Surface Mount Type

Series: S Type: **V**

S High temperature Lead-Free reflow (suffix:A*)



■ Specifications

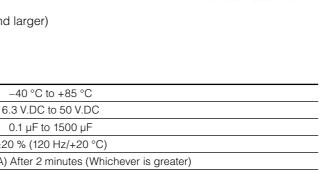
Category Temp. Range Rated W.V. Range

• Endurance: 85 °C 2000 h

Vibration-proof product is available upon request.(φ8 mm and larger)

RoHS directive compliant





Nominal Cap. Range	0.1 μF to 1500 μF										
Capacitance Tolerance	±20 % (120 Hz/+20 °C)										
DC Leakage Current	I ≤ 0.01 CV or 3 (μA) After 2 minutes (Whichever is greater)										
tan δ	Please see the attached High temperature lead-free reflow products list.										
Characteristics at Low Temperature	W.V. (V)	6.3	10	16	25	35	50				
	Z(-25 °C)/Z(+20 °C)	4	3	2	2	2	2	(Impedance ratio at 120 Hz)			
	Z(-40 °C)/Z(+20 °C)	8	6	4	4	3	3				
	After applying rated working voltage for 2000 hours (Miniaturization product type 1000 hours)										

at +85 °C±2 °C and then being stabilized at +20 °C, Capacitors shall meer the following limits. ±20 % of initial measured value

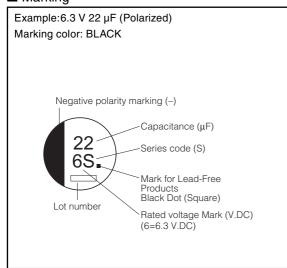
-40 °C to +85 °C

Endurance		=== 70 01 11111011 111100100101					
	Canacitanas abanga	Size code	Cap. change				
	Capacitance change	D8(\phi6.3\times7.7)	2000 hours ±25 %				
		≤D(φ6.3) Miniature	1000 hours ±30 %				
	tan δ	≤200 % of initial specifie					
	DC leakege current	leakege current ≤ initial specified value					
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)						
	After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the following limits.						
Resistance to	Capacitance change	±10 % of initial measured					
Soldering Heat	tan δ	≤ initial specified value					
	DC leakage current	≤ initial specified value					

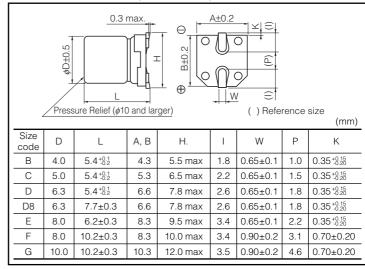
■ Frequency correction factor for ripple current

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

Marking



■ Dimensions in mm (not to scale)



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■ High tempature Lead-Free reflow Products

			Case size		Specification					Min. Packaging Q'ty
W.V.	Cap. (±20 %)	Dia.	Length	* Size Code			Endurance	Part No. (RoHS:compliant)	Reflow	Taping
(V)	(μF)	(mm)	(mm)		(+85 °C) (mA r.m.s.)	(+20 °C)	(hours)			(pcs)
	22	4	5.4	В	29	0.30	2000	EEE0JA220AR	(5)	2000
	33	4	5.4	(B)	22	0.35	1000	EEE0JA330WAR	(5)	2000
	47	5	5.4	С	46	0.30	2000	EEE0JA470AR	(5)	1000
	100	5	5.4	(C)	47	0.40	1000	EEE0JA101WAR	(5)	1000
0.0	100	6.3	5.4	D	71	0.30	2000	EEE0JA101AP	(5)	1000
6.3	No. Cap. Dia. Length Size Corrent Current Current	(5)	900							
	330	8	6.2	Е	300	0.35	2000	EEE0JA331AP	(7)	1000
	470	8	10.2	(F)	380	0.35	1000	EEE0JA471UAP	(7)	500
	1000	10		_ ` '			2000		(7)	500
									(7)	500
	22		5.4				1000		(5)	2000
		4							(5)	2000
	33								(5)	1000
	47								(5)	1000
									(5)	1000
	100								(5)	1000
10									(5)	900
	220								(7)	1000
	330								(7)	500
	330				+				(7)	500
									(7)	500
									(7)	500
									(5)	2000
	10									2000
	22								(5)	1000
	22								(5) (5)	1000
	33								(5)	1000
	47									1000
									(5)	
16	100								(5)	1000
									(7)	1000
	220								(5)	900
									(7)	500
	330								(7)	500
					+				(7)	500
	470								(7)	500
									(7)	500
	4.7								(5)	2000
	10								(5)	2000
									(5)	1000
	22								(5)	1000
									(5)	1000
	33								(5)	1000
									(5)	1000
25	47								(5)	1000
20	100								(7)	1000
									(5)	900
		8	10.2			0.16	2000		(7)	500
	220								(7)	500
	220	10			310	0.16	2000	EEE1EA221AP	(7)	500
	220	8	10.2	(F)	270	0.20	1000	EEE1EA331UAP	(7)	500
	330	10	10.2		340	0.16	2000	EEE1EA331AP	(7)	500
	470	10	10.2	(G)	380	0.25	1000	EEE1EA471UAP	(7)	500

* Size code():Miniaturization product
The taping dimensions are explained on EE188 of our Catalog. Please use it as a reference guide.
Reflow Profile(Fig-1 to Fig-11) listed on EE186 of our Catalog.

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■ High tempature Lead-Free reflow Products

	Cap. (±20 %)	Case size			S	pecification	on			Min. Packaging Q'ty
W.V.		Dia.	Length	* Size Code		tan δ (120 Hz) (+20 °C)	Endurance	Part No. (RoHS:compliant)	Reflow	Taping
(V)	(µF)	(mm)	(mm)		(mA r.m.s.)		(hours)			(pcs)
	4.7	4	5.4	В	22	0.12	2000	EEE1VA4R7AR	(5)	2000
	10	4	5.4	(B)	22	0.16	1000	EEE1VA100WAR	(5)	2000
	10	5	5.4	С	30	0.12	2000	EEE1VA100AR	(5)	1000
	22	5	5.4	(C)	36	0.16	1000	EEE1VA220WAR	(5)	1000
	[6.3	5.4	D	60	0.12	2000	EEE1VA220AP	(5)	1000
	33	6.3	5.4	(D)	60	0.16	1000	EEE1VA330WAP	(5)	1000
	33	8	6.2	Е	130	0.14	2000	EEE1VA330AP	(7)	1000
35	47	6.3	5.4	(D)	70	0.16	1000	EEE1VA470WAP	(5)	1000
	4/	8	6.2	E	165	0.14	2000	EEE1VA470AP	(7)	1000
		6.3	7.7	D8	132	0.14	2000	EEE1VA101XAP	(5)	900
	100	8	10.2	(F)	140	0.14	1000	EEE1VA101UAP	(7)	500
		10	10.2	Ğ	210	0.14	2000	EEE1VA101AP	(7)	500
	220	8	10.2	(F)	200	0.14	1000	EEE1VA221UAP	(7)	500
		10	10.2	Ğ	310	0.14	2000	EEE1VA221AP	(7)	500
	330	10	10.2	(G)	350	0.30	1000	EEE1VA331UAP	(7)	500
-	0.1	4	5.4	В	1	0.12	2000	EEE1HAR10AR	(5)	2000
	0.22	4	5.4	В	2	0.12	2000	EEE1HAR22AR	(5)	2000
	0.33	4	5.4	В	3	0.12	2000	EEE1HAR33AR	(5)	2000
	0.47	4	5.4	В	5	0.12	2000	EEE1HAR47AR	(5)	2000
	1	4	5.4	В	10	0.12	2000	EEE1HA1R0AR	(5)	2000
	2.2	4	5.4	В	16	0.12	2000	EEE1HA2R2AR	(5)	2000
	3.3	4	5.4	В	16	0.12	2000	EEE1HA3R3AR	(5)	2000
	4 -	4	5.4	(B)	18	0.14	1000	EEE1HA4R7WAR	(5)	2000
	4.7	5	5.4	C	23	0.12	2000	EEE1HA4R7AR	(5)	1000
	40	5	5.4	(C)	27	0.14	1000	EEE1HA100WAR	(5)	1000
	10	6.3	5.4	Ď	35	0.12	2000	EEE1HA100AP	(5)	1000
50		6.3	5.4	(D)	40	0.14	1000	EEE1HA220WAP	(5)	1000
	22	8	6.2	E	120	0.12	2000	EEE1HA220AP	(7)	1000
		8	6.2	(E)	65	0.12	1000	EEE1HA330UAP	(7)	1000
	33	6.3	7.7	D8	65	0.14	2000	EEE1HA330XAP	(5)	900
		8	10.2	F	110	0.12	2000	EEE1HA330AP	(7)	500
	47	6.3	7.7	D8	105	0.14	2000	EEE1HA470XAP	(5)	900
		8	10.2	(F)	110	0.12	1000	EEE1HA470UAP	(7)	500
		10	10.2	G	130	0.12	2000	EEE1HA470AP	(7)	500
		8	10.2	(F)	200	0.18	1000	EEE1HA101UAP	(7)	500
	100	10	10.2	G	250	0.12	2000	EEE1HA101AP	(7)	500
	220	10	10.2	(G)	300	0.18	1000	EEE1HA221UAP	(7)	500

* Size code():Miniaturization product
The taping dimensions are explained on EE188 of our Catalog. Please use it as a reference guide.
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