

# Type 4CMC 85 °C, High-Cap, Computer Grade, Radial Leaded

## Best Value Printed Circuit Mount Type



The Type 4CMC is the PC-mount version of the high-capacitance Type DCMC screw-terminal capacitor and has about 50% more capacitance per can size through 250 V. It's for bus filtering applications where more capacitance or smaller can size is important like welders and energy storage. It's a much better value than a large snap-in capacitor. Its extended cathode foil assures cool operation with heatflow from the capacitor element to the can in all mounting orientations.

### Highlights

- ◆ Much better value than large snap-in capacitor
- ◆ Ripple Currents to > 50 amps at 55 °C
- ◆ 3-leads for reverse proof, strong mounting
- ◆ Printed-circuit mounting version of DCMC
- ◆ Thermal-Pak™ extended cathode construction

### Specifications

<b>Operating Temperature:</b>	-40 °C to +85 °C
<b>Rated Voltage:</b>	16 to 500 Vdc
<b>Capacitance:</b>	210 μF to 330,000 μF ± 20%
<b>Capacitance Tolerance:</b>	± 20%
<b>DC Leakage Current:</b>	≤ 6 $\sqrt{CV}$ μA, 6 max, 5 min,
<b>Cold Impedance:</b>	-20 °C multiple of 25 °C Z ≤
<b>Ripple Current Multipliers:</b>	8 for 16 to 50 V, 4 for 63 to 100 V, 3 for 160 V & up

#### Ambient Temperatures

45 °C	55 °C	65 °C	75 °C	85 °C
2.00	2.00	1.73	1.41	1.00

#### Frequency

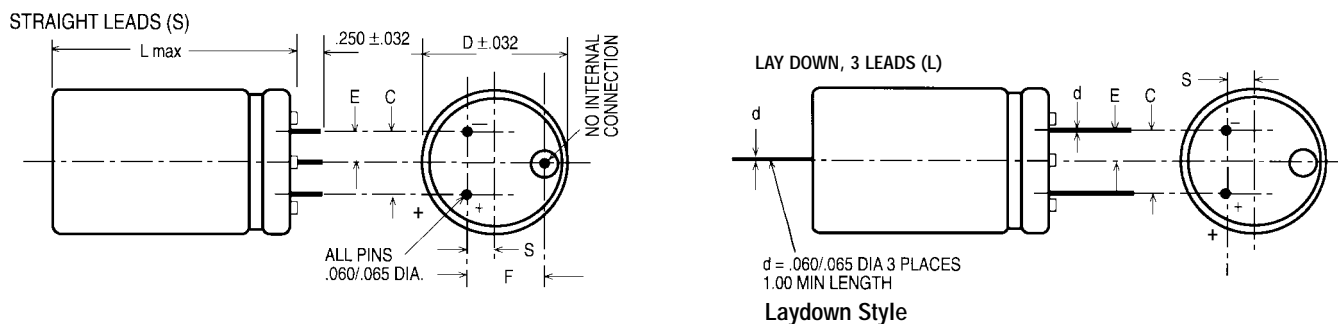
	50 Hz	60 Hz	120 Hz	360 Hz	1 kHz	5 kHz	10 kHz & up
6.3 to 50 V	0.80	0.85	1.00	1.05	1.08	1.08	1.08
63 to 250 V	0.80	0.83	1.00	1.15	1.20	1.20	1.20
300 to 500 V	0.78	0.80	1.00	1.30	1.40	1.40	1.40

<b>EIA Ripple Life:</b>	2000 h @ 85 °C and full load Δ Capacitance ±20% ESR 200% of limit DCL 100% of limit
<b>Shelf Life:</b>	500 h @ 85 °C, capacitance, ESR and DCL, initial requirements
<b>Vibration:</b>	10 to 55 Hz, 0.06" and 10 g max, 2 h in each plane.

Aluminum  
Radial Leaded  
Capacitors

# Type 4CMC 85 °C, High-Cap, Computer Grade, Radial Leded

## Outline Drawings



## Case Dimensions

Case Code	Inches						Millimeters					
	D ±.031	L MAX	C ±.015	S ±.031	E ±.031	F ±.015	D±.78	L MAX	C±.78	S±.78	E±.78	F±.38
AK	1.375	1.75	0.50	0.175	0.25	0.55	34.93	44.45	12.70	4.45	6.35	13.97
AA	1.375	2.25	0.50	0.175	0.25	0.55	34.93	57.15	12.70	4.45	6.35	13.97
AH	1.375	2.75	0.50	0.175	0.25	0.55	34.98	69.85	12.70	4.45	6.35	13.97
AB	1.375	3.25	0.50	0.175	0.25	0.55	34.93	82.55	12.70	4.45	6.35	13.97
AJ	1.375	3.75	0.50	0.175	0.25	0.55	34.93	95.25	12.70	4.45	6.35	13.97
AC	1.375	4.25	0.50	0.175	0.25	0.55	34.93	107.95	12.70	4.45	6.35	13.97
AD	1.375	4.75	0.50	0.175	0.25	0.55	34.93	120.65	12.70	4.45	6.35	13.97
AE	1.375	5.25	0.50	0.175	0.25	0.55	34.93	133.35	12.70	4.45	6.35	13.97
AF	1.375	5.75	0.50	0.175	0.25	0.55	34.93	146.05	12.70	4.45	6.35	13.97
EA	1.75	2.25	0.70	0.375	0.35	0.90	44.45	57.15	17.78	9.53	8.89	22.86
EH	1.75	2.75	0.70	0.375	0.35	0.90	44.45	69.85	17.78	9.53	8.89	22.86
EB	1.75	3.25	0.70	0.375	0.35	0.90	44.45	82.55	17.78	9.53	8.89	22.86
EJ	1.75	3.75	0.70	0.375	0.35	0.90	44.45	95.25	17.78	9.53	8.89	22.86
EC	1.75	4.25	0.70	0.375	0.35	0.90	44.45	107.95	17.78	9.53	8.89	22.86
ED	1.75	4.75	0.70	0.375	0.35	0.90	44.45	120.65	17.78	9.53	8.89	22.86
EE	1.75	5.25	0.70	0.375	0.35	0.90	44.45	133.35	17.78	9.53	8.89	22.86
EF	1.75	5.75	0.70	0.375	0.35	0.90	44.45	146.05	17.78	9.53	8.89	22.86
BA	2.00	2.25	0.80	0.425	0.40	1.00	50.80	57.15	20.32	10.80	10.16	25.40
BH	2.00	2.75	0.80	0.425	0.40	1.00	50.80	69.85	20.32	10.80	10.16	25.40
BB	2.00	3.25	0.80	0.425	0.40	1.00	50.80	82.55	20.32	10.80	10.16	25.40
BJ	2.00	3.75	0.80	0.425	0.40	1.00	50.80	95.25	20.32	10.80	10.16	25.40
BC	2.00	4.25	0.80	0.425	0.40	1.00	50.80	107.95	20.32	10.80	10.16	25.40
BD	2.00	4.75	0.80	0.425	0.40	1.00	50.80	120.65	20.32	10.80	10.16	25.40
BE	2.00	5.25	0.80	0.425	0.40	1.00	50.80	133.25	20.32	10.80	10.16	25.40
BF	2.00	5.75	0.80	0.425	0.40	1.00	50.80	146.05	20.32	10.80	10.16	25.40

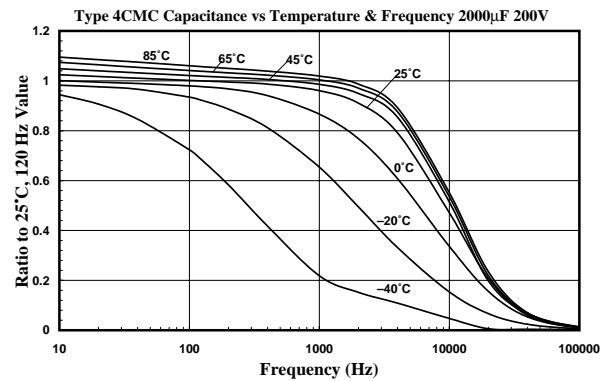
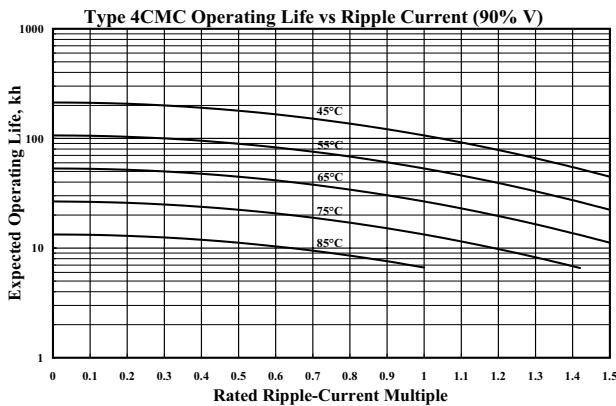
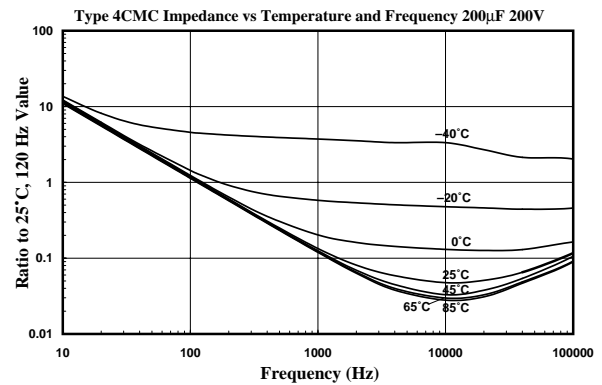
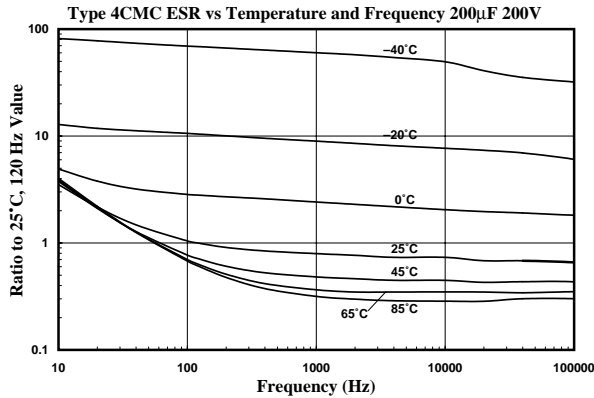
## Part Numbering System

4CMC	382	M	100	AK	8	
Type	Capacitance	Tolerance	Voltage	Case Code	Insulation	Terminal
4CMX	382 = 3800 μF 212 = 2100 μF	M = ±20% T = -10% +50% U = -10% +75%	6R3 = 6.3 V 063 = 63 V 100 = 100 V		0 = Bare Can 8 = PVC & standoffs 9 = Polyester & standoffs	(blank) = Straight Leads L = Lay Down (3 leads)

Aluminum Radial Leaded Capacitors

# Type 4CMC 85 °C, High-Cap, Computer Grade, Radial Leaded

## Typical Performance Curves



## Ratings

Cap. $\mu\text{F}$	Catalog Part Number	ESR Max. 25 °C		Ripple Amps, 85 °C		Nom Size (in)
		120 Hz (m $\Omega$ )	20 kHz (m $\Omega$ )	120 Hz (A)	20 kHz (A)	
<b>16 Vdc (20 Vdc Surge)</b>						
33000	4CMC333M016AK8	34.2	27.2	5.7	6.4	1 3/8 X 1 3/4
55000	4CMC553M016AA8	21.2	16.9	8.4	9.4	1 3/8 X 2 1/4
77000	4CMC773M016AH8	18.3	14.6	9.3	10.4	1 3/8 X 2 3/4
79000	4CMC793M016EA8	23.0	18.3	9.2	10.4	1 3/4 X 2 1/4
99000	4CMC993M016AB8	14.8	11.8	11.1	12.4	1 3/8 X 3 1/4
110000	4CMC114M016EH8	17.4	13.8	11.4	12.7	1 3/4 X 2 3/4
120000	4CMC124M016AJ8	12.8	10.2	12.5	14.0	1 3/8 X 3 3/4
120000	4CMC124M016BA8	17.7	14.1	10.0	11.2	2 X 2 1/4
140000	4CMC144M016AC8	12.5	9.9	13.3	15.0	1 3/8 X 4 1/4
140000	4CMC144M016EB8	15.8	12.6	12.9	14.4	1 3/4 X 3 1/4
150000	4CMC154M016BH8	14.5	11.6	11.9	13.3	2 X 2 3/4
160000	4CMC164M016AD8	11.5	9.1	14.5	16.2	1 3/8 X 4 3/4
180000	4CMC184M016AE8	10.8	8.6	15.8	17.7	1 3/8 X 5 1/4
180000	4CMC184M016EJ8	15.0	12.0	13.6	15.3	1 3/4 X 3 3/4
190000	4CMC194M016BB8	12.3	9.8	13.6	15.2	2 X 3 1/4
200000	4CMC204M016AF8	10.3	8.2	16.9	19.0	1 3/8 X 5 3/4
220000	4CMC224M016EC8	13.0	10.3	15.2	17.0	1 3/4 X 4 1/4
240000	4CMC244M016BJ8	11.7	9.3	15.6	17.5	2 X 3 3/4
250000	4CMC254M016ED8	11.5	9.2	17.0	19.0	1 3/4 X 4 3/4
280000	4CMC284M016EE8	10.5	8.4	18.9	21.2	1 3/4 X 5 1/4
280000	4CMC284M016BC8	11.4	9.1	15.9	17.8	2 X 4 1/4
310000	4CMC314M016EF8	9.7	7.7	21.0	23.5	1 3/4 X 5 3/4
330000	4CMC334M016BD8	10.7	8.5	16.9	19.0	2 X 4 3/4

Cap. $\mu\text{F}$	Catalog Part Number	ESR Max. 25 °C		Ripple Amps, 85 °C		Nom Size (in)
		120 Hz (m $\Omega$ )	20 kHz (m $\Omega$ )	120 Hz (A)	20 kHz (A)	
370000	4CMC374M016BE8	10.0	8.0	18.1	20.3	2 X 5 1/4
420000	4CMC424M016BF8	9.0	7.2	19.8	22.2	2 X 5 3/4
<b>25 Vdc (30 Vdc Surge)</b>						
22000	4CMC223M025AK8	63.2	50.4	4.2	4.7	1 3/8 X 1 3/4
37000	4CMC373M025AA8	23.9	19.1	7.9	8.8	1 3/8 X 2 1/4
52000	4CMC523M025AH8	20.6	16.4	8.8	9.8	1 3/8 X 2 3/4
54000	4CMC543M025EA8	22.9	18.3	9.3	10.4	1 3/4 X 2 1/4
67000	4CMC673M025AB8	16.6	13.2	10.5	11.7	1 3/8 X 3 1/4
78000	4CMC783M025EH8	19.0	15.1	10.9	12.2	1 3/4 X 2 3/4
82000	4CMC823M025AJ8	14.3	11.4	11.8	13.2	1 3/8 X 3 3/4
83000	4CMC833M025BA8	19.0	15.2	10.9	12.2	2 X 2 1/4
97000	4CMC973M025AC8	13.9	11.1	12.6	14.2	1 3/8 X 4 1/4
100000	4CMC104M025BH8	15.5	12.4	13.0	14.6	2 X 2 3/4
100000	4CMC1003M025EB8	17.3	13.8	12.3	13.8	1 3/4 X 3 1/4
110000	4CMC114M025AD8	12.8	10.2	13.8	15.4	1 3/8 X 4 3/4
120000	4CMC124M025AE8	11.9	9.5	15.0	16.8	1 3/8 X 5 1/4
120000	4CMC124M025EJ8	16.4	13.0	13.1	14.6	1 3/4 X 3 3/4
130000	4CMC134M025BB8	12.7	10.1	15.2	17.0	2 X 3 1/4
140000	4CMC144M025AF8	11.4	9.1	16.1	18.0	1 3/8 X 5 3/4
150000	4CMC154M025EC8	14.1	11.2	14.6	16.3	1 3/4 X 4 1/4
160000	4CMC164M025BJ8	12.5	10.0	17.1	19.2	2 X 3 3/4
170000	4CMC174M025ED8	12.5	10.0	16.3	18.3	1 3/4 X 4 3/4
190000	4CMC194M025EE8	11.3	9.0	18.2	20.4	1 3/4 X 5 1/4
190000	4CMC194M025BC8	12.2	9.7	17.4	19.5	2 X 4 1/4

Aluminum Radial Leaded Capacitors





