Panasonic Aluminum Electrolytic Capacitors (Radial Lead Type)

Radial Lead Type

Series : **KA** Type : **A**





Features

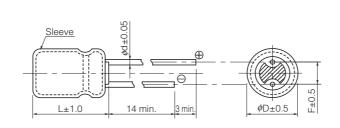
• Endurance: 85 °C 1000 h

• 7 mm height RoHS compliant

Specifications						
Category temperature range	−40 °C to +85 °C					
Rated voltage range	4 V.DC to 50 V.DC					
Capacitance range	2.2 μF to 470 μF					
Capacitance tolerance	±20 % (120 Hz/+20 °C)					
Leakage current	I ≤ 0.01 CV or 3 (μA) After 2 minutes (Whichever is greater)					
Dissipation factor (tan δ)	Please see the attached characteristics list					
	After applying rated working voltage for 1000 hours at +85 °C±2 °C when the capacitors are restored to 20 °C, capacitors shall meet the following limits.					
Endurance	Capacitance change	Within ±20 % of the initial value				
	tan δ	≤ 200 % of the initial limit				
	DC leakage current	Within the initial limit				
Shelf life	After storage for 1000 hours at +85 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance (With voltage treatment)					

Frequency correction factor for ripple current									
Frequency (Hz)	50, 60	120	1 k	10 k to					
Correction factor	0.70	1.00	1.30	1.70					

Dimensions



(Unit:mm)

ϕ D	4	5	6.3	8
ϕ d	0.45	0.45	0.45	0.45
F	1.5	2.0	2.5	2.5

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Characteristics list

Endurance: 85 °C 1000 h

Cap		(±20 %)	Case size (mm)		Specification		Lead length (mm)				Min. Packaging (
Voltage (#20 %) Popular Voltage Popular Voltage Popular Voltage Popular Voltage Voltage Popular Voltage Volt	voltage			- (/	· ·		<u> </u>						
100 5			3	L	(120 Hz) (+85 °C)	(120 Hz) dia.		Taping	Taping	Part No.	leads	Taping (pcs)	
220 6.3 7 82 0.35 0.45 2.5 5.0 2.5 ECEA0GKA321() 200 2000		47	4	7	34	0.35	0.45	1.5	5.0	2.5	ECEA0GKA470()	200	2000
A		100	5	7	61	0.35	0.45	2.0	5.0	2.5	ECEA0GKA101()	200	2000
100		220	6.3	7	82	0.35	0.45	2.5	5.0	2.5	ECEA0GKA221()	200	2000
8	4	330	8	7	110	0.35	0.45	2.5		2.5	ECEA0GKA331()	200	1000
470 8			8	7	110	0.35	0.45		5.0		ECEA0GKA331Q		1000
8		470	8	7	140	0.35	0.45	2.5		2.5	ECEA0GKA471()	200	1000
100 5		470	8	7	140	0.35	0.45		5.0		ECEA0GKA471Q		1000
Color		47	4	7	46	0.24	0.45	1.5	5.0	2.5	ECEA0JKA470()	200	2000
10		100	5	7	71	0.24	0.45	2.0	5.0	2.5	ECEA0JKA101()	200	2000
10	6.3	220	6.3	7	103	0.24	0.45	2.5	5.0	2.5	ECEA0JKA221()	200	2000
10		220	8	7	130	0.24	0.45	2.5		2.5	ECEA0JKA331()	200	1000
100		330	8	7	130	0.24	0.45		5.0		ECEA0JKA331Q		1000
10		33	4	7	43	0.20	0.45	1.5	5.0	2.5	ECEA1AKA330()	200	2000
220 8	10	100	6.3	7	80	0.20	0.45	2.5	5.0	2.5	ECEA1AKA101()	200	2000
10	10	220	8	7	120	0.20	0.45	2.5		2.5	ECEA1AKA221()	200	1000
16		220	8	7	120	0.20	0.45		5.0		ECEA1AKA221Q		1000
16 33 5 7 60 0.16 0.45 2.0 5.0 2.5 ECEA1CKA330() 200 2000 47 5 7 70 0.16 0.45 2.0 5.0 2.5 ECEA1CKA470() 200 2000 100 6.3 7 91 0.16 0.45 2.5 5.0 2.5 ECEA1CKA470() 200 2000 100 4 7 28 0.14 0.45 1.5 5.0 2.5 ECEA1EKA100() 200 2000 22 5 7 55 0.14 0.45 2.0 5.0 2.5 ECEA1EKA220() 200 2000 47 6.3 7 70 0.14 0.45 2.5 5.0 2.5 ECEA1EKA330() 200 2000 47 6.3 7 70 0.14 0.45 2.5 5.0 2.5 ECEA1EKA470() 200 2000 47 6.3 7 70 0.14 0.45 2.5 5.0 2.5 ECEA1EKA470() 200 2000 22 6.3 7 60 0.12 0.45 2.0 5.0 2.5 ECEA1EKA330() 200 2000 33 6.3 7 65 0.12 0.45 2.5 5.0 2.5 ECEA1VKA100() 200 2000 34 63 7 85 0.12 0.45 2.5 5.0 2.5 ECEA1VKA330() 200 2000 25 ECEA1VKA470() 200 2000 26 ECEA1VKA470() 200 2000 27 65 0.12 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 28 7 85 0.12 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 1000 29 8 7 85 0.12 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 33 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1VKA470() 200 2000 33 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1VKA470() 200 2000 33 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1VKA470() 200 2000 33 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1VKA470() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA420() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 23 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 24 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 2000 25 6.3 7		10	4	7	28	0.16	0.45	1.5	5.0	2.5	ECEA1CKA100()	200	2000
47 5 7 70 0.16 0.45 2.0 5.0 2.5 ECEA1CKA470() 200 2000 100 6.3 7 91 0.16 0.45 2.5 5.0 2.5 ECEA1CKA101() 200 2000 10		22	4	7	39	0.16	0.45	1.5	5.0	2.5	ECEA1CKA220()	200	2000
100	16	33	5	7	60	0.16	0.45	2.0	5.0	2.5	ECEA1CKA330()	200	2000
10		47	5	7	70	0.16	0.45	2.0	5.0	2.5	ECEA1CKA470()	200	2000
22 5 7 55 0.14 0.45 2.0 5.0 2.5 ECEA1EKA220() 200 2000 33 6.3 7 65 0.14 0.45 2.5 5.0 2.5 ECEA1EKA330() 200 2000 47 6.3 7 70 0.14 0.45 2.5 5.0 2.5 ECEA1EKA470() 200 2000 10 5 7 30 0.12 0.45 2.0 5.0 2.5 ECEA1VKA100() 200 2000 22 6.3 7 60 0.12 0.45 2.5 5.0 2.5 ECEA1VKA220() 200 2000 33 6.3 7 65 0.12 0.45 2.5 5.0 2.5 ECEA1VKA330() 200 2000 47 8 7 85 0.12 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 1000 22 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1VKA470Q 1000 22 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1VKA470Q 1000 3.3 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1HKA3R3() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 4.7 4 7 7 60 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 4.7 4 7 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA4R7() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA420() 200 2000 8 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000		100	6.3	7	91	0.16	0.45	2.5	5.0	2.5	ECEA1CKA101()	200	2000
33 6.3 7 65 0.14 0.45 2.5 5.0 2.5 ECEA1EKA330() 200 2000 47 6.3 7 70 0.14 0.45 2.5 5.0 2.5 ECEA1EKA470() 200 2000 10 5 7 30 0.12 0.45 2.0 5.0 2.5 ECEA1VKA100() 200 2000 22 6.3 7 60 0.12 0.45 2.5 5.0 2.5 ECEA1VKA220() 200 2000 33 6.3 7 65 0.12 0.45 2.5 5.0 2.5 ECEA1VKA330() 200 2000 47 8 7 85 0.12 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 1000 47 8 7 85 0.12 0.45 5.0 2.5 ECEA1VKA470Q 1000 22 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1HKA2R2() 200 2000 3.3 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1HKA3R3() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 50 10 5 7 35 0.10 0.45 2.5 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 33 8 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 1000 50 50 50 50 50 50 50		10	4	7	28	0.14	0.45	1.5	5.0	2.5	ECEA1EKA100()	200	2000
33 6.3 7 65 0.14 0.45 2.5 5.0 2.5 ECEA1EKA330() 200 2000 47 6.3 7 70 0.14 0.45 2.5 5.0 2.5 ECEA1EKA470() 200 2000 2000 10 5 7 30 0.12 0.45 2.0 5.0 2.5 ECEA1VKA100() 200 2000 2000 222 6.3 7 60 0.12 0.45 2.5 5.0 2.5 ECEA1VKA220() 200 2000 2000 2000 2000 2000 2000	25	22	5	7	55	0.14	0.45	2.0	5.0	2.5	ECEA1EKA220()	200	2000
10 5 7 30 0.12 0.45 2.0 5.0 2.5 ECEA1VKA100() 200 2000	25	33	6.3	7	65	0.14	0.45	2.5	5.0	2.5	ECEA1EKA330()	200	2000
22 6.3 7 60 0.12 0.45 2.5 5.0 2.5 ECEA1VKA220() 200 2000 33 6.3 7 65 0.12 0.45 2.5 5.0 2.5 ECEA1VKA330() 200 2000 47 8 7 85 0.12 0.45 2.5 5.0 2.5 ECEA1VKA470() 200 1000 2.2 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1HKA2R2() 200 2000 3.3 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1HKA3R3() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 50 10 5 7 35 0.10 0.45 2.5 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 33 8 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 2000 34 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 2000 35 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 2000 36 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 2000 37 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 2000 38 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 2000 38 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 2000 38 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 2000 39 70 70 70 70 70 70 70 7		47	6.3	7	70	0.14	0.45	2.5	5.0	2.5	ECEA1EKA470()	200	2000
35 33 6.3 7 65 0.12 0.45 2.5 5.0 2.5 ECEA1VKA330() 200 2000 47		10	5	7	30	0.12	0.45	2.0	5.0	2.5	ECEA1VKA100()	200	2000
47 8 7 85 0.12 0.45 2.5 2.5 ECEA1VKA470() 200 1000 8 7 85 0.12 0.45 5.0 ECEA1VKA470Q 1000 2.2 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1HKA2R2() 200 2000 3.3 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1HKA3R3() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 50 10 5 7 35 0.10 0.45 2.0 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 2000 33 8 7 75 0.10 0.45 2.5 2.5	35	22	6.3	7	60	0.12	0.45	2.5	5.0	2.5	ECEA1VKA220()	200	2000
47 8 7 85 0.12 0.45 5.0 ECEA1VKA470Q 1000 2.2 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1HKA2R2() 200 2000 3.3 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1HKA3R3() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 50 10 5 7 35 0.10 0.45 2.0 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 33 8 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 1000		33	6.3	7	65	0.12	0.45	2.5	5.0	2.5	ECEA1VKA330()	200	2000
8 7 85 0.12 0.45 5.0 ECEA1VKA470Q 1000 2.2 4 7 16 0.10 0.45 1.5 5.0 2.5 ECEA1HKA2R2() 200 2000 3.3 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1HKA3R3() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 50 10 5 7 35 0.10 0.45 2.0 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 33 8 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 1000		47	8	7	85	0.12	0.45	2.5		2.5	ECEA1VKA470()	200	1000
3.3 4 7 18 0.10 0.45 1.5 5.0 2.5 ECEA1HKA3R3() 200 2000 4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 10 5 7 35 0.10 0.45 2.0 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 8 7 75 0.10 0.45 2.5 5.0 2.5 ECEA1HKA330() 200 1000		47	8	7	85	0.12	0.45		5.0		ECEA1VKA470Q		1000
4.7 4 7 23 0.10 0.45 1.5 5.0 2.5 ECEA1HKA4R7() 200 2000 50 10 5 7 35 0.10 0.45 2.0 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 33 8 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 1000	50	2.2	4	7	16	0.10	0.45	1.5	5.0	2.5	ECEA1HKA2R2()	200	2000
50 10 5 7 35 0.10 0.45 2.0 5.0 2.5 ECEA1HKA100() 200 2000 22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 33 8 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 1000		3.3	4	7	18	0.10	0.45	1.5	5.0	2.5	ECEA1HKA3R3()	200	2000
22 6.3 7 60 0.10 0.45 2.5 5.0 2.5 ECEA1HKA220() 200 2000 8 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 1000		4.7	4	7	23	0.10	0.45	1.5	5.0	2.5	ECEA1HKA4R7()	200	2000
8 7 75 0.10 0.45 2.5 2.5 ECEA1HKA330() 200 1000		10	5	7	35	0.10	0.45	2.0	5.0	2.5	ECEA1HKA100()	200	2000
33		22	6.3	7	60	0.10	0.45	2.5	5.0	2.5	ECEA1HKA220()	200	2000
8 7 75 0.10 0.45 5.0 ECEA1HKA330Q 1000		33 -	8	7	75	0.10	0.45	2.5		2.5	ECEA1HKA330()	200	1000
			8	7	75	0.10	0.45		5.0		ECEA1HKA330Q		1000

[·] When requesting taped product, please put the letter "B" or "i" between the "()". Lead wire pitch *B=5 mm, i=2.5 mm.

[·] Please refer to the page of "Taping dimensions".



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