

SP-Cap/ Polymer Aluminum Capacitor S.M.T



Series & Size code	Part No.	Features	Category Temp. Range	Rated W.V. (V)	Capacitance (μF)	Body color	Page
		Low ESR				Marking color	
FD	EEFFD-----R	Low Profile (68 μF max.) (1.1±0.1 mm Height)	-40 to 105 °C	2 to 12.5	15 to 68	BLACK GOLD	014
CD	EEFC-----R, ER EEFC-----XR, XE	Standard (220 μF max.) (1.8±0.1 mm Height)	-40 to 105 °C	2 to 16	2.2 to 220	BLACK GOLD	
CX	EEFCX-----R	Standard (470 μF max.) (1.9±0.2 mm Height)	-40 to 105 °C	2 to 6.3	100 to 470	BLACK GOLD	
UD	EEFUD-----R, ER EEFUD-----XR, XE EEFUD-----LR, LE	Standard (470 μF max.) (2.8±0.2 mm Height)	-40 to 105 °C	2 to 8	68 to 470	BLACK GOLD	
UE	EEFUE-----R, ER EEFUE-----XR, XE EEFUE-----LR, LE	Standard (560 μF max.) (4.2±0.1 mm Height)	-40 to 105 °C	2 to 8	100 to 560	BLACK GOLD	
SL	EEFSL-----R, ER	Low ESR (220 μF max.) (1.8±0.1 mm Height)	-40 to 105 °C	2 to 6.3	56 to 220	BLACK GOLD	017
SX	EEFSX-----R, ER EEFSX-----XR, XE EEFSX-----E4	Low ESR (470 μF max.) (1.9±0.2 mm Height)	-40 to 105 °C	2 to 6.3	82 to 470	BLACK GOLD	
NEW MC	EEFMC-----R	Miniaturization (120 μF max.) (1.9±0.2 mm Height)	-40 to 105 °C	2 to 6.3	47 to 120	BLACK GOLD	
SD*	EEFSD-----R, ER	Low ESR (390 μF max.) (2.8±0.2 mm Height)	-40 to 105 °C	2 to 6.3	120 to 390	BLACK GOLD	-
SE*	EEFSE-----R, ER	Low ESR (560 μF max.) (4.2±0.1 mm Height)	-40 to 105 °C	2 to 6.3	180 to 560	BLACK GOLD	-
LL*	EEFLL-----R	Low ESL (180 μF max.) (1.9±0.1 mm Height)	-40 to 105 °C	2 to 6.3	47 to 180	BLACK GOLD	-
HL*	EEFHL-----R	High Reliability (100 μF max.) (1.8±0.1 mm Height)	-40 to 125 °C	2 to 8	33 to 100	BLACK GOLD	-
HD*	EEFHD-----R	High Reliability (220 μF max.) (2.8±0.2 mm Height)	-40 to 125 °C	2 to 8	68 to 220	BLACK GOLD	
HE*	EEFHE-----R	High Reliability (330 μF max.) (4.2±0.1 mm Height)	-40 to 125 °C	2 to 8	100 to 330	BLACK GOLD	

* Please contact us when the confirmation of details is necessary.



Surface Mount Type (V Type)

Series	Part No.	Features	Endurance	Standard	Miniaturization	Low profile	Low Imp.	Long Life	Rated W.V. (V)	Capacitance (μF)	Body color	Page
											Marking color	
NEW	EEE---A---A	High temperature Lead-Free reflow	+85 °C 1000 h to 2000 h	●					6.3 to 50	0.1 to 1500	----- BLACK	026
S	EEE---S---S	5.4 mm height (≤ φ6.3)							4 to 100			
	EEE---A---S								6.3 to 50			
	EEE---S---W											
	EEE---A---W											
	EEE---A---U											
	EEE---A---X											
	EEE---A---N	Bi-polar							6.3 to 50			

Check Panasonic website for the newest products search. If you have any detailed product information. (W.V., Capacitance, Case size, Ripple current) you can see the specified part number.

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Series	Part No.	Features	Endurance	Standard	Miniaturization	Low profile	Low Imp.	Long Life	Rated W.V. (V)	Capacitance (μF)	Body color	Page
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NEW HA	EEEHA-----A	High temperature Lead-Free reflow	+105 °C 1000 h					●	6.3 to 50	0.1 to 1500	----- BLACK	034
	EEEHA-----	5.4 mm height (≤φ6.3)							6.3 to 100			
NEW HB	EEEHB-----A	High temperature Lead-Free reflow	+105 °C 2000 h					●	6.3 to 50	0.1 to 1500	----- BLACK	041
	EEEHB-----S	5.4 mm height (≤φ6.3)							4 to 50			
	EEEHB-----	5.8 mm height (≤φ6.3)										
	EEEHP-----	Bi-polar										
HC	EEEHC-----	Longlife	+105 °C 3000 h (φ8, 10 : 5000 h)					●	6.3 to 50	33 to 1000	----- BLACK	047
HD	EEEHD-----A	Longlife High temperature Lead-Free reflow	+105 °C 5000 h					●	6.3 to 35	0.47 to 7500	----- BLACK	049
	NEW EEEHD-----	Longlife							50 to 100			
FC	EEEFC-----A	High temperature Lead-Free reflow	+105 °C 1000 h					●	6.3 to 35	1 to 1500	----- BLACK	051
	EEEFC-----	Low impedance (1/2 for HA)							6.3 to 50			
FK	EEEFK-----A	High temperature Lead-Free reflow	+105 °C 2000 h					●	6.3 to 100	3.3 to 6800	----- BLACK	055
	EEEFK-----	Low impedance 40 to 60% less than FC	+105 °C 2000 to 5000 h					●				
NEW FP	EEEFP-----P	30 to 60% less than FK Low ESR High temperature Lead-Free reflow	+105 °C 2000 h	●				●	6.3 to 35	10 to 1800	----- BLACK	063
TG	EEETG-----	Low ESR (Low temp.)	+125 °C 1000 h to 2000 h	●				●	10 to 100	10 to 4700	----- BLACK	066
	EEVTG-----											
NEW TK	EEETK-----A	High temperature Lead-Free reflow	+125 °C 2000 h					●	10 to 100	47 to 4700	----- BLACK	069
	EEETK-----	50% less than TG Low ESR	+125 °C 3000 h						10 to 35			
NEW TP	EEETP-----	Low ESR(Low temp./After Endurance) High temperature Lead-Free reflow	+125 °C 3000 h (D8 : 2000 h)					●	10 to 35	47 to 470	----- BLACK	073
EB	EEVEB-----	Large Can Size (φ10 to φ18)	+ 105 °C 3000 to 5000 h					●	160 to 450	2.2 to 100	----- BLACK	075

Radial Lead Type (A Type)



Series	Part No.	Features	Endurance	Standard	Miniaturization	Low profile	Low Imp.	Long Life	Rated W.V. (V)	Capacitance (μF)	Body color	Page
											Marking color	
FC	EEAFC-----	Low impedance	+105 °C 1000 to 5000 h				●	●	6.3 to 100	1 to 15000	BLACK BLUE	077
	EEUFC-----										GOLD	
FK	EEUFK-----	Low impedance 20 to 30% less than FC	+105 °C 3000 to 5000 h				●	●	6.3 to 35	180 to 12000	BLACK BLUE	087
FM	EEUFM-----	Low impedance 40 to 70% less than FC	+105 °C 2000 to 7000 h				●	●	6.3 to 50	22 to 6800	BLACK BLUE	092
EB	EEUEB-----	High ripple Longlife	+105 °C 5000 to 10000 h					●	10 to 63	0.47 to 3300	BLACK	096
EE	EEUEE-----	High ripple more than ED Series	+105 °C 8000 to 10000 h					●	160 to 450	10 to 330	BLACK	098
TA	EEUTA-----	+125 °C, For Automotive application	+125 °C 2000 h					●	10 to 63	1 to 4700	BLACK	102
NHG	ECA--HG----	+105 °C Standard	+105 °C 1000 to 2000 h	●					6.3 to 450	0.1 to 22000	BLACK	105
GA	EEAGA-----	7 mm Height +105 °C Standard	+105 °C 1000 h	●					10 to 50	0.1 to 220	BLACK	110
GA Bi-polar	ECA--EN----	+105 °C Bi-polar	+105 °C 1000 to 2000 h	●					6.3 to 50	0.47 to 330	BLACK	112
M	ECA--M-----	+85 °C Standard	+85 °C 2000 h	●					6.3 to 450	0.1 to 22000	DARKBLUE WHITE	114

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Radial Lead Type (A Type)

Series	Part No.	Features	Endurance	Standard	Miniaturization	Low profile	Low Imp.	Long Life	Rated W.V. (V)	Capacitance (μF)	Body color	Page
											Marking color	
SU Bi-polar	ECEA--N---U ECEA--N---X	Bi-polar standard	+85 °C 2000 h	●					6.3 to 50	0.47 to 6800	DARKBLUE WHITE	119
KA	ECEA--KA---	7.0 mm Height	+85 °C 1000 h	●					4 to 50	0.1 to 470	BLACK WHITE	122
KA Bi-polar	ECEA--KN---	7.0 mm Height Bi-polar	+85 °C 1000 h	●					4 to 50	0.1 to 100	BLACK WHITE	124
KS	ECEA--KK--- ECEA--KS---	5.0 mm Height	+85 °C 1000 h		●	●			4 to 50	0.1 to 330	BLACK WHITE	126
KS Bi-polar	ECEA--SN---	5.0 mm Height Miniaturization	+85 °C 1000 h		●	●			6.3 to 50	0.1 to 47	BLACK WHITE	128



Snap-in Type (TS Type)

Series	Part No.	Features	Endurance	Standard	Miniaturization	Long Life	Rated W.V. (V)	Capacitance (μF)	Body color	Page
									Marking color	
EE	EETEE -----	High ripple	+105 °C 3000 h			●	200 to 450	75 to 1800	BLACK WHITE	131
ED	EETED-----	High ripple	+105 °C 3000 h			●	200 to 450	56 to 2200	BLACK WHITE	134
HC	EETHC-----	+105 °C Standard	+105 °C 2000 h	●	●	●	10 to 450	39 to 100000	BLACK WHITE	138
XB	EETXB-----	Longlife	+105 °C 7000 h			●	160 to 450	39 to 2200	BLACK WHITE	151
MD	EETLD-----	Over voltage resistant constrantion	+105 °C 2000 h			●	200 to 400	56 to 1500	BLACK WHITE	156
UQ	EETUQ-----	+85 °C Standard	+ 85 °C 2000 h	●	●		16 to 450	82 to 100000	BLACK WHITE	158



Electric Double Layer Capacitor

Series	Part No.	Features	Endurance	Operating current			Max. Operating Voltage (V)	Capacitance (F)	Body color	Page	
				μA	mA	A			Marking color		
SD	EECS0HD----	φ10 Tabbed lead terminals	+70 °C 1000 h	●			5.5	0.022 to 0.33	BLACK WHITE	183	
SG	EECS5R5()----	φ19 Tabbed lead terminal	+70 °C 1000 h	●			5.5	0.47 to 1.5	BLACK WHITE	184	
SE	EECSE0H---	5 mm pitch lead taping	+70 °C 1000 h	●			5.5	0.022 to 0.22	BLACK WHITE	185	
NEW	RG	EECRG0V105()	φ19 Tabbed lead terminal 85 °C Flat type	+85 °C 2000 h	●	●		3.6	1.0	BLACK GOLD	186
NEW	RF	EECRF-----	85 °C Flat type	+85 °C 2000 h	●	●		5.5 (3.6)	0.68	BLACK GOLD	186
NF	EECF5R5U---	Flat type, General purpose	+70 °C 1000 h	●			5.5	0.1 to 1.5	BLACK WHITE	187	
F	EECF5R5H---	85 °C Flat type	+85 °C 1000 h	●			5.5	0.033 to 1.0	BLACK WHITE	188	
EN	EECEN0F204()	Coin-shaped with terminal	+60 °C 500 h	●			3.3	0.2	—	189	
EP	EECEP0E333	φ3 Coin-shaped with terminal	+60 °C 500 h	●			2.6 (3.3)	0.033	—	190	
NEW	HZ	EECHZ0E---	Radial lead Type Miniaturization	+60 °C 1000 h		●	●	2.5	3.3 to 10	BLACK GOLD	191
HW	EECHW0D---	Radial lead Type Large Cap.	+70 °C 1000 h (+60 °C)		●	●	2.1, 2.3	1 to 70	BLACK WHITE	192	

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