

## SMD Surface mount lead terminals – General Purpose 85°C / 2000 h

### Description

Capacitor for high density printed circuit board.

### Applications

Coupling, decoupling, by-pass, filtering.

### Features

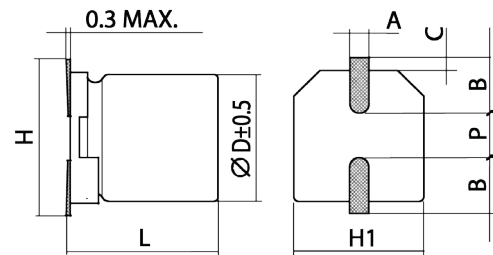
Low profile vertical chip.

### Marking

Series (G), Rated voltage (Vdc), Capacitance ( $\mu\text{F}$ )  
 Negative polarity: black line

### Diagram of dimensions (Units=mm)

$\varnothing D$	L	H	H1	A	B	C	P
4,0	5,4 +0,25/-0,1	5,5 MAX	4,3 $\pm$ 0,2	0,65 $\pm$ 0,1	1,8 $\pm$ 0,2	0,35 $\pm$ 0,2	1,0 $\pm$ 0,2
5,0	5,4 +0,25/-0,1	6,5 MAX	5,3 $\pm$ 0,2	0,65 $\pm$ 0,1	2,2 $\pm$ 0,2	0,35 $\pm$ 0,2	1,5 $\pm$ 0,2
6,3	5,4 +0,25/-0,1	7,8 MAX	6,6 $\pm$ 0,2	0,65 $\pm$ 0,1	2,6 $\pm$ 0,2	0,35 $\pm$ 0,2	1,8 $\pm$ 0,2
6,3	7,7 $\pm$ 0,3	7,8 MAX	6,6 $\pm$ 0,2	0,65 $\pm$ 0,1	2,6 $\pm$ 0,2	0,35 $\pm$ 0,2	1,8 $\pm$ 0,2
8,0	6,2 $\pm$ 0,3	9,5 MAX	8,3 $\pm$ 0,2	0,65 $\pm$ 0,1	3,4 $\pm$ 0,2	0,35 $\pm$ 0,2	2,0 $\pm$ 0,2
8,0	10,2 $\pm$ 0,3	10 MAX	8,3 $\pm$ 0,2	0,90 $\pm$ 0,2	3,4 $\pm$ 0,2	0,70 $\pm$ 0,2	3,4 $\pm$ 0,2
10,0	10,2 $\pm$ 0,3	13 MAX	10,3 $\pm$ 0,2	0,90 $\pm$ 0,2	3,5 $\pm$ 0,2	0,70 $\pm$ 0,2	4,6 $\pm$ 0,2
12,5	13,5 $\pm$ 0,5	15,2 MAX	12,8 $\pm$ 0,2	1,25 $\pm$ 0,2	4,9 $\pm$ 0,2	1,0 $\pm$ 0,2	4,6 $\pm$ 0,2
12,5	16,0 $\pm$ 0,5	15,2 MAX	12,8 $\pm$ 0,2	1,25 $\pm$ 0,2	4,9 $\pm$ 0,2	1,0 $\pm$ 0,2	4,6 $\pm$ 0,2
16,0	16,5 $\pm$ 1,0	18,7 MAX	16,3 $\pm$ 0,2	2,0 $\pm$ 0,2	5,8 $\pm$ 0,2	1,0 $\pm$ 0,2	6,0 $\pm$ 0,2



### Electrical characteristics

Rated voltage	4 to 450 Vdc
Operating temperature	-40 to 85°C
Capacitance range	0.1 $\mu\text{F}$ to 1000 $\mu\text{F}$
Capacitance tolerance	$\pm$ 20% at 120Hz / 20°C
Endurance test	2000 hours (see conditions in Test method and performance)
Leakage current	$I = 0.01 \text{ CV } (\mu\text{A})$ or $3 \mu\text{A}$ whichever is greater for rated voltage $\leq 100 \text{ V}$ $I = 0.04 \text{ CV} + 100 (\mu\text{A})$ for rated voltage $\geq 160 \text{ V}$ C = rated capacitance ( $\mu\text{F}$ ); V = rated voltage (Vdc) (after than D.C. rated working voltage at 20°C has been applied for 2 min)

### Impedance Z characteristics at 120 Hz

Rated Voltage (Vdc)	4	6.3	10	16	25	35	50	63	100	160	200	250	400	450
Z (-25°C) / Z (20°C)	7	4	3	2	2	2	2	2	2	3	3	3	6	6
Z (-40°C) / Z (20°C)	15	8	6	4	4	3	3	3	3	6	6	6	10	10

### Compensation factor of ripple current (R.C.) vs. frequency

Rated voltage	60 Hz	120 Hz	1 KHz	10 KHz
4 to 100 Vdc	0.80	1.00	1.15	1.25
160 to 450 Vdc	0.70	1.00	1.40	1.60

### Compensation factor of ripple current (R.C.) vs. temperature

Rated voltage	50°C	75°C	85°C
4 to 100 Vdc	1.36	1.25	1.00
160 to 450 Vdc	1.60	1.25	1.00

### Technical data and ordering codes

Rated capacitance 120 Hz 20°C ( $\mu\text{F}$ )	Case size DxL (mm)	4 Vdc Rated voltage - 5 Vdc Surge voltage			Arcotronics P/N
		D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu\text{A}$ )	
22	4 x 5.4	35	19	3	EDK226M004A9BAA
33	4 x 5.4	35	26	3	EDK336M004A9BAA
47	4 x 5.4	35	34	3	EDK476M004A9BAA
100	5 x 5.4	35	61	4	EDK107M004A9DAA
220	6.3 x 5.4	35	82	9	EDK227M004A9GAA

## SMD Surface mount lead terminals – General Purpose 85°C / 2000 h

6.3 Vdc Rated voltage - 8 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
22	4 x 5.4	26	20	3	EDK226M6R3A9BAA
33	5 x 5.4	26	22	3	EDK336M6R3A9DAA
47	5 x 5.4	26	46	3	EDK476M6R3A9DAA
100	6.3 x 5.4	26	71	6	EDK107M6R3A9GAA
220	8 x 6.2	35	250	14	EDK227M6R3A9LAA
330	8 x 6.2	35	300	21	EDK337M6R3A9LAA
470	8 x 10.2	35	380	30	EDK477M6R3A9MAA
680	10 x 10.2	35	458	43	EDK687M6R3A9PAA
1000	10 x 10.2	35	700	63	EDK108M6R3A9PAA

10 Vdc Rated voltage - 13 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
15	4 x 5.4	30	23	3	EDK156M010A9BAA
22	4 x 5.4	30	28	3	EDK226M010A9BAA
33	4 x 5.4	30	29	3	EDK336M010A9BAA
33	5 x 5.4	20	43	3	EDK336M010A9DAA
47	5 x 5.4	30	43	5	EDK476M010A9DAA
100	6.3 x 5.4	26	70	10	EDK107M010A9GAA
220	6.3 x 7.7	26	220	22	EDK227M010A9HAA
220	8 x 6.2	26	250	22	EDK227M010A9LAA
330	8 x 10.2	26	330	33	EDK337M010A9MAA
470	10 x 10.2	26	400	47	EDK477M010A9PAA

16 Vdc Rated voltage - 20 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
4.7	4 x 5.4	16	20	3	EDK475M016A9BAA
10	4 x 5.4	16	28	3	EDK106M016A9BAA
22	4 x 5.4	26	27	4	EDK226M016A9BAA
22	5 x 5.4	16	39	4	EDK226M016A9DAA
33	5 x 5.4	26	45	5	EDK336M016A9DAA
33	6.3 x 5.4	16	66	5	EDK336M016A9GAA
47	6.3 x 5.4	16	70	8	EDK476M016A9GAA
100	6.3 x 5.4	20	70	16	EDK107M016A9GAA
150	6.3 x 7.7	26	109	24	EDK157M016A9HAA
220	6.3 x 7.7	20	215	35	EDK227M016A9HAA
220	8 x 10.2	20	280	35	EDK227M016A9MAA
330	10 x 10.2	20	380	53	EDK337M016A9PAA
470	8 x 10.2	20	365	75	EDK477M016A9MAA
470	10 x 10.2	20	420	75	EDK477M016A9PAA

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25 Vdc Rated voltage - 32 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu\text{F}$ )	Case size DxL (mm)	D.F. 120 Hz 20°C ( $\tan\delta$ %)	R.C. 120 Hz 85°C ( $\text{mA}_{\text{rms}}$ )	L.C. 20°C 2 min. ( $\mu\text{A}$ )	Arcotronics P/N
1	4 x 5.4	16	9	3	EDK105M025A9BAA
2.2	4 x 5.4	16	14	3	EDK225M025A9BAA
4.7	3 x 5.4	16	11	3	EDK475M025A9AAA
4.7	4 x 5.4	14	22	3	EDK475M025A9BAA
10	5 x 5.4	14	28	3	EDK106M025A9DAA
22	5 x 5.4	14	45	5	EDK226M025A9DAA
22	6.3 x 5.4	14	55	6	EDK226M025A9GAA
33	6.3 x 5.4	14	65	8	EDK336M025A9GAA
47	6.3 x 5.4	20	70	12	EDK476M025A9GAA
47	8 x 6.2	16	96	12	EDK476M025A9LAA
68	6.3 x 7.7	20	95	17	EDK686M025A9HAA
100	6.3 x 7.7	16	135	25	EDK107M025A9HAA
100	8 x 6.2	16	145	25	EDK107M025A9LAA
100	8 x 10.2	16	180	25	EDK107M025A9MAA
220	8 x 10.2	16	300	55	EDK227M025A9MAA
220	10 x 10.2	16	310	55	EDK227M025A9PAA
330	10 x 10.2	16	350	82	EDK337M025A9PAA
470	10 x 10.2	16	450	117	EDK477M025A9PAA

35 Vdc Rated voltage - 44 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu\text{F}$ )	Case size DxL (mm)	D.F. 120 Hz 20°C ( $\tan\delta$ %)	R.C. 120 Hz 85°C ( $\text{mA}_{\text{rms}}$ )	L.C. 20°C 2 min. ( $\mu\text{A}$ )	Arcotronics P/N
2.2	4 x 5.4	12	8	3	EDK225M035A9BAA
3.3	4 x 5.4	12	10	3	EDK335M035A9BAA
4.7	4 x 5.4	12	22	3	EDK475M035A9BAA
10	5 x 5.4	12	30	4	EDK106M035A9DAA
22	5 x 5.4	14	47	8	EDK226M035A9DAA
22	6.3 x 5.4	12	60	8	EDK226M035A9GAA
33	8 x 6.2	14	130	12	EDK336M035A9LAA
47	6.3 x 5.4	14	135	16	EDK476M035A9GAA
47	8 x 6.2	14	165	16	EDK476M035A9LAA
100	6.3 x 7.7	14	145	35	EDK107M035A9HAA
100	10 x 10.2	14	210	35	EDK107M035A9PAA
220	10 x 10.2	14	310	77	EDK227M035A9PAA
330	10 x 10.2	14	380	115	EDK337M035A9PAA

50 Vdc Rated voltage - 63 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu\text{F}$ )	Case size SIZE DxL (mm)	D.F. 120 Hz 20°C ( $\tan\delta$ %)	R.C. 120 Hz 85°C ( $\text{mA}_{\text{rms}}$ )	L.C. 20°C 2 min. ( $\mu\text{A}$ )	Arcotronics P/N
0.1	4 x 5.4	12	1	3	EDK104M050A9BAA
0.22	4 x 5.4	12	2	3	EDK224M050A9BAA
0.33	4 x 5.4	12	3	3	EDK334M050A9BAA
0.47	4 x 5.4	12	5	3	EDK474M050A9BAA
1	4 x 5.4	12	10	3	EDK105M050A9BAA
2.2	4 x 5.4	12	16	3	EDK225M050A9BAA
3.3	4 x 5.4	12	16	3	EDK335M050A9BAA
4.7	4 x 5.4	12	20	3	EDK475M050A9BAA
4.7	5 x 5.4	12	23	3	EDK475M050A9BAA
10	6.3 x 5.4	12	35	5	EDK106M050A9GAA
22	8 x 6.2	12	110	11	EDK226M050A9LAA
33	8 x 10.2	12	120	16.5	EDK336M050A9MAA
47	6.3 x 7.7	12	98	23.5	EDK476M050A9HAA
47	10 x 10.2	12	130	23.5	EDK476M050A9PAA
100	8 x 10.2	12	165	50	EDK107M050A9MAA
100	10 x 10.2	12	190	50	EDK107M050A9PAA
220	10 x 10.2	12	300	110	EDK227M050A9PAA

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63 Vdc Rated voltage - 79 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
4.7	6.3 x 5.4	18	20	3	EDK475M063A9GAA
10	6.3 x 5.4	18	20	6	EDK106M063A9GAA
22	8 x 10.2	18	30	14	EDK226M063A9MAA
33	8 x 10.2	18	30	21	EDK336M063A9MAA
47	8 x 10.2	18	30	30	EDK476M063A9MAA
100	10 x 10.2	18	60	63	EDK108M065A9PAA

100 Vdc Rated voltage - 125 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
3.3	8 x 10.2	18	30	3	EDK335M100A9MAA
4.7	8 x 10.2	18	50	5	EDK475M100A9MAA
10	6.3 x 7.7	18	40	10	EDK106M100A9HAA
10	8 x 10.2	18	55	10	EDK106M100A9MAA
22	10 x 10.2	18	60	22	EDK226M100A9PAA
33	10 x 10.2	18	65	33	EDK336M100A9PAA

160 Vdc Rated voltage - 200 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
33	12.5 x 13.5	20	240	310	EDK336M160A9RAA
47	12.5 x 16	20	370	400	EDK476M160A9SAA
68	16 x 16.5	20	500	540	EDK686M160A9TAA

200 Vdc Rated voltage - 250 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
22	12.5 x 13.5	20	240	280	EDK226M200A9RAA
33	12.5 x 16	20	310	370	EDK336M200A9SAA
47	16 x 16.5	20	340	480	EDK476M200A9TAA
68	16 x 16.5	20	340	650	EDK686M200A9TAA

250 Vdc Rated voltage - 300 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
10	12.5 x 13.5	20	150	200	EDK106M250A9RAA
22	12.5 x 13.5	20	150	320	EDK226M250A9RAA
33	12.5 x 16	20	240	430	EDK336M250A9SAA
47	16 x 16.5	20	340	570	EDK476M250A9TAA

400 Vdc Rated voltage - 450 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
4.7	12.5 x 13.5	25	120	180	EDK475M400A9RAA
10	12.5 x 13.5	25	120	260	EDK106M400A9RAA
22	16 x 16.5	25	140	460	EDK226M400A9TAA
33	16 x 16.5	25	140	630	EDK336M400A9TAA

450 Vdc Rated voltage - 500 Vdc Surge voltage					
Rated capacitance 120 Hz 20°C ( $\mu$ F)	Case size DxL (mm)	D.F. 120 Hz 20°C (tan $\delta$ %)	R.C. 120 Hz 85°C (mA <sub>rms</sub> )	L.C. 20°C 2 min. ( $\mu$ A)	Arcotronics P/N
4.7	12.5 x 13.5	25	120	180	EDK475M450A9RAA
10	12.5 x 16	25	130	280	EDK106M450A9SAA
22	16 x 16.5	25	140	500	EDK226M450A9TAA

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