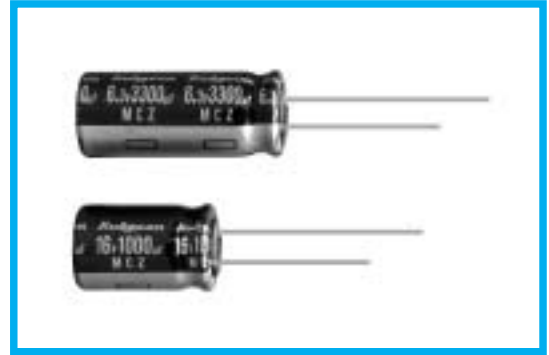


**MCZ SERIES**
**105°C Ultra Low ESR.**
**◆FEATURES**

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


**◆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 2 minutes application of rated voltage) $I=$ Leakage Current( $\mu A$ ) $C=$ Rated Capacitance( $\mu F$ ) $V=$ Rated Voltage(V)												
Dissipation Factor(MAX) (tan $\delta$ )	<table border="1"> <tr> <td>Rated Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> </tr> <tr> <td>tan <math>\delta</math></td> <td>0.22</td> <td>0.19</td> <td>0.16</td> </tr> </table> (20°C, 120Hz) When rated capacitance is over 1000 $\mu F$ , tan $\delta$ shall be added 0.02 to the listed value with increase of every 1000 $\mu F$ .	Rated Voltage (V)	6.3	10	16	tan $\delta$	0.22	0.19	0.16				
Rated Voltage (V)	6.3	10	16										
tan $\delta$	0.22	0.19	0.16										
Endurance	After applying rated voltage with rated ripple current for 2000hrs at 105°C, the capacitors shall meet the following requirements. <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> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table> (120Hz)	Rated Voltage (V)	6.3	10	16	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										
Z(-25°C)/Z(20°C)	2	2	2										
Z(-40°C)/Z(20°C)	3	3	3										

**◆MULTIPLIER FOR RIPPLE CURRENT**

Frequency coefficient

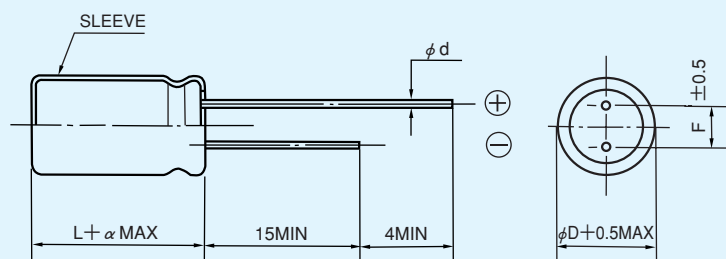
Frequency (Hz)	120	1k	10k	100k $\leq$
Coefficient	0.50	0.80	0.90	1.00

**◆PART NUMBER**

□□□	MCZ	□□□□□	□	□□□	□□	D×L
Rated Voltage	Series	Rated Capacitance	Capacitance Tolerance	Option	Lead Forming	Case Size

**◆ DIMENSIONS**

(mm)



$\phi D$	8	10
$\phi d$	0.6	
F	3.5	5.0
$\alpha$	$L \leq 16 : \alpha = 1.5$ $L \geq 20 : \alpha = 2.0$	

**◆ STANDARD SIZE**

Rated voltage 6.3V(0J)			
Rated capacitance ( $\mu F$ )	Size $\phi D \times L$ (mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	ESR (m $\Omega$ MAX/20°C, 100kHz)
820	8X11.5	1340	21
1200	8X16	1850	18
1800	8X20	2350	12
1500	10X12.5	1960	16
1800	10X16	2460	12.5
2200	10X20	2770	11
3300	10X25	3230	9

Rated voltage 10V(1A)			
Rated capacitance ( $\mu F$ )	Size $\phi D \times L$ (mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	ESR (m $\Omega$ MAX/20°C, 100kHz)
680	8X11.5	1340	21
1000	8X16	1850	18
1500	8X20	2350	12
1000	10X12.5	1960	16
1500	10X16	2460	12.5
1800	10X20	2770	11
2200	10X25	3230	9

Rated voltage 16V(1C)			
Rated capacitance ( $\mu F$ )	Size $\phi D \times L$ (mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	ESR (m $\Omega$ MAX/20°C, 100kHz)
470	8X11.5	1340	21
680	8X16	1850	18
1000	8X20	2350	12
680	10X12.5	1960	16
1000	10X16	2460	12.5
1500	10X20	2770	11
1800	10X25	3230	9