



EK Series

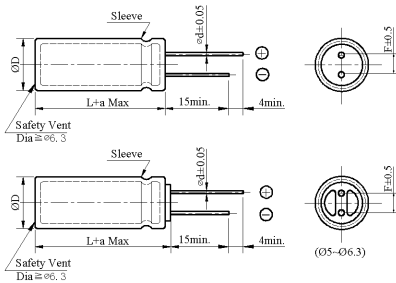
- Miniaturized, Low ESR and Low impedance
- Suitable for use in high ripple current capability



◆ SPECIFICATIONS

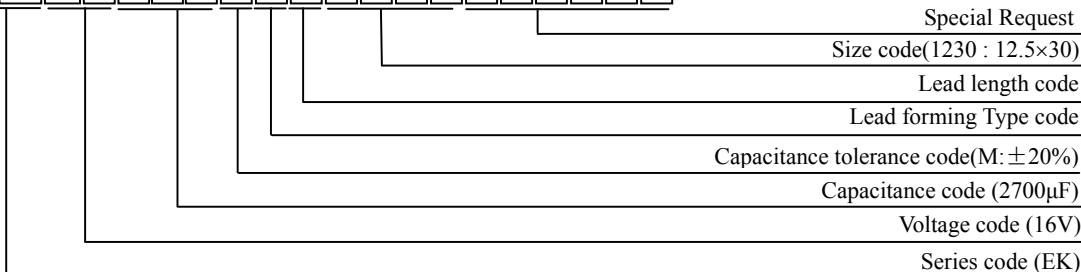
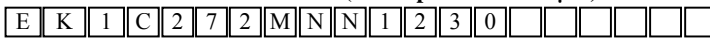
Item	Performance Characteristics																				
Category Temperature Range	-40 ~ +105°C																				
Working Voltage Range	6.3 ~ 50Vdc																				
Capacitance Range	0.10 ~ 6,800 µF																				
Capacitance Tolerance	±20% (at 25°C and 120Hz)																				
Dissipation Factor (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> <td>50</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> <td>0.10</td> </tr> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	tanδ(Max)	0.22	0.19	0.16	0.14	0.12	0.10						
	Rated Voltage (V)	6.3	10	16	25	35	50														
tanδ(Max)	0.22	0.19	0.16	0.14	0.12	0.10															
The above values should be increased by 0.02 for every additional 1000µF																					
Leakage Current	I=0.03CV or 3µA 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> <td>50</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> <td>3</td> </tr> </table> <p style="text-align: right;">(at 120Hz)</p>	Rated voltage (V)	6.3	10	16	25	35	50	Z(-40°C)/Z(+20°C)	8	6	6	5	4	3						
Rated voltage (V)	6.3	10	16	25	35	50															
Z(-40°C)/Z(+20°C)	8	6	6	5	4	3															
Endurance	<p>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 2,000~5,000 hours at 105°C</p> <table border="1"> <tr> <td>Capacitance change</td> <td>≒ ±25% of the initial value</td> <td>Size</td> <td>Life time (hours)</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≒ 200% of the specified value</td> <td>≒ 6.3Φ</td> <td>2,000</td> </tr> <tr> <td>Leakage current</td> <td>≒ specified value</td> <td>= 8 Φ</td> <td>3,000</td> </tr> <tr> <td></td> <td></td> <td>= 10Φ</td> <td>4,000</td> </tr> <tr> <td></td> <td></td> <td>≒ 12.5Φ</td> <td>5,000</td> </tr> </table>	Capacitance change	≒ ±25% of the initial value	Size	Life time (hours)	Dissipation factor(tanδ)	≒ 200% of the specified value	≒ 6.3Φ	2,000	Leakage current	≒ specified value	= 8 Φ	3,000			= 10Φ	4,000			≒ 12.5Φ	5,000
	Capacitance change	≒ ±25% of the initial value	Size	Life time (hours)																	
Dissipation factor(tanδ)	≒ 200% of the specified value	≒ 6.3Φ	2,000																		
Leakage current	≒ specified value	= 8 Φ	3,000																		
		= 10Φ	4,000																		
		≒ 12.5Φ	5,000																		
Shelf Life	<p>The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 500 hours at 105°C without voltage applied.</p> <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
ΦD	ΦD + 0.5 Max						
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0		7.5
a	L + 1.5 Max				≒ 35 L + 1.5 Max ≒ 40 L + 2.0 Max		L + 1.5 Max

◆ PART NUMBER SYSTEM(Example : 16V 2700µF)





EK Series

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

Nominal Capacitance (uF)	6.3V			10V			16V		
	Case Size ΦD×L (mm)	Impedance @20°C (Ωmax/100kHz)	Max. Rated ripple current @105°C 100kHz (mA rms)	Case Size ΦD×L (mm)	Impedance @20°C (Ωmax/100kHz)	Max. Rated ripple current @105°C 100kHz (mA rms)	Case Size ΦD×L (mm)	Impedance @20°C (Ωmax/100kHz)	Max. Rated ripple current @105°C 100kHz (mA rms)
2.2							5×11	4.500	40
4.7							5×11	4.000	80
10							5×11	1.300	90
22	6.3×11	0.150	150	5×11	0.500	80	5×11	0.800	150
47							5×11	0.350	100
56							5×11	0.300	250
100				5×11	0.300	250	5×11	0.240	320
120							6.3×11	0.150	350
150	5×11	0.300	250	5×11	0.380	300	6.3×11	0.130	405
220	5×11	0.300	350	6.3×11	0.130	405	6.3×11	0.110	680
				8×11.5	0.072	520	8×11.5	0.090	720
330	6.3×11	0.130	405				8×11.5	0.072	760
				8×11.5	0.072	760	8×11.5	0.056	995
470							8×15	0.056	995
				10×12.5	0.053	1030	10×12.5	0.053	1030
							10×16	0.050	1080
560	8×11.5	0.072	760						
				8×15	0.056	995	8×15	0.045	1200
680							8×20	0.041	1250
				10×12.5	0.053	1030	10×16	0.038	1430
820	8×15	0.056	995						
				8×20	0.041	1250			
1000				10×12.5	0.038	1410			
	10×12.5	0.053	1030	10×16	0.038	1430	10×20	0.023	1820
1200	8×20	0.041	1250	10×20	0.023	1820	10×25	0.022	2150
	10×16	0.038	1430						
1500	10×20	0.023	1820	10×25	0.022	2150			
				12.5×20	0.021	2150	12.5×20	0.021	2360
2200	10×25	0.022	2150	10×30	0.021	2500	12.5×25	0.018	2770
	12.5×20	0.022	2200				12.5×30	0.016	3290
2700									
							16×20	0.018	3140
3300	12.5×20	0.021	2360	12.5×25	0.018	2770	12.5×35	0.015	3400
	12.5×25	0.018	2770	12.5×30	0.016	3290			
3900				16×20	0.018	3140	16×25	0.016	3460
4700	12.5×30	0.016	3290	12.5×35	0.015	3400			
	12.5×35	0.015	3400	16×25	0.016	3460			
5600	16×20	0.018	3140						
6800	16×25	0.016	3460						



EK Series

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

Nominal Capacitance (uF)	25V			35V			50V		
	Case Size ΦD×L (mm)	Impedance @20°C (Ωmax/100kHz)	Max. Rated ripple current @105°C 100kHz (mA rms)	Case Size ΦD×L (mm)	Impedance @20°C (Ωmax/100kHz)	Max. Rated ripple current @105°C 100kHz (mA rms)	Case Size ΦD×L (mm)	Impedance @20°C (Ωmax/100kHz)	Max. Rated ripple current @105°C 100kHz (mA rms)
0.1							5×11	20.000	38
0.22							5×11	15.000	40
0.33							5×11	12.000	45
0.47							5×11	4.000	50
1							5×11	3.600	100
2.2							5×11	3.600	140
4.7	5×11	1.200	100				5×11	3.600	140
10	5×11	1.200	100	5×11	0.800	170	5×11	0.900	180
22	5×11	1.000	120				5×11	0.750	238
33				5×11	0.300	250			
47	5×11	0.300	250				6.3×11	0.340	285
56				6.3×11	0.130	405	6.3×11	0.140	385
68									
100	6.3×11	0.130	405				8×11.5	0.074	724
120							8×15	0.061	950
150				8×11.5	0.072	760	10×12.5	0.061	979
180							8×20	0.046	1190
220	8×11.5	0.072	840	8×15	0.056	995	10×16	0.042	1370
270				10×12.5	0.053	1030			
330				8×20	0.041	1250	10×20	0.030	1580
470	8×15	0.056	995						
	10×12.5	0.053	1030	10×16	0.038	1430	10×25	0.028	1870
	8×20	0.041	1250						
	10×12.5	0.038	1300	10×16	0.030	1620			
	10×16	0.038	1430	10×20	0.023	1820			
	12.5×16	0.035	1480	12.5×16	0.033	1750	12.5×20	0.027	2050
560				10×25	0.022	2150	12.5×25	0.023	2410
680	10×16	0.028	1750				12.5×20	0.028	2700
	10×20	0.023	1820	12.5×20	0.021	2360	12.5×30	0.021	2860
820	10×25	0.022	2150				12.5×35	0.019	2960
							16×20	0.023	2730
1000	12.5×16	0.028	2250	12.5×20	0.050	2610			
	12.5×20	0.021	2360	12.5×25	0.018	2770	16×25	0.021	3010
1200				12.5×30	0.016	3290			
				16×20	0.018	3140			
1500	12.5×25	0.018	2770	12.5×35	0.015	3400			
1800	12.5×30	0.016	3290						
	16×20	0.018	3140	16×25	0.016	3460			
2200	12.5×35	0.015	3400						
2700	16×25	0.016	3460						

◆ **RIPPLE CURRENT MULTIPLIERS**

Frequency Multipliers

Vdc	Cap(uF)	Frequency (Hz)			
		120	1K	10K	100K
6.3 ~50	0.10 ~ 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 ~ 6800	0.60	0.70	0.95	1.00