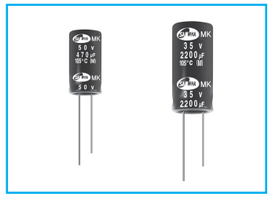
MK High Ripple Current Series

Low Impedance Solvent Proof



- Ripple current compared with LK series
- Enabled high ripple current by a reduction of impedance at high frequency
- High reliability withstanding 5000 hours load life at 105℃
  (2000 ~ 4000 hours for smaller case sizes as specified below)
- Complied to the RoHS directive

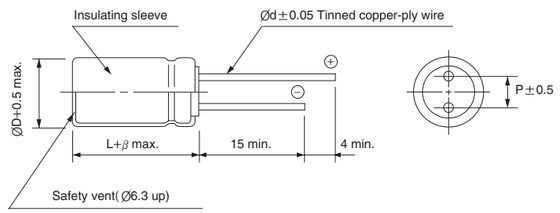
LK ⇒ MK
Miniature High Ripple

Item	Characteristics
Operating temperature range	-40 ~ +105℃
Leakage current max.	I = 0.01CV or 3μA whichever is greater (after 2 minutes) I = 0.03CV or 4μA whichever is greater (after 1 minute)
Capacitance tolerance	±20% (20℃, 120Hz)
Dissipation factor max. (at 120Hz, 20℃)	Capacitance > 1000μF : tanδ increases by 0.02 for each 1000μF from below value.
Low temperature characteristics (Impedance ratio at 120Hz)	Z-40℃ / Z+20℃ : 3 ; Z-25℃ / Z+20℃ : 2
Load life (after application of the rated voltage for 5000 hours at 105℃)	Leakage current : Less than specified value Capacitance change : Within ±25% of the initial value tanδ : Less than 200% of the specified value Ø5, 6.3 : 2000 hours, Ø8 : 3000 hours, Ø10 : 4000 hours
Shelf life (at 105℃)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value.

WV	6.3	10	16	25	35	50	63	100
tanδ	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.08

● DRAWING

Unit : mm



ØD	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Ød	0.5	0.5	0.6	0.6	0.6	0.8	0.8
β	1.5			2.0			

● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

μF \ Frequency(Hz)	120	1k	10k	100k≦
~ 33	0.40	0.65	0.82	1.00
39 ~ 270	0.50	0.70	0.84	1.00
330 ~ 680	0.55	0.75	0.86	1.00
820 ~ 1800	0.60	0.80	0.88	1.00
2200 ~ 15000	0.70	0.85	0.90	1.00

MK series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV / Item / μF	6.3			10			16			25		
	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz
4.7										5×11	1.000	250
10							5×11	1.000	250	5×11	1.000	250
22	5×11	0.525	250	5×11	0.525	250	5×11	0.525	250	5×11	0.525	250
33	5×11	0.525	250	5×11	0.525	250	5×11	0.525	250	5×11	0.525	250
47	5×11	0.450	250	5×11	0.450	250	5×11	0.450	250	5×11	0.450	250
100	5×11	0.450	250	5×11	0.450	250	6.3×11	0.225	405	6.3×11	0.225	405
150	6.3×11	0.225	405	6.3×11	0.225	405	6.3×11	0.225	405	8×11.5	0.108	760
220	6.3×11	0.225	405	6.3×11	0.225	405	8×11.5	0.108	760	8×11.5	0.108	760
330	6.3×11	0.225	405	8×11.5	0.108	760	8×11.5	0.108	760	10×12.5	0.088	1030
470	8×11.5	0.108	760	8×11.5	0.108	760	10×12.5	0.088	1030	10×16	0.065	1430
680	10×12.5	0.088	1030	10×12.5	0.088	1030	10×16	0.065	1430	10×20	0.050	1820
1000	10×16	0.065	1430	10×16	0.065	1430	10×20	0.050	1820	12.5×20	0.043	2360
1500	10×20	0.050	1820	10×20	0.050	1820	12.5×20	0.043	2360	16×20	0.024	2880
2200	12.5×20	0.043	2360	12.5×20	0.043	2360	12.5×25	0.029	2770	16×25	0.024	3114
3300	12.5×20	0.040	2360	12.5×25	0.029	2770	16×25	0.024	3114	16×31.5	0.024	3312
4700	16×25	0.024	3114	16×25	0.024	3114	16×31.5	0.024	3312	18×35.5	0.022	3420
6800	16×25	0.024	3114	16×31.5	0.024	3312	18×35.5	0.022	3420			
10000	16×31.5	0.024	3312	18×35.5	0.022	3420						
15000	18×35.5	0.022	3420									

WV / Item / μF	35			50			63			100		
	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz	ØD×L (mm)	Impedance (Ω)max. 20℃ 100kHz	Ripple current (mA rms) 105℃ 100kHz
0.47				5×11	4.00	250						
1.0				5×11	3.00	250						
2.2				5×11	3.00	250				5×11	3.0	125
3.3				5×11	1.50	250	5×11	2..0	165	5×11	2..0	125
4.7	5×11	0.525	250	5×11	1.50	250	5×11	2..0	165	5×11	2..0	125
10	5×11	0.525	250	5×11	1.00	250	5×11	0.45	165	6.3×11	0.50	205
22	5×11	0.525	250	5×11	0.500	250	6.3×11	0.30	265	8×11.5	0.30	355
33	5×11	0.450	250	6.3×11	0.255	405	6.3×11	0.30	265	10×12.5	0.25	450
47	6.3×11	0.225	405	6.3×11	0.210	405	8×11.5	0.20	500	10×16	0.20	580
100	8×11.5	0.108	760	8×11.5	0.108	760	10×16	0.10	945	12.5×20	0.10	1045
150	8×11.5	0.108	760	10×12.5	0.088	1030	10×20	0.08	1100	12.5×25	0.070	1195
220	10×12.5	0.088	1030	10×16	0.065	1430	10×25	0.07	1300	16×25	0.060	1600
330	10×16	0.065	1430	10×20	0.050	1820	12.5×20	0.04	1495	16×31.5	0.040	1750
470	10×20	0.050	1820	12.5×20	0.043	2360	16×20	0.035	1990	18×40	0.030	2060
680	12.5×20	0.043	2360	12.5×25	0.029	2770	16×25	0.030	2780			
1000	12.5×25	0.029	2770	16×25	0.027	3114	16×35.5	0.020	2835			
1500	16×25	0.024	3114	16×31.5	0.024	3312						
2200	16×31.5	0.024	3312	18×35.5	0.022	3420						
3300	18×35.5	0.022	3420									