

Surface Mount Type Aluminum Electrolytic Capacitors

Japan

Series: **S**Type: **V**

Surface mount type

**■ Features**

- Lifetime: 85 °C 2000 h
- 5.5 mm ($\leq \phi 6.3$) height
- Recommended Applications
- AV (TV, Video, Audio), Personal Computer, Home appliance

■ Specifications

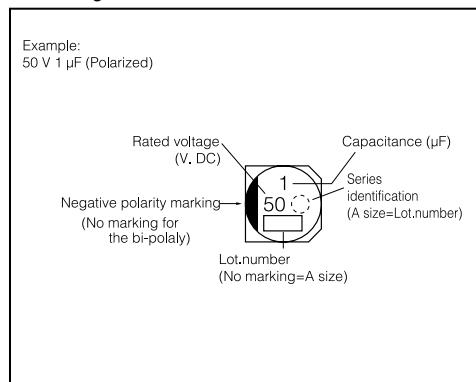
Operating Temp. Range	−40 to +85 °C									
Rated W.V. Range	4 to 100 V.DC									
Nominal Cap. Range	0.1 to 1000 µF									
Capacitance Tolerance	$\pm 20\%$ (120 Hz/+20 °C)									
DC Leakage Current	I \leq 0.01 CV or 3 (μ A) after 2 minutes (Bi-polar: I \leq 0.02 CV or 6 (μ A)) (Whichever, greater)									
Dissipation Factor	W.V. (V)	4	6.3	10	16	25	35	50	63	100
	D.F. $\phi 4\sim\phi 6.3$	0.35	0.26 (0.35)	0.20 (0.30)	0.16 (0.26)	0.14	0.12	0.12	—	—
	D.F. $\phi 8\sim\phi 10$	0.40	0.35	0.26	0.20	0.16	0.14	0.12	0.18	0.18
Characteristics at Low Temperature	Add 0.02 to D.F. for $\phi 3$ case size. () is applied to miniature (120 Hz/+20 °C) (max.)									
	Bi-polar	W.V. (V)	6.3	10	16	25	35	50	Impedance ratio (at 120 Hz)	
		D.F.	0.52	0.40	0.32	0.28	0.24	0.24	(at 120 Hz)	
Endurance	W.V. (V)	4	6.3	10	16	25	35	50	63	100
	-25/+20 °C	7	4	3	2	2	2	2	3	3
	-40/+20 °C	15	8	6	4	4	3	3	4	4
Shelf Life	After applying rated working voltage for 2000 hours at +85 °C and then being stabilized at +20 °C, capacitor shall meet the following limits									
	Capacitance change	$\pm 20\%$ of initial measured value ($\phi 3$, 4 W.V. and miniature of 6.3 W.V.: 1000h $\pm 30\%$)								
	D.F.	$\leq 200\%$ of initial specified value								
Resistance to Soldering Heat	DC leakage current	\leq Initial specified value								
	After reflow soldering (Refer to page 20 for recommendable temperature profile) and then being stabilized at +20 °C, capacitor shall meet the following limits.									
	Capacitance change	$\pm 10\%$ of initial measured value								
	D.F.	\leq Initial specified value								
	DC leakage current	\leq Initial specified value								

■ Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
Product Code	Style	R.W. Voltage Code	Series Code	N.Capacitance Value Code				Option	Packaging		
E	C	E	V								
Polarized	S□□□S	ø3									
	A□□□LS	ø4 to ø6.3									
	A□□□	ø8 to ø10									
Miniaturization	S□□□W	ø3									
	A□□□W	ø4 to ø6.3									
	A□□□U	ø8									
Bi-polar	A□□□N	ø4 to ø6.3									

P1 : Pitch dimension between capacitors on taping

■ Marking



■ Dimensions in mm (not to scale)

(mm)

D	L	A	H	I	W	P	K
A	3.0	5.4	3.3	4.5 MAX	1.5	0.55±0.1	0.6
B	4.0	5.4	4.3	5.5 MAX	1.8	0.65±0.1	1.0
C	5.0	5.4	5.3	6.5 MAX	2.2	0.65±0.1	1.5
D	6.3	5.4	6.6	7.8 MAX	2.6	0.65±0.1	1.8
E	8.0	6.2	8.3	9.5 MAX	3.4	0.65±0.1	2.2
F	8.0	10.2	8.3	10.0 MAX	3.4	0.90±0.2	3.1
G	10.0	10.2	10.3	12.0 MAX	3.5	0.90±0.2	4.6

■ Case size/Ripple current

- Polarized () is applied to miniature

(mA) r.m.s. (120 Hz/+85 °C)

Cap. (µF)	W.V. (V)	4 (GG)	6.3 (OJ)	10 (1A)	16 (1C)	25 (1E)	35 (1V)	50 (1H)	63 (1J)	100 (2A)		
0.1 (0R1)								A, B	1,1			
0.22 (R22)								A, B	2,2			
0.33 (R33)								A, B	3,3			
0.47 (R47)								A, B	5,5			
1.0 (010)								A, B	8,10			
2.2 (2R2)							A	8	B	16		
3.3 (3R3)							A	10	B	16		
4.7 (4R7)						A, B	12,22	B	22	C	23	
10 (100)					A, B	20,28	C	28	C	30	D	35
22 (220)	A	19	B(A) 29(20)	(B) (28)	C(B)	39(28)	D	55	D	60	E	120
33 (330)	B	26	(B)	(22)	C(B)	43(29)	(C)	(35)	D	65	E	130
47 (470)	B	34	C	46	(C)	(43)	D(C)	70(39)	E	165	F(E)	110(65)
100 (101)	C	61	D	71	D	70	E(D)	200(70)	F(E)	180(91)	G(F)	210(140)
220 (221)	D	82			F	250	F	280	G(F)	310(140)	G	310
330 (331)			E	300	F	330	G(F)	380(320)				
470 (471)			F	380	G(F)	400(330)	G	420				
1000 (102)			G	700	G	580						

● Bi-polar

Cap. (µF)	W.V. (V)	6.3 (OJ)	10 (1A)	16 (1C)	25 (1E)	35 (1V)	50 (1H)			
0.22 (R22)							B	2		
0.33 (R33)							B	3		
0.47 (R47)							B	5		
1.0 (010)							B	10		
2.2 (2R2)						B	12	C	16	
3.3 (3R3)					B	12	C	21		
4.7 (4R7)				B	20	C	21	C	22	
10 (100)			B	25	C	25	D	28	D	30
22 (220)	C	29		D	39					
33 (330)			D	43						
47 (470)	D	46								

() shows W.V. and capacitance code.

⇒ Part number is EEVNZ1H3R3□

■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification			Part No.	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple current (120Hz) (+85°C) (mA)	D.F.	Life Time (hours)		Taping (pcs)
4	22	3	5.4	A	19	0.37	1000	ECEV0GS220SR	2000
	33	4	5.4	B	26	0.35	1000	ECEV0GA330SR	2000
	47	4	5.4	B	34	0.35	1000	ECEV0GA470SR	2000
	100	4	5.4	B	61	0.35	1000	ECEV0GA101SR	1000
	220	6.3	5.4	D	82	0.35	1000	ECEV0GA221SP	1000
6.3	22	3	5.4	A	20	0.35	1000	ECEV0JS220WR	2000
		4	5.4	B	29	0.26	2000	ECEV0JA220SR	2000
	33	4	5.4	B	22	0.35	1000	ECEV0JA330WR	2000
	47	5	5.4	C	46	0.26	2000	ECEV0JA470SR	1000
	100	6.3	5.4	D	71	0.26	2000	ECEV0JA101SP	1000
	330	8	6.2	E	300	0.35	2000	ECEV0JA331P	1000
	470	8	10.2	F	380	0.35	2000	ECEV0JA471P	500
	1000	10	10.2	G	700	0.35	2000	ECEV0JA102P	500
10	22	4	5.4	B	28	0.30	2000	ECEV1AA220WR	2000
	33	4	5.4	B	29	0.30	2000	ECEV1AA330WR	2000
		5	5.4	C	43	0.20	2000	ECEV1AA330SR	1000
	47	5	5.4	C	43	0.30	2000	ECEV1AA470WR	1000
	100	6.3	5.4	D	70	0.20	2000	ECEV1AA101SP	1000
	220	8	6.2	E	250	0.26	2000	ECEV1AA221P	1000
	330	8	10.2	F	330	0.26	2000	ECEV1AA331P	500
	470	8	10.2	F	330	0.26	2000	ECEV1AA471UP	500
		10	10.2	G	400	0.26	2000	ECEV1AA471P	500
	1000	10	10.2	G	580	0.26	2000	ECEV1AA102P	500
16	10	3	5.4	A	20	0.18	1000	ECEV1CS100SR	2000
		4	5.4	B	28	0.16	2000	ECEV1CA100SR	2000
	22	4	5.4	B	28	0.26	2000	ECEV1CA220WR	2000
		5	5.4	C	39	0.16	2000	ECEV1CA220SR	1000
	33	5	5.4	C	35	0.26	2000	ECEV1CA330WR	1000
	47	5	5.4	C	39	0.26	2000	ECEV1CA470WR	1000
		6.3	5.4	D	70	0.16	2000	ECEV1CA470SP	1000
	100	6.3	5.4	D	70	0.26	2000	ECEV1CA101WP	1000
		8	6.2	E	200	0.20	2000	ECEV1CA101P	1000
	220	8	10.2	F	280	0.20	2000	ECEV1CA221P	500
	330	8	10.2	F	320	0.20	2000	ECEV1CA331UP	500
		10	10.2	G	380	0.20	2000	ECEV1CA331P	500
	470	10	10.2	G	420	0.20	2000	ECEV1CA471P	500

The taping dimension are explained on p.00 of our Catalog.

Please use it as a reference guide.

■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size		Specification			Part No.	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (-85°C) (mA)	D.F.		
25	4.7	3	5.4	A	12	0.16	ECEV1ES4R7SR	2000
		4	5.4	B	22	0.14	ECEV1EA4R7SR	2000
	10	5	5.4	C	28	0.14	ECEV1EA100SR	1000
	22	6.3	5.4	D	55	0.14	ECEV1EA220SP	1000
	33	6.3	5.4	D	65	0.14	ECEV1EA330SP	1000
	100	8	6.2	E	91	0.16	ECEV1EA101UP	1000
		8	10.2	F	180	0.16	ECEV1EA101P	500
	220	8	10.2	F	140	0.16	ECEV1EA221UP	500
		10	10.2	G	310	0.16	ECEV1EA221P	500
	2.2	3	5.4	A	8	0.14	ECEV1VS2R2SR	2000
35	3.3	3	5.4	A	10	0.14	ECEV1VS3R3SR	2000
	4.7	4	5.4	B	22	0.12	ECEV1VA4R7SR	2000
	10	5	5.4	C	30	0.12	ECEV1VA100SR	1000
	22	6.3	5.4	D	60	0.12	ECEV1VA220SP	1000
	33	8	6.2	E	130	0.14	ECEV1VA330P	1000
	47	8	6.2	E	165	0.14	ECEV1VA470P	1000
	100	8	10.2	F	140	0.14	ECEV1VA101UP	500
		10	10.2	G	210	0.14	ECEV1VA101P	500
	220	10	10.2	G	310	0.14	ECEV1VA221P	500
	0.1	3	5.4	A	1	0.14	ECEV1HS0R1SR	2000
50		4	5.4	B	1	0.12	ECEV1HA0R1SR	2000
	0.22	3	5.4	A	2	0.14	ECEV1HSR22SR	2000
		4	5.4	B	2	0.12	ECEV1HAR22SR	2000
	0.33	3	5.4	A	3	0.14	ECEV1HSR33SR	2000
		4	5.4	B	3	0.12	ECEV1HAR33SR	2000
	0.47	3	5.4	A	5	0.14	ECEV1HSR47SR	2000
		4	5.4	B	5	0.12	ECEV1HAR47SR	2000
	1	3	5.4	A	8	0.14	ECEV1HS010SR	2000
		4	5.4	B	10	0.12	ECEV1HA010SR	2000
	2.2	4	5.4	B	16	0.12	ECEV1HA2R2SR	2000
	3.3	4	5.4	B	16	0.12	ECEV1HA3R3SR	2000
	4.7	5	5.4	C	23	0.12	ECEV1HA4R7SR	1000
	10	6.3	5.4	D	35	0.12	ECEV1HA100SP	1000
	22	8	6.2	E	120	0.12	ECEV1HA220P	1000
	33	8	6.2	E	65	0.12	ECEV1HA330UP	1000
		8	10.2	F	110	0.12	ECEV1HA330P	500
	47	8	10.2	F	110	0.12	ECEV1HA470UP	500
		10	10.2	G	130	0.12	ECEV1HA470P	500
	100	10	10.2	G	250	0.12	ECEV1HA101P	500

The taping dimension are explained on p.00 of our Catalog.

Please use it as a reference guide.

■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification			Part No.	Min. Packaging Q'ty Taping (pcs)
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (+85°C) (mA)	D.F.	Life Time (hours)		
63	10	8	6.2	E	35	0.18	2000	ECEV1JA100P	1000
	22	8	10.2	F	40	0.18	2000	ECEV1JA220P	500
	33	8	10.2	F	45	0.18	2000	ECEV1JA330P	500
	100	10	10.2	G	60	0.18	2000	ECEV1JA101P	500
100	3.3	8	6.2	E	50	0.18	2000	ECEV2AA3R3P	1000
	4.7	8	10.2	F	80	0.18	2000	ECEV2AA4R7P	500
	10	8	10.2	F	85	0.18	2000	ECEV2AA100P	500
	22	10	10.2	G	85	0.18	2000	ECEV2AA220P	500
	33	10	10.2	G	90	0.18	2000	ECEV2AA330P	500

The taping dimension are explained on p. of our Catalog.
Please use it as a reference guide.

■ Standard Products(Bi-polar)

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification		Part No.	Min. Packaging Q'ty Taping (pcs)
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (+85°C) (mA)	D.F.		
6.3	22	5	5.4	C	29	0.52	ECEV0JA220NR	1000
	47	6.3	5.4	D	46	0.52	ECEV0JA470NP	1000
10	10	4	5.4	B	25	0.40	ECEV1AA100NR	2000
	33	6.3	5.4	D	43	0.40	ECEV1AA330NP	1000
16	4.7	4	5.4	B	20	0.32	ECEV1CA4R7NR	2000
	10	5	5.4	C	25	0.32	ECEV1CA100NP	1000
	22	6.3	5.4	D	39	0.32	ECEV1CA220NP	1000
25	3.3	4.0	5.4	B	12	0.28	ECEV1EA3R3NR	2000
	4.7	5	5.4	C	21	0.28	ECEV1EA4R7NR	1000
	10	6.3	5.4	D	28	0.28	ECEV1EA100NP	1000
35	2.2	4	5.4	B	12	0.24	ECEV1VA2R2NR	2000
	4.7	5	5.4	C	22	0.24	ECEV1VA4R7NR	1000
	10	6.3	5.4	D	30	0.24	ECEV1VA100NP	1000
50	0.22	4	5.4	B	2	0.24	ECEV1HAR22NR	2000
	0.33	4	5.4	B	3	0.24	ECEV1HAR33NR	2000
	0.47	4	5.4	B	5	0.24	ECEV1HAR47NR	2000
	1	4	5.4	B	10	0.24	ECEV1HA010NR	2000
	2.2	5	5.4	C	16	0.24	ECEV1HA2R2NR	1000
	3.3	5	5.4	C	21	0.24	EEVNZ1H3R3R	1000
	4.7	6.3	5.4	D	31	0.24	ECEV1HA4R7NP	1000

Please use it as a reference guide.
High temperature Load Life test : 85 C 2000h