

CM Series Standard 105°C

CM系列



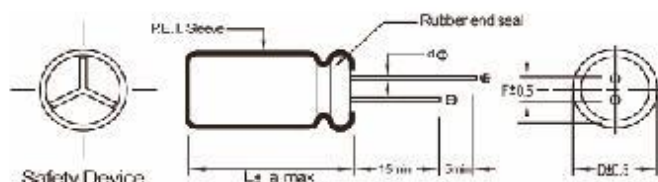
Features

- Used in communication equipments, switching power supply, industrial measuring instruments, etc
- Load life 2000 hrs at 105°C
- Safety vent construction design
- RoHS Compliant

Specifications

Item	Performance Characteristics															
Operating Temp. Range	-40~+105℃								-25~+105℃							
Rated Voltage Range	6.3 to 100 VDC								160 to 450 VDC							
Capacitance Range	0.1 to 22000 μF								0.47 to 470 μF							
Capacitance Tolerance	±20% (120Hz, 20℃)															
Leakage Current	I _L ≦ 0.01CV or 3 (μA) After 2 minutes whichever is greater measured with rated working voltage applied								I _L ≦ 0.03CV (μA) After 2 minutes with rated working voltage applied							
Dissipation Factor(Tan δ) (max, 120Hz, 20℃)	W.V(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	D.F(%)	22	19	16	14	12	10	9	8	12	12	12	15	15	17	
	For capacitance > 1000 μF, add 2% per another 1000 μF															
Low Temp. Characteristics (Max Impedance Ratio) (120Hz)	W.V(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	Z _(-25℃) /Z _(+20℃)	4	3	2	2	2	2	2	2	2	2	3	5	6	6	
	Z _(-40℃) /Z _(+20℃)	8	6	4	3	3	3	3	3	-	-	-	-	-	-	
	For capacitance > 1000 μF, add 0.5 per another 1000 μF for Z _(-25℃) /Z _(+25℃) add 1 per another 1000 μF for Z _(-40℃) /Z _(+25℃)															
Load life	Test conditions Duration time: 2000hrs Ambient temperature: +105℃ Applied voltage: Rated DC working voltage After test requirements at +20℃ Capacitance change: ≦ ±20% of the initial measured value Dissipation factor: ≦ 200% of the initial specified value Leakage current: ≦ the initial specified value															
Shelf life	Test conditions Duration time: 1000hrs Ambient temperature: +105℃ Applied voltage: None After test requirements at +20℃ : Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30minutes															
Industrial	JIS C-5101-4(IEC30384-4)															

Diagram of dimensions(cunit:mm)



ΦD	5	6.3	8	10	13	16	18	22
Φd	0.5			0.6			0.8	
F	2.0	2.5	3.5	5.0			7.5	10
L	L±1.0max				L±1.5max		L±2.0max	

Multiplier for ripple current vs frequency

Cap.(µF)	50(60)	120	400	1K	10K	100K
≤10	0.8	1.0	1.3	1.45	1.65	1.7
12~100	0.8	1.0	1.23	1.36	1.48	1.53
120~1000	0.8	1.0	1.16	1.25	1.35	1.38
>1000	0.8	1.0	1.11	1.17	1.25	1.28

Multiplier for ripple current vs temperature

Temp.(°C)	45	60	70	85	105
Multiplier	2.1	1.9	1.4	1.25	1.0

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● Case Size

WV(V) Cap(μF)	6.3 (7.2)		10(13)		16(20)		25(32)		35(44)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
4.7							5X11	26	5X11	28
10					5X11	35	5X11	35	5X11	38
22			5X11	48	5X11	54	5X11	56	5X11	67
33	5X11	54	5X11	57	5X11	63	5X11	75	5X11	80
47	5X11	65	5X11	68	5X11	80	5X11	84	6.3X12	100
68	5X11	75	5X11	80	5X11	105	6.3X12	105	6.3X12	140
100	5X11	96	5X11	105	5X11	105	6.3X12	145	8X12	175
220	6.3X12	160	6.3X12	175	6.3X12	215	8X12	235	10X13	300
330	6.3X12	195	8X12	255	8X12	265	8X12	310	10X13	400
470	8X12	270	8X12	290	8X12	370	8X16	410	10X17	520
680	8X12	360	10X13	420	10X15	480	10X17	520	13X21	650
1000	10X13	430	10X13	520	10X17	590	10X20	710	13X21	830
2200	10X20	770	10X20	860	13X21	1000	13X25	1200	16X26	1290
3300	13X21	960	13X21	1100	13X25	1200	16X26	1460	16X35	1650
4700	13X25	1150	13X25	1350	16X26	1600	16X31	1780	18X35	1900
6800	16X26	1450	16X26	1670	16X31	1870	18X35	2050	18X35	2000
10000	16X31	1680	16X35	1900	18X35	2060				
22000	18X41	2300								

Ripple Current (mA,rms) at 105°C, 120Hz

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● Case Size

WV(V) Cap(μF)	50 (63)		63 (72)		100(125)		160(200)		200(250)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1	5X11	1.3	5X11	1.3	5X11	1.9				
0.22	5X11	2.9	5X11	2.9	5X11	3.4				
0.33	5X11	4	5X11	4.5	5X11	5				
0.47	5X11	7	5X11	7	5X11	7.5	5X11	11	5X11	12
1	5X11	13	5X11	13	5X11	15	5X11	17	6.3X12	17
2.2	5X11	20	5X11	20	5X11	21	6.3X12	25	6.3X12	25
3.3	5X11	26	5X11	28	5X11	30	6.3X12	32	6.3X12	35
4.7	5X11	32	5X11	32	5X11	35	6.3X12	35	8X12	50
10	5X11	48	5X11	48	6.3X12	56	8X12	75	10X13	78
22	5X11	79	6.3X12	82	8X12	96	10X13	105	10X20	130
33	6.3X12	90	6.3X12	100	10X13	155	10X17	170	13X21	190
47	6.3X12	115	8X12	125	10X17	170	10X20	210	13X21	220
68	8X12	155	8X12	185	10X17	240	13X21	280	13X25	300
100	8X12	200	10X13	230	10X20	280	13X25	310	16X26	345
150	10X13	245	10X15	270	13X21	360	16X26	470	16X31	480
220	10X15	360	10X17	375	13X25	520	16X31	580	18X31	520
330	10X17	450	10X20	540	16X26	690	18X35	705	18X35	650
470	10X20	600	13X21	690	16X31	820	18X41	860	18X41	670
680	13X25	770	16X26	880	16X35	920				
1000	16X26	1000	16X35	1185	18X41	985				
2200	16X35	1530								
3300	18X35	1750								
4700	18X41	2000								

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Case Size

WV(V) Cap(μF)	250 (300)		350(400)		400(450)		450(500)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47	5X11	12	6.3X12	13	6.3X12	14	6.3X12	14
1	6.3X12	16	6.3X12	16	8X12	20	8X12	20
2.2	8X12	25	8X12	31	8X12	36	8X12	31
3.3	8X12	38	8X12	38	8X12	47	10X13	35
4.7	8X12	46	10X13	52	8X12	65	10X17	62
6.8	10X13	70	10X13	79	10X13	85	10X20	72
10	10X17	88	10X20	92	10X20	110	13X21	92
22	10X20	140	13X21	160	13X21	165	13X25	160
33	13X21	190	13X25	200	13X25	250	16X26	210
47	13X25	240	16X26	260	16X31	320	16X35	275
68	16X26	355	16X31	320	16X35	350	18X35	292
100	16X31	370	18X31	390	18X35	380	18X41	332
120	16X35	395	18X35	400	18X35	420	22X41	396
150	16X35	460	18X41	420	22X41	460		
180	18X35	470	18X41	430				
220	18X35	500	22X41	500				
330	22X41	630						

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