



## EV Series

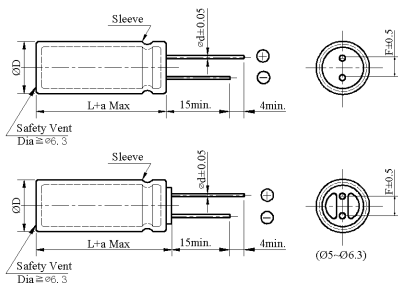
- Low impedance and High ripple current
- Load life 3,000~6,000 hours at 105°C



### ◆ SPECIFICATIONS

Item	Performance Characteristics												
Category Temperature Range	-40~+105°C												
Working Voltage Range	6.3 ~ 35Vdc												
Capacitance Range	10 ~8,200µF												
Capacitance Tolerance	±20% (at 25°C and 120Hz)												
Dissipation Factor (tanδ) (at 25°C, 120Hz)	<table border="1"> <tr> <td>Rated Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>tanδ(Max)</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table>	Rated Voltage (V)	6.3	10	16	25	35	tanδ(Max)	0.22	0.19	0.16	0.14	0.12
	Rated Voltage (V)	6.3	10	16	25	35							
tanδ(Max)	0.22	0.19	0.16	0.14	0.12								
The above values should be increased by 0.02 for every additional 1000µF													
Leakage Current	$I=0.01CV$ or $3\mu A$ whichever is greater I : Leakage current (µA) C : Rated capacitance (µF) V : Rated voltage (V) Impress the rated voltage for 2 minutes												
Low Temperature Characteristics Impedance Ratio(MAX)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>8</td> <td>6</td> <td>6</td> <td>5</td> <td>4</td> </tr> </table> <p style="text-align: right;">(at 120Hz)</p>	Rated voltage (V)	6.3	10	16	25	35	Z(-40°C)/Z(+20°C)	8	6	6	5	4
Rated voltage (V)	6.3	10	16	25	35								
Z(-40°C)/Z(+20°C)	8	6	6	5	4								
Endurance	The following specifications shall be satisfied when the capacitors are restored to 25°C after subjected to DC voltage with the rated ripple current is applied for 3,000~6,000 hours at 105°C												
Shelf Life	<table border="1"> <tr> <td>Capacitance change</td> <td>≒ ±25% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≒ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≒ specified value</td> </tr> </table>	Capacitance change	≒ ±25% of the initial value	Dissipation factor(tanδ)	≒ 200% of the specified value	Leakage current	≒ specified value						
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Size	Life time (hours)												
≒ 6.3Φ	3,000												
= 8 Φ	4,000												
= 10Φ	5,000												
≒ 12.5Φ	6,000												
The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 1,000 hours at 105°C without voltage applied.													
<table border="1"> <tr> <td>Capacitance change</td> <td>≒ ±25% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≒ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≒ 200% of the specified value</td> </tr> </table>	Capacitance change	≒ ±25% of the initial value	Dissipation factor(tanδ)	≒ 200% of the specified value	Leakage current	≒ 200% of the specified value							
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Dissipation factor(tanδ)	≒ 200% of the specified value												
Leakage current	≒ 200% of the specified value												
Others	Conforms to JIS-C-5101-4 (1998), characteristic W												

### ◆ DIMENSIONS (mm)



ΦD	5	6.3	8	10	12.5 L<35	12.5 L≥35	16	18
ΦD	ΦD + 0.5 Max							
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0		7.5	7.5
a	L + 1.5 Max				$\leq 35 L+1.5\text{Max}$ $\geq 40 L+2.0\text{Max}$		L + 1.5 Max	

### ◆ PART NUMBER SYSTEM( Example : 16V 3300µF )



- Special Request
- Size code(1620 : 16×20)
- Lead length code
- Lead forming Type code
- Capacitance tolerance code(M:±20%)
- Capacitance code (3300µF)
- Voltage code (16V)
- Series code (EV)



## EV Series

### ◆ Case size & Permissible rated ripple current

Nominal Capacitance (uF)	6.3V				10V				16V			
	Case Size ΦD×L (mm)	Impedance (Ω <sub>max</sub> /100kHz)		Max. Rated ripple current @105°C 100kHz (mA rms)	Case Size ΦD×L (mm)	Impedance (Ω <sub>max</sub> /100kHz)		Max. Rated ripple current @105°C 100kHz (mA rms)	Case Size ΦD×L (mm)	Impedance (Ω <sub>max</sub> /100kHz)		Max. Rated ripple current @105°C 100kHz (mA rms)
		20°C	-10°C			20°C	-10°C			20°C	-10°C	
100									5×11	0.230	0.760	360
150					5×11	0.230	0.760	360	6.3×11	0.100	0.330	450
220	5×11	0.230	0.760	360	6.3×11	0.100	0.330	450	6.3×11	0.100	0.330	550
330	6.3×11	0.100	0.330	460	6.3×11	0.100	0.330	550	8×11.5	0.059	0.181	830
470	6.3×11	0.100	0.330	550	8×11.5	0.059	0.181	820	8×11.5	0.059	0.181	990
680	8×11.5	0.059	0.181	860	8×11.5	0.059	0.181	990	8×15	0.046	0.143	1330
									10×12.5	0.043	0.133	1360
820	8×11.5	0.059	0.181	990	10×12.5	0.043	0.133	1250	10×16	0.030	0.095	1650
1000	10×12.5	0.043	0.133	1250	10×16	0.039	0.128	1450	8×20	0.031	0.105	1550
									10×16	0.030	0.095	1815
1200	10×12.5	0.043	0.133	1360	10×16	0.030	0.095	1650	10×20	0.019	0.057	1930
	8×15	0.046	0.143	1330								
1500	8×20	0.031	0.105	1550	10×16	0.030	0.095	1815	10×20	0.019	0.057	2160
					8×20	0.031	0.105	1550				
1800	10×16	0.030	0.095	1815	10×20	0.019	0.057	2160	10×25	0.017	0.051	2475
2200	10×20	0.019	0.057	2160	10×25	0.017	0.051	2475	12.5×20	0.016	0.041	2725
2700	10×25	0.017	0.051	2475	12.5×20	0.016	0.041	2600	12.5×35	0.014	0.036	3190
3300	12.5×20	0.016	0.041	2500	12.5×20	0.016	0.041	2725	12.5×30	0.012	0.031	3795
									16×20	0.014	0.036	3575
3900	12.5×20	0.016	0.041	2725	12.5×25	0.014	0.036	3190	12.5×35	0.011	0.029	3925
4700	12.5×25	0.014	0.036	3190	12.5×30	0.012	0.031	3795	16×25	0.012	0.033	3990
					16×20	0.014	0.036	3575				
5600	12.5×35	0.012	0.031	3795	12.5×35	0.011	0.029	3925				
6800	12.5×36	0.011	0.029	3925	16×25	0.012	0.033	3990				
	16×20	0.014	0.036	3575								
8200	16×25	0.012	0.033	3990								



**EV Series**

◆ **Case size & Permissible rated ripple current**

Nominal Capacitance (uF)	25 V				35 V			
	Case Size ΦD×L (mm)	Impedance (Ωmax/100kHz)		Max. Rated ripple current @105°C 100kHz (mA rms)	Case Size ΦD×L (mm)	Impedance (Ωmax/100kHz)		Max. Rated ripple current @105°C 100kHz (mA rms)
		20°C	-10°C			20°C	-10°C	
10	5×11	0.650	1.320	300	5×11	0.840	2.420	360
47					5×11	0.230	0.760	390
68	5×11	0.230	0.760	360	6.3×11	0.100	0.330	450
100	6.3×11	0.100	0.330	450	6.3×11	0.100	0.330	550
150	8×11.5	0.100	0.330	550	8×11.5	0.059	0.181	820
220	8×15	0.059	0.181	810	8×11.5	0.059	0.181	990
					8×15	0.048	0.150	1200
270	8×11.5	0.059	0.181	900	8×15	0.046	0.143	1330
330	8×11.5	0.059	0.181	990	10×12.5	0.043	0.133	1360
390	8×15	0.046	0.143	1330	8×20	0.031	0.105	1550
470	10×12.5	0.043	0.133	1360	10×16	0.030	0.095	1815
560	8×20	0.031	0.105	1550	10×20	0.019	0.057	2160
680	10×16	0.030	0.095	1815	10×25	0.017	0.051	2475
820	10×20	0.019	0.057	2160	12.5×20	0.016	0.041	2725
1000	10×25	0.017	0.051	2475	12.5×20	0.016	0.041	2920
1200	12.5×20	0.016	0.041	2570	12.5×25	0.014	0.041	3190
1500	12.5×20	0.016	0.041	2725	12.5×30	0.012	0.031	3795
					16×20	0.014	0.036	3575
1800	12.5×35	0.014	0.036	3190	12.5×35	0.011	0.029	3925
2200	12.5×30	0.012	0.031	3795	16×25	0.012	0.033	3990
	16×20	0.014	0.036	3575				
2700	12.5×35	0.011	0.029	3925				
3300	16×25	0.012	0.033	3990				

◆ **RIPPLE CURRENT MULTIPLIERS**

**Frequency Multipliers**

Vdc	Cap(uF)	Frequency (Hz)			
		120	1K	10K	100K
6.3 ~ 35	10 ~ 68	0.30	0.55	0.80	1.00
	82 ~ 220	0.40	0.60	0.85	1.00
	330 ~ 820	0.50	0.65	0.90	1.00
	1000 ~ 8200	0.60	0.70	0.95	1.00