3 | | | | | | | | | | | | | |

◆ MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

| Frequency (Hz) | 120 | 1k | 10k | 100k≦ |
|----------------|------|------|------|-------|
| Coefficient | 0.50 | 0.80 | 0.90 | 1.00 |

◆ PART NUMBER

 MBZ **DxL**
 Rated Voltage Series Rated Capacitance Capacitance Tolerance Option Lead Forming Case Size

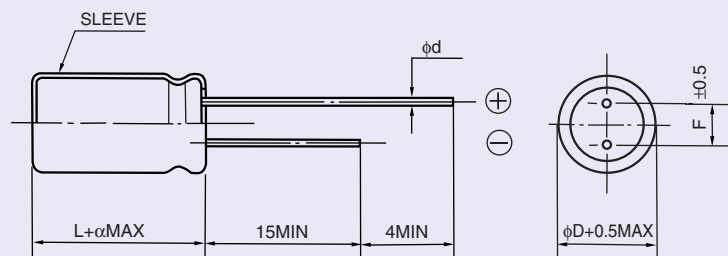


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◆ **DIMENSIONS**

(mm)



| | | |
|----------|--|-----|
| ϕD | 8 | 10 |
| ϕd | 0.6 | |
| F | 3.5 | 5.0 |
| α | $L \leq 16 : \alpha = 1.5$ $L \geq 20 : \alpha = 2.0$ | |

◆ **STANDARD SIZE**

| Rated voltage 6.3V(0J) | | | |
|-------------------------------|-----------------------------|--|-----------------------------------|
| Rated capacitance (μF) | Size $\phi D \times L$ (mm) | Rated ripple current (mA r.m.s./105°C, 100kHz) | ESR (m Ω MAX/20°C, 100kHz) |
| 820 | 8X11.5 | 1140 | 36 |
| 1200 | 8X16 | 1490 | 28 |
| 1800 | 8X20 | 1870 | 19 |
| 1500 | 10X12.5 | 1540 | 26 |
| 1800 | 10X16 | 2000 | 19 |
| 2200 | 10X20 | 2550 | 13 |
| 3300 | 10X23 | 2800 | 12 |

| Rated voltage 10V(1A) | | | |
|-------------------------------|-----------------------------|--|-----------------------------------|
| Rated capacitance (μF) | Size $\phi D \times L$ (mm) | Rated ripple current (mA r.m.s./105°C, 100kHz) | ESR (m Ω MAX/20°C, 100kHz) |
| 680 | 8X11.5 | 1140 | 36 |
| 1000 | 8X16 | 1490 | 28 |
| 1500 | 8X20 | 1870 | 19 |
| 1000 | 10X12.5 | 1540 | 26 |
| 1500 | 10X16 | 2000 | 19 |
| 1800 | 10X20 | 2550 | 13 |
| 2200 | 10X23 | 2800 | 12 |

| Rated voltage 16V(1C) | | | |
|-------------------------------|-----------------------------|--|-----------------------------------|
| Rated capacitance (μF) | Size $\phi D \times L$ (mm) | Rated ripple current (mA r.m.s./105°C, 100kHz) | ESR (m Ω MAX/20°C, 100kHz) |
| 470 | 8X11.5 | 1140 | 36 |
| 680 | 8X16 | 1490 | 28 |
| 1000 | 8X20 | 1870 | 19 |
| 680 | 10X12.5 | 1540 | 26 |
| 1000 | 10X16 | 2000 | 19 |
| 1500 | 10X20 | 2550 | 13 |
| 1800 | 10X23 | 2800 | 12 |