

■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification			Part No. (RoHS: not compliant)	Reflow	Part No. (RoHS: compliant)	Reflow	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (+85°C) (mA)	tan δ (120Hz) (+20°C)	Endur- ance (hours)					Taping (pcs)
4	22	3	5.4	A	19	0.37	1000	ECEV0GS220SR	(1)	EEE0GS220SR	(4)	2000
	33	4	5.4	B	26	0.35	1000	ECEV0GA330SR	(1)	EEE0GA330SR	(4)	2000
	47	4	5.4	B	34	0.35	1000	ECEV0GA470SR	(1)	EEE0GA470SR	(4)	2000
	100	5	5.4	C	61	0.35	1000	ECEV0GA101SR	(1)	EEE0GA101SR	(4)	1000
	220	6.3	5.4	D	82	0.35	1000	ECEV0GA221SP	(1)	EEE0GA221SP	(4)	1000
	330	6.3	5.4	D	80	0.50	1000	ECEV0GA331WP	(1)	EEE0GA331WP	(4)	1000
	470	6.3	7.7	D8	200	0.35	2000	ECEV0GA471XP	(1)	EEE0GA471XP	(4)	900
6.3	22	3	5.4	A	20	0.35	1000	ECEV0JS220WR	(1)	EEE0JS220WR	(4)	2000
		4	5.4	B	29	0.26	2000	ECEV0JA220SR	(1)	EEE0JA220SR	(4)	2000
	33	4	5.4	B	22	0.35	1000	ECEV0JA330WR	(1)	EEE0JA330WR	(4)	2000
		4	5.4	B	36	0.35	1000	ECEV0JA470WR	(1)	EEE0JA470WR	(4)	2000
	47	5	5.4	C	46	0.26	2000	ECEV0JA470SR	(1)	EEE0JA470SR	(4)	1000
		5	5.4	C	47	0.35	1000	ECEV0JA101WR	(1)	EEE0JA101WR	(4)	1000
	100	6.3	5.4	D	71	0.26	2000	ECEV0JA101SP	(1)	EEE0JA101SP	(4)	1000
		6.3	5.4	D	74	0.35	1000	ECEV0JA221WP	(1)	EEE0JA221WP	(4)	1000
	220	6.3	7.7	D8	188	0.26	2000	ECEV0JA331XP	(1)	EEE0JA331XP	(4)	900
		8	6.2	E	300	0.35	2000	ECEV0JA331P	(2)	EEE0JA331P	(5)	1000
	330	8	10.2	F	380	0.35	2000	ECEV0JA471P	(2)	EEE0JA471P	(5)	500
		8	10.2	F	500	0.35	2000	ECEV0JA102UP	(2)	EEE0JA102UP	(5)	500
	1000	10	10.2	G	700	0.35	2000	ECEV0JA102P	(2)	EEE0JA102P	(5)	500
		10	10.2	G	750	0.35	2000	ECEV0JA152P	(2)	EEE0JA152P	(5)	500
10	22	4	5.4	B	28	0.30	1000	ECEV1AA220WR	(1)	EEE1AA220WR	(4)	2000
	33	4	5.4	B	29	0.30	1000	ECEV1AA330WR	(1)	EEE1AA330WR	(4)	2000
		5	5.4	C	43	0.20	2000	ECEV1AA330SR	(1)	EEE1AA330SR	(4)	1000
	47	5	5.4	C	47	0.30	1000	ECEV1AA470WR	(1)	EEE1AA470WR	(4)	1000
	100	5	5.4	C	50	0.30	1000	ECEV1AA101WR	(1)	EEE1AA101WR	(4)	1000
		6.3	5.4	D	70	0.26	2000	ECEV1AA101SP	(1)	EEE1AA101SP	(4)	1000
	220	6.3	7.7	D8	173	0.20	2000	ECEV1AA221XP	(1)	EEE1AA221XP	(4)	900
		8	6.2	E	250	0.26	2000	ECEV1AA221P	(2)	EEE1AA221P	(5)	1000
	330	8	10.2	F	390	0.26	2000	ECEV1AA331P	(2)	EEE1AA331P	(5)	500
	470	8	10.2	F	390	0.26	2000	ECEV1AA471UP	(2)	EEE1AA471UP	(5)	500
		10	10.2	G	400	0.26	2000	ECEV1AA471P	(2)	EEE1AA471P	(5)	500
	1000	10	10.2	G	580	0.26	2000	ECEV1AA102P	(2)	EEE1AA102P	(5)	500
16	10	3	5.4	A	20	0.18	1000	ECEV1CS100SR	(1)	EEE1CS100SR	(4)	2000
		4	5.4	B	28	0.16	2000	ECEV1CA100SR	(1)	EEE1CA100SR	(4)	2000
	22	4	5.4	B	28	0.26	1000	ECEV1CA220WR	(1)	EEE1CA220WR	(4)	2000
		5	5.4	C	39	0.16	2000	ECEV1CA220SR	(1)	EEE1CA220SR	(4)	1000
	33	5	5.4	C	35	0.26	1000	ECEV1CA330WR	(1)	EEE1CA330WR	(4)	1000
		5	5.4	C	39	0.26	1000	ECEV1CA470WR	(1)	EEE1CA470WR	(4)	1000
	47	6.3	5.4	D	70	0.16	2000	ECEV1CA470SP	(1)	EEE1CA470SP	(4)	1000
		6.3	5.4	D	70	0.26	1000	ECEV1CA101WP	(1)	EEE1CA101WP	(4)	1000
	100	8	6.2	E	200	0.20	2000	ECEV1CA101P	(2)	EEE1CA101P	(5)	1000
		6.3	7.7	D8	162	0.16	2000	ECEV1CA221XP	(1)	EEE1CA221XP	(4)	900
	220	8	10.2	F	280	0.20	2000	ECEV1CA221P	(2)	EEE1CA221P	(5)	500

An explanation of the taping dimensions can be found on page 84.

Reflow profiles can be found on page 86.

■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification			Part No. (RoHS: not compliant)	Reflow	Part No. (RoHS: compliant)	Reflow	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (+85°C) (mA)	$\tan \delta$ (120Hz) (+20°C)	Endur- ance (hours)					Taping (pcs)
16	330	8	10.2	F	320	0.20	2000	ECEV1CA331UP	(2)	EEE1CA331UP	(5)	500
		10	10.2	G	380	0.20	2000	ECEV1CA331P	(2)	EEE1CA331P	(5)	500
	470	8	10.2	F	350	0.20	2000	ECEV1CA471UP	(2)	EEE1CA471UP	(5)	500
		10	10.2	G	420	0.20	2000	ECEV1CA471P	(2)	EEE1CA471P	(5)	500
25	4.7	3	5.4	A	12	0.16	1000	ECEV1ES4R7SR	(1)	EEE1ES4R7SR	(4)	2000
		4	5.4	B	22	0.14	2000	ECEV1EA4R7SR	(1)	EEE1EA4R7SR	(4)	2000
	10	4	5.4	B	22	0.20	1000	ECEV1EA100WR	(1)	EEE1EA100WR	(4)	2000
		5	5.4	C	28	0.14	2000	ECEV1EA100SR	(1)	EEE1EA100SR	(4)	1000
	22	5	5.4	C	35	0.20	1000	ECEV1EA220WR	(1)	EEE1EA220WR	(4)	1000
		6.3	5.4	D	55	0.14	2000	ECEV1EA220SP	(1)	EEE1EA220SP	(4)	1000
	33	5	5.4	C	42	0.20	1000	ECEV1EA330WR	(1)	EEE1EA330WR	(4)	1000
		6.3	5.4	D	65	0.14	2000	ECEV1EA330SP	(1)	EEE1EA330SP	(4)	1000
	47	6.3	5.4	D	70	0.20	1000	ECEV1EA470WP	(1)	EEE1EA470WP	(4)	1000
	100	6.3	7.7	D8	143	0.14	2000	ECEV1EA101XP	(1)	EEE1EA101XP	(4)	900
		8	6.2	E	91	0.16	2000	ECEV1EA101UP	(2)	EEE1EA101UP	(5)	1000
		8	10.2	F	180	0.16	2000	ECEV1EA101P	(2)	EEE1EA101P	(5)	500
	220	8	10.2	F	230	0.16	2000	ECEV1EA221UP	(2)	EEE1EA221UP	(5)	500
		10	10.2	G	310	0.16	2000	ECEV1EA221P	(2)	EEE1EA221P	(5)	500
	330	8	10.2	F	270	0.16	2000	ECEV1EA331UP	(2)	EEE1EA331UP	(5)	500
		10	10.2	G	340	0.16	2000	ECEV1EA331P	(2)	EEE1EA331P	(5)	500
	470	10	10.2	G	380	0.16	2000	ECEV1EA471P	(2)	EEE1EA471P	(5)	500
35	2.2	3	5.4	A	8	0.14	1000	ECEV1VS2R2SR	(1)	EEE1VS2R2SR	(4)	2000
	3.3	3	5.4	A	10	0.14	1000	ECEV1VS3R3SR	(1)	EEE1VS3R3SR	(4)	2000
	4.7	4	5.4	B	22	0.12	2000	ECEV1VA4R7SR	(1)	EEE1VA4R7SR	(4)	2000
	10	4	5.4	B	22	0.16	1000	ECEV1VA100WR	(1)	EEE1VA100WR	(4)	2000
		5	5.4	C	30	0.12	2000	ECEV1VA100SR	(1)	EEE1VA100SR	(4)	1000
	22	5	5.4	C	36	0.16	1000	ECEV1VA220WR	(1)	EEE1VA220WR	(4)	1000
		6.3	5.4	D	60	0.12	2000	ECEV1VA220SP	(1)	EEE1VA220SP	(4)	1000
	33	6.3	5.4	D	60	0.16	1000	ECEV1VA330WP	(1)	EEE1VA330WP	(4)	1000
		8	6.2	E	130	0.14	2000	ECEV1VA330P	(2)	EEE1VA330P	(5)	1000
	47	6.3	5.4	D	70	0.16	1000	ECEV1VA470WP	(1)	EEE1VA470WP	(4)	1000
		8	6.2	E	165	0.14	2000	ECEV1VA470P	(2)	EEE1VA470P	(5)	1000
	100	6.3	7.7	D8	132	0.12	2000	ECEV1VA101XP	(1)	EEE1VA101XP	(4)	900
		8	10.2	F	140	0.14	2000	ECEV1VA101UP	(2)	EEE1VA101UP	(5)	500
		10	10.2	G	210	0.14	2000	ECEV1VA101P	(2)	EEE1VA101P	(5)	500
	220	8	10.2	F	200	0.14	2000	ECEV1VA221UP	(2)	EEE1VA221UP	(5)	500
		10	10.2	G	310	0.14	2000	ECEV1VA221P	(2)	EEE1VA221P	(5)	500
	330	10	10.2	G	350	0.14	2000	ECEV1VA331P	(2)	EEE1VA331P	(5)	500
50	0.1	3	5.4	A	1	0.14	1000	ECEV1HS0R1SR	(1)	EEE1HS0R1SR	(4)	2000
		4	5.4	B	1	0.12	2000	ECEV1HA0R1SR	(1)	EEE1HA0R1SR	(4)	2000
	0.22	3	5.4	A	2	0.14	1000	ECEV1HSR22SR	(1)	EEE1HSR22SR	(4)	2000
		4	5.4	B	2	0.12	2000	ECEV1HAR22SR	(1)	EEE1HAR22SR	(4)	2000
	0.33	3	5.4	A	3	0.14	1000	ECEV1HSR33SR	(1)	EEE1HSR33SR	(4)	2000
		4	5.4	B	3	0.12	2000	ECEV1HAR33SR	(1)	EEE1HAR33SR	(4)	2000

An explanation of the taping dimensions can be found on page 84.

Reflow profiles can be found on page 86.

■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification			Part No. (RoHS: not compliant)	Reflow	Part No. (RoHS: compliant)	Reflow	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (+85°C) (mA)	tan δ (120Hz) (+20°C)	Endur- ance (hours)					Taping (pcs)
50	0.47	3	5.4	A	5	0.14	1000	ECEV1HSR47SR	(1)	EEE1HSR47SR	(4)	2000
		4	5.4	B	5	0.12	2000	ECEV1HAR47SR	(1)	EEE1HAR47SR	(4)	2000
	1	3	5.4	A	8	0.14	1000	ECEV1HS010SR	(1)	EEE1HS010SR	(4)	2000
		4	5.4	B	10	0.12	2000	ECEV1HA010SR	(1)	EEE1HA010SR	(4)	2000
	2.2	3	5.4	A	10	0.14	1000	ECEV1HS2R2SR	(1)	EEE1HS2R2SR	(4)	2000
		4	5.4	B	16	0.12	2000	ECEV1HA2R2SR	(1)	EEE1HA2R2SR	(4)	2000
	3.3	4	5.4	B	16	0.12	2000	ECEV1HA3R3SR	(1)	EEE1HA3R3SR	(4)	2000
	4.7	4	5.4	B	18	0.14	1000	ECEV1HA4R7WR	(1)	EEE1HA4R7WR	(4)	2000
		5	5.4	C	23	0.12	2000	ECEV1HA4R7SR	(1)	EEE1HA4R7SR	(4)	1000
	10	5	5.4	C	27	0.14	1000	ECEV1HA100WR	(1)	EEE1HA100WR	(4)	1000
		6.3	5.4	D	35	0.12	2000	ECEV1HA100SP	(1)	EEE1HA100SP	(4)	1000
	22	6.3	5.4	D	40	0.14	1000	ECEV1HA220WP	(1)	EEE1HA220WP	(4)	1000
		8	6.2	E	120	0.12	2000	ECEV1HA220P	(2)	EEE1HA220P	(5)	1000
	33	6.3	7.7	D8	65	0.12	2000	ECEV1HA330XP	(1)	EEE1HA330XP	(4)	900
		8	6.2	E	65	0.12	2000	ECEV1HA330UP	(2)	EEE1HA330UP	(5)	1000
		8	10.2	F	110	0.12	2000	ECEV1HA330P	(2)	EEE1HA330P	(5)	500
	47	6.3	7.7	D8	105	0.12	2000	ECEV1HA470XP	(1)	EEE1HA470XP	(4)	900
		8	10.2	F	110	0.12	2000	ECEV1HA470UP	(2)	EEE1HA470UP	(5)	500
		10	10.2	G	130	0.12	2000	ECEV1HA470P	(2)	EEE1HA470P	(5)	500
	100	8	10.2	F	200	0.12	2000	ECEV1HA101UP	(2)	EEE1HA101UP	(5)	500
		10	10.2	G	250	0.12	2000	ECEV1HA101P	(2)	EEE1HA101P	(5)	500
	220	10	10.2	G	300	0.12	2000	ECEV1HA221P	(2)	EEE1HA221P	(5)	500
63	22	8	6.2	E	35	0.18	2000	ECEV1JA220UP	(2)	EEE1JA220UP	(5)	1000
		8	10.2	F	40	0.18	2000	ECEV1JA220P	(2)	EEE1JA220P	(5)	500
	33	8	10.2	F	45	0.18	2000	ECEV1JA330P	(2)	EEE1JA330P	(5)	500
	47	8	10.2	F	45	0.18	2000	ECEV1JA470UP	(2)	EEE1JA470UP	(5)	500
		10	10.2	G	50	0.18	2000	ECEV1JA470P	(2)	EEE1JA470P	(5)	500
	100	10	10.2	G	60	0.18	2000	ECEV1JA101P	(2)	EEE1JA101P	(5)	500
100	3.3	8	6.2	E	50	0.18	2000	ECEV2AA3R3P	(2)	EEE2AA3R3P	(5)	1000
	4.7	8	6.2	E	50	0.18	2000	ECEV2AA4R7UP	(2)	EEE2AA4R7UP	(5)	1000
		8	10.2	F	80	0.18	2000	ECEV2AA4R7P	(2)	EEE2AA4R7P	(5)	500
	10	8	6.2	E	50	0.18	2000	ECEV2AA100UP	(2)	EEE2AA100UP	(5)	1000
		8	10.2	F	85	0.18	2000	ECEV2AA100P	(2)	EEE2AA100P	(5)	500
	22	8	10.2	F	70	0.18	2000	ECEV2AA220UP	(2)	EEE2AA220UP	(5)	500
		10	10.2	G	85	0.18	2000	ECEV2AA220P	(2)	EEE2AA220P	(5)	500
	33	10	10.2	G	90	0.18	2000	ECEV2AA330P	(2)	EEE2AA330P	(5)	500

An explanation of the taping dimensions can be found on page 84.

Reflow profiles can be found on page 86.

■ Standard Products(Bi-polar)

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification			Part No. (RoHS: not compliant)	Reflow	Part No. (RoHS: compliant)	Reflow	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (+85°C) (mA)	tan δ (120Hz) (+20°C)	Endur- ance (hours)					Taping (pcs)
6.3	22	5	5.4	C	29	0.52	2000	ECEV0JA220NR	(1)	EEE0JA220NR	(4)	1000
	47	6.3	5.4	D	46	0.52	2000	ECEV0JA470NP	(1)	EEE0JA470NP	(4)	1000
10	10	4	5.4	B	25	0.40	2000	ECEV1AA100NR	(1)	EEE1AA100NR	(4)	2000
	33	6.3	5.4	D	43	0.40	2000	ECEV1AA330NP	(1)	EEE1AA330NP	(4)	1000
16	4.7	4	5.4	B	20	0.32	2000	ECEV1CA4R7NR	(1)	EEE1CA4R7NR	(4)	2000
	10	5	5.4	C	25	0.32	2000	ECEV1CA100NR	(1)	EEE1CA100NR	(4)	1000
	22	6.3	5.4	D	39	0.32	2000	ECEV1CA220NP	(1)	EEE1CA220NP	(4)	1000
25	3.3	4.0	5.4	B	12	0.28	2000	ECEV1EA3R3NR	(1)	EEE1EA3R3NR	(4)	2000
	4.7	5	5.4	C	21	0.28	2000	ECEV1EA4R7NR	(1)	EEE1EA4R7NR	(4)	1000
	10	6.3	5.4	D	28	0.28	2000	ECEV1EA100NP	(1)	EEE1EA100NP	(4)	1000
35	2.2	4	5.4	B	12	0.24	2000	ECEV1VA2R2NR	(1)	EEE1VA2R2NR	(4)	2000
	4.7	5	5.4	C	22	0.24	2000	ECEV1VA4R7NR	(1)	EEE1VA4R7NR	(4)	1000
	10	6.3	5.4	D	30	0.24	2000	ECEV1VA100NP	(1)	EEE1VA100NP	(4)	1000
50	0.22	4	5.4	B	2	0.24	2000	ECEV1HAR22NR	(1)	EEE1HAR22NR	(4)	2000
	0.33	4	5.4	B	3	0.24	2000	ECEV1HAR33NR	(1)	EEE1HAR33NR	(4)	2000
	0.47	4	5.4	B	5	0.24	2000	ECEV1HAR47NR	(1)	EEE1HAR47NR	(4)	2000
	1	4	5.4	B	10	0.24	2000	ECEV1HA010NR	(1)	EEE1HA010NR	(4)	2000
	2.2	5	5.4	C	16	0.24	2000	ECEV1HA2R2NR	(1)	EEE1HA2R2NR	(4)	1000
	3.3	5	5.4	C	21	0.24	2000	EEVNZ1H3R3R	(1)	EEE1H3R3NR	(4)	1000
	4.7	6.3	5.4	D	31	0.24	2000	ECEV1HA4R7NP	(1)	EEE1HA4R7NP	(4)	1000

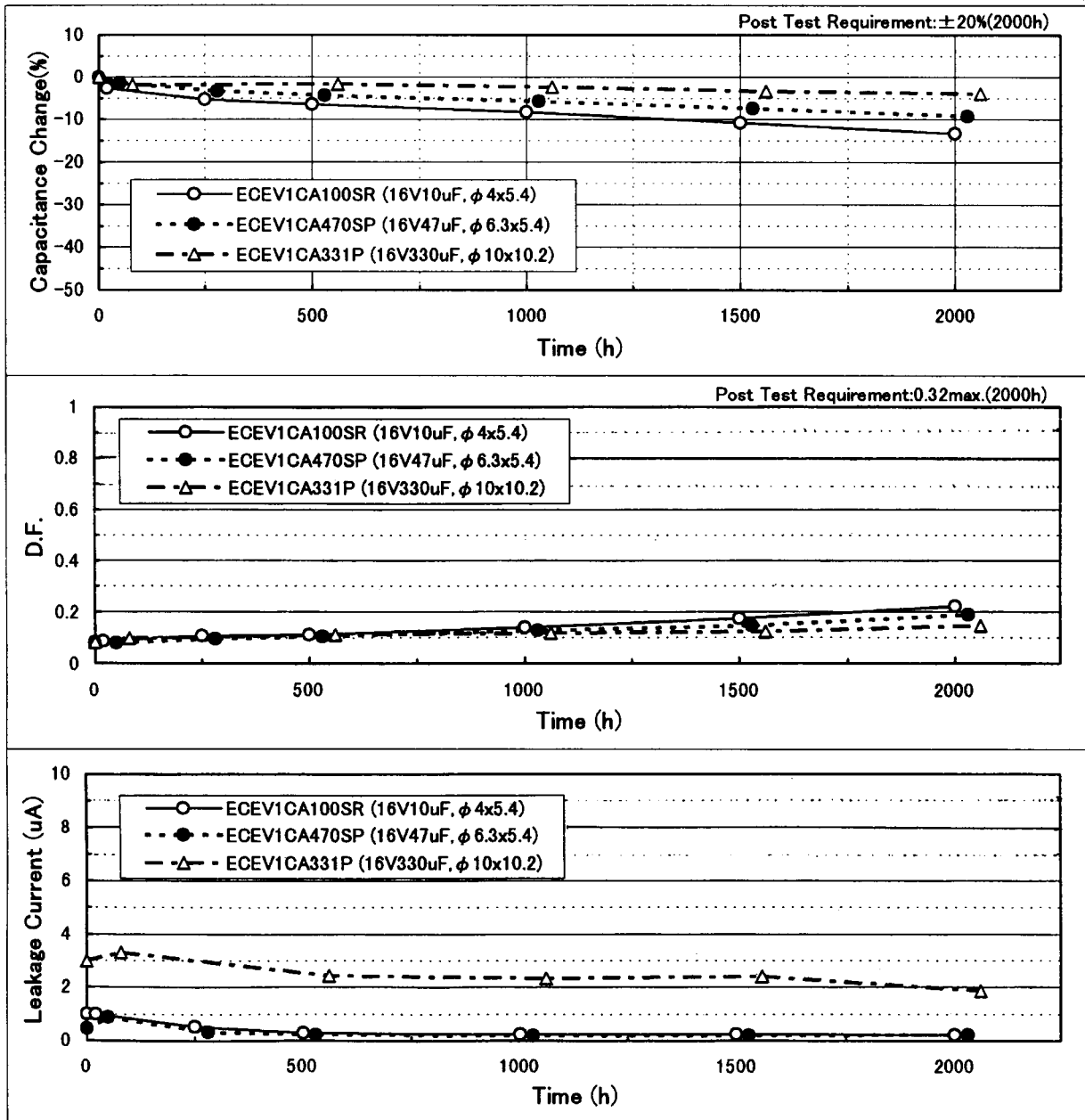
An explanation of the taping dimensions can be found on page 84.

Reflow profiles can be found on page 86.

■ Frequency Correction Factor of Rated Ripple Current

	Frequency (Hz)			
	50,60	120	1k	10k~
coefficient	0.70	1.0	1.3	1.7

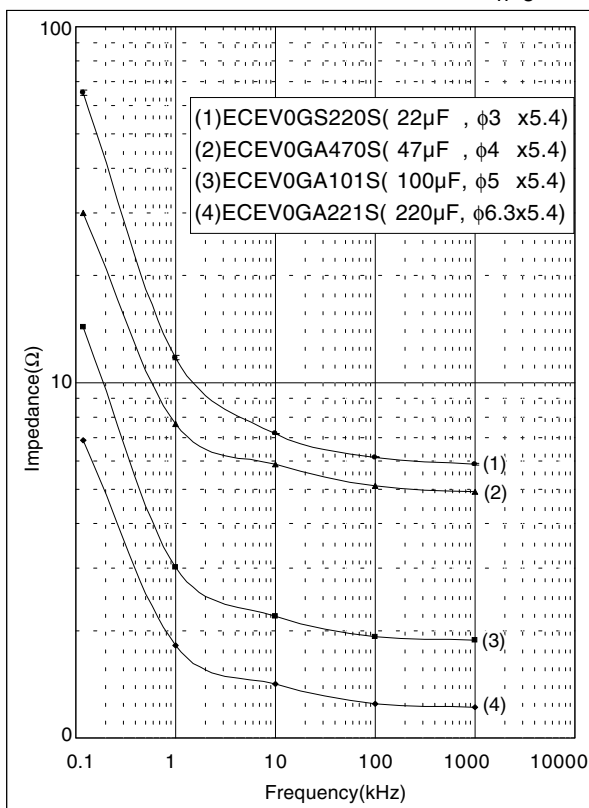
■ Endurance



■ Frequency Characteristics

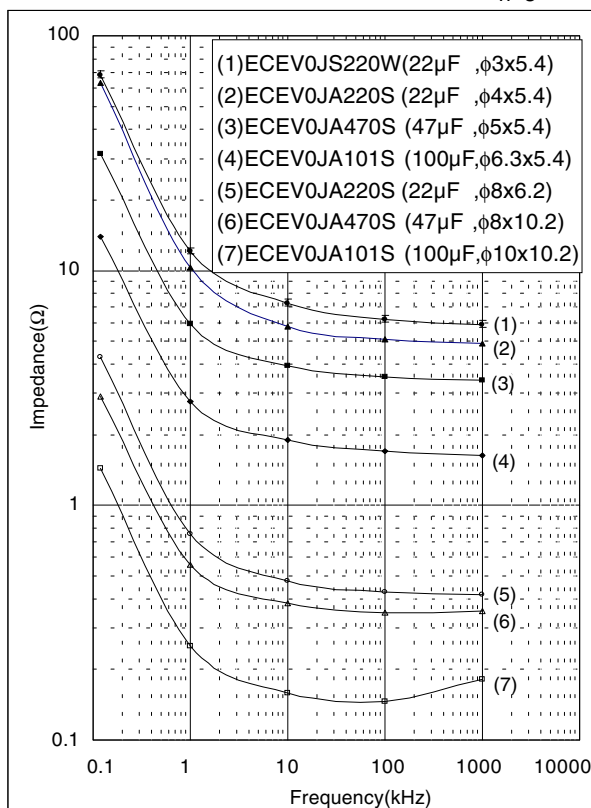
4V.W.

at 20°C
n=3



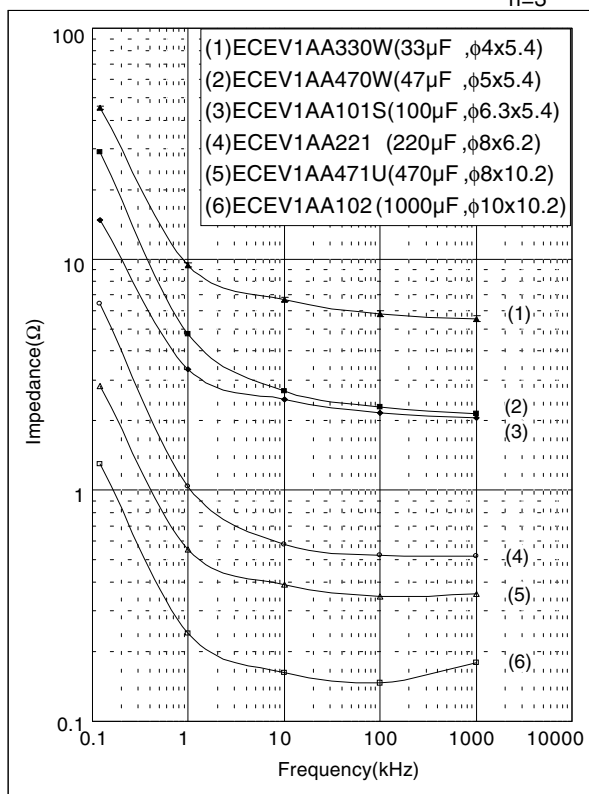
6.3V.W.

at 20°C
n=3



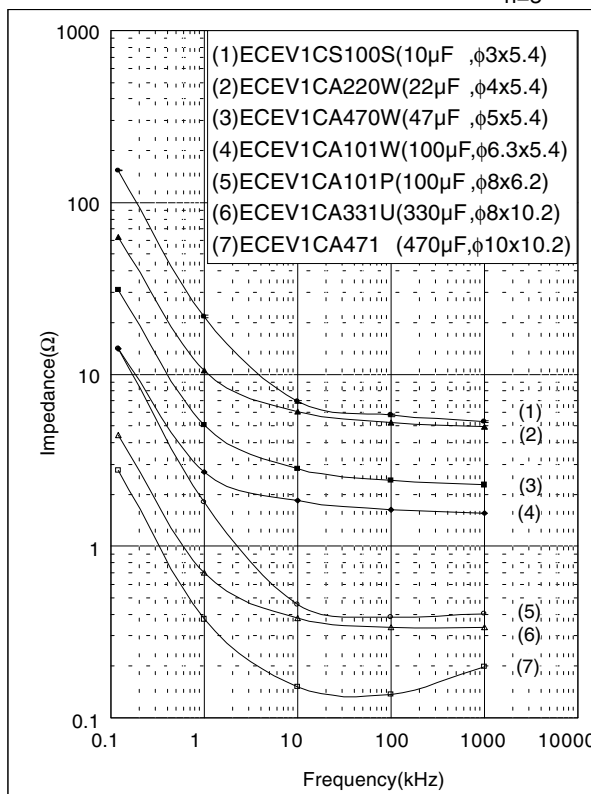
10 V.W.

at 20°C
n=3

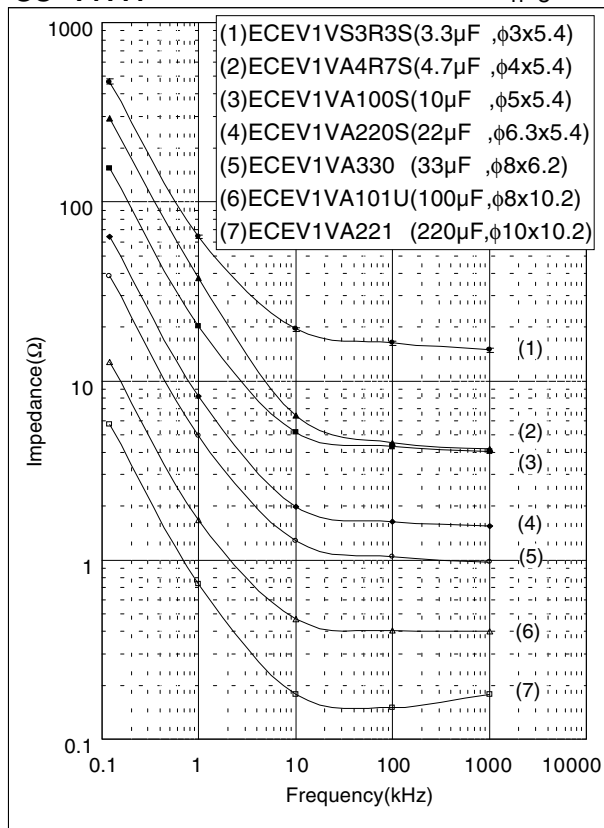


16 V.W.

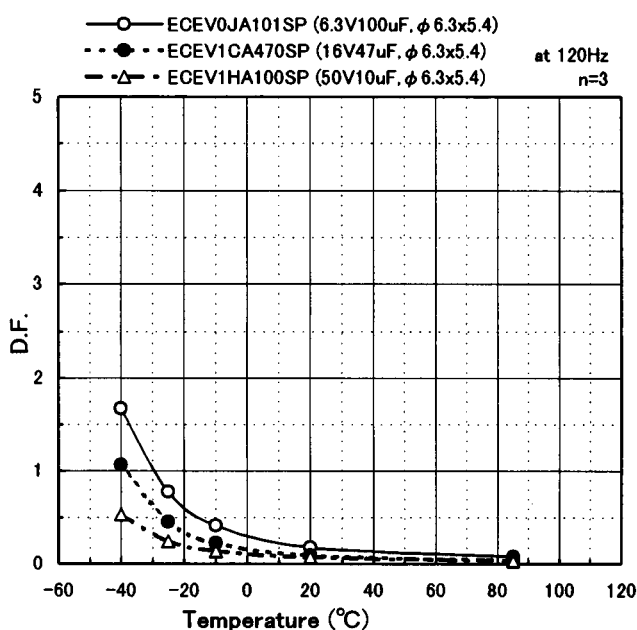
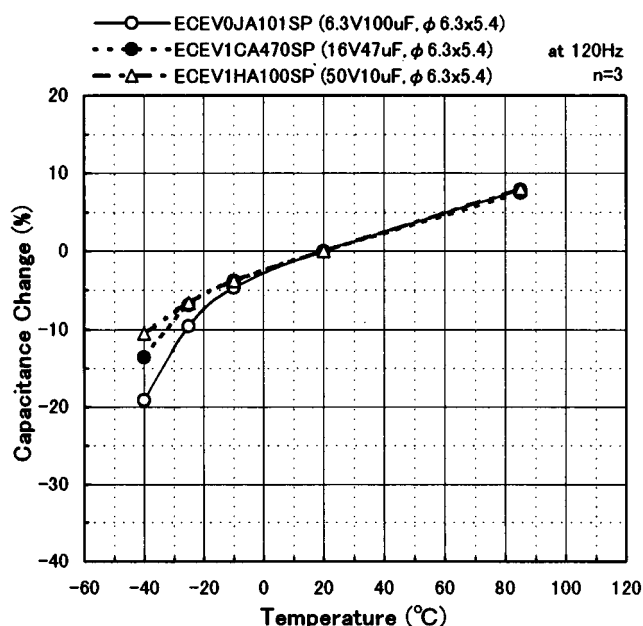
at 20°C
n=3



35 V.W. at 20°C
n=3



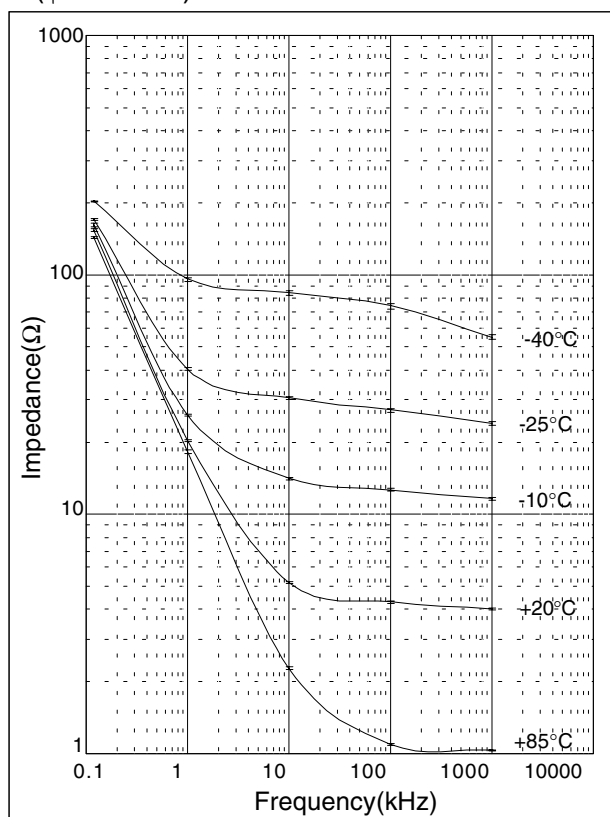
Temperature Characteristics



■ Temperature Characteristics

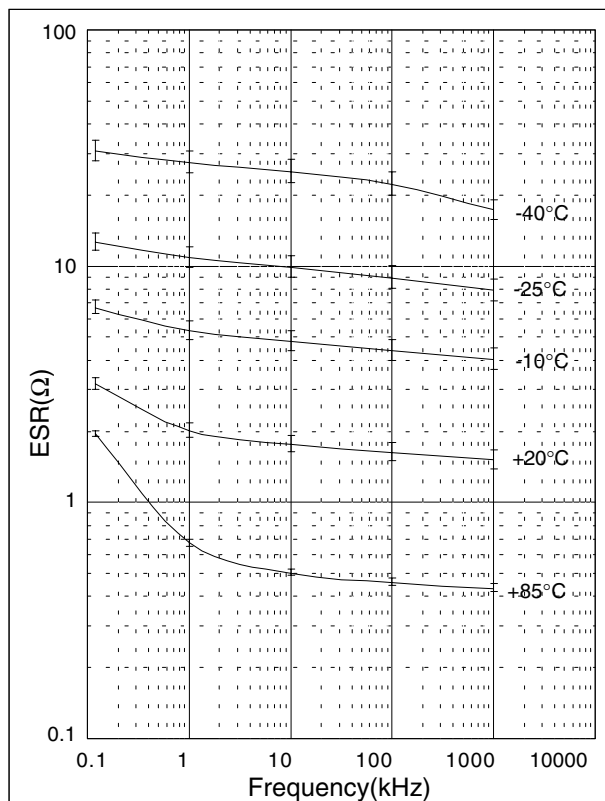
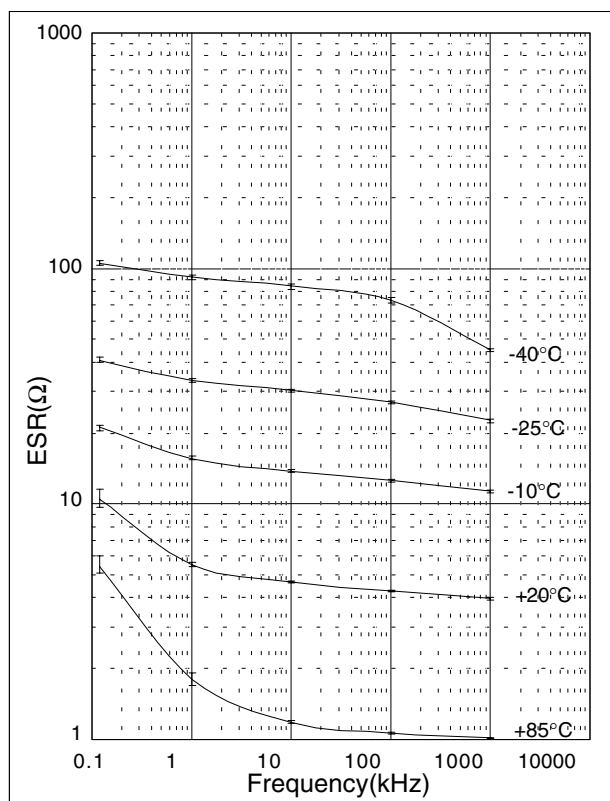
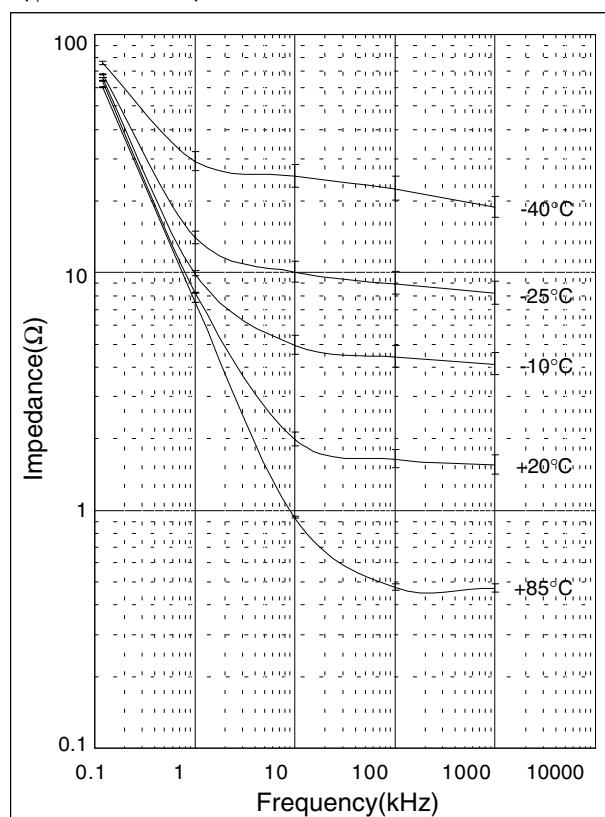
Parts No.; ECEV1VA100SR(35V 10 μ F)
(ϕ 5 X 5.4)

n=3



Parts No.; ECEV1VA220SP(35V 22 μ F)
(ϕ 6.3 X 5.4)

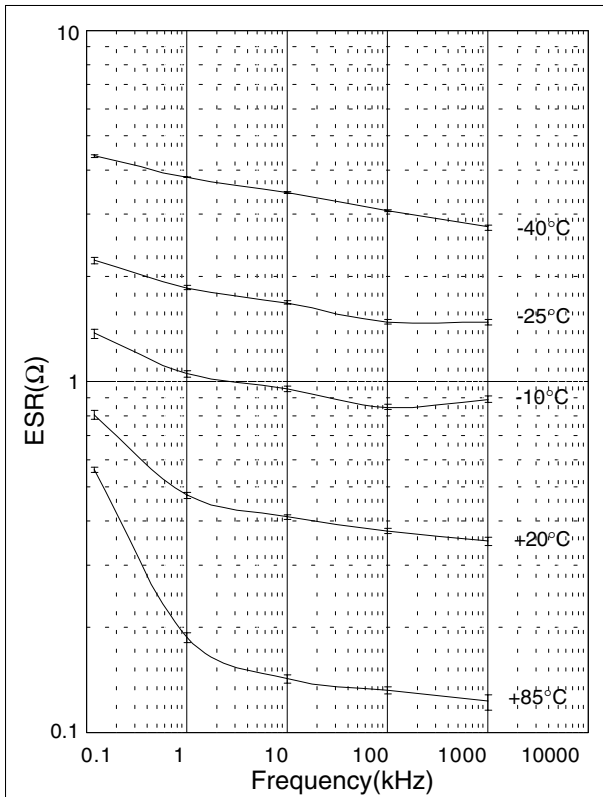
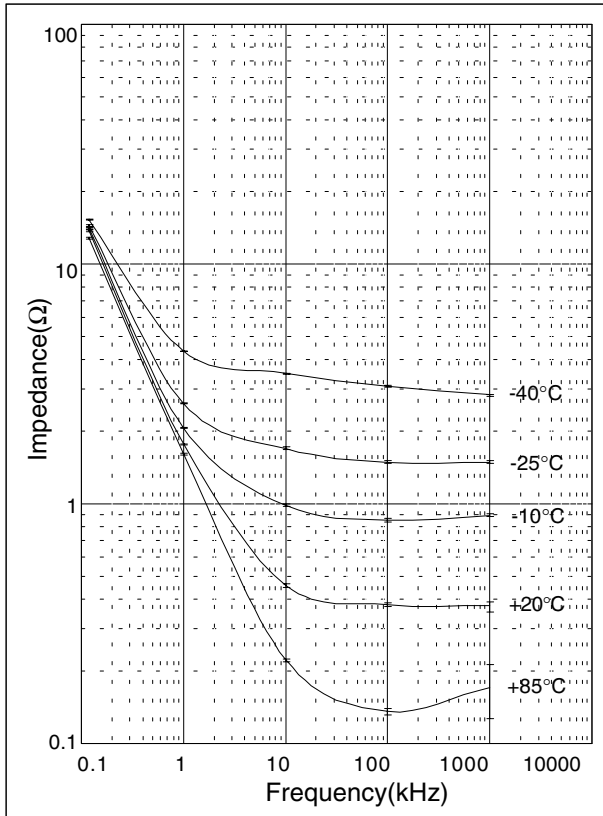
n=3



■ Temperature Characteristics

Parts No.: ECEV1EA101P(25V 100 μ F)
(ϕ 8 X 10.2)

n=3



Pre-fix	Suffix	Case Diameter	RoHS Compliant	Terminal Finish	Reflow Condition		Reflow Chart
					Peak Temperature	Time above 200	
ECE-V	R	3mm to 5mm	No	Sn-Pb	240 for 5 seconds	20 seconds	(1) Fig.1
	P	6mm	No	Sn-Pb	240 for 5 seconds	20 seconds	(1) Fig.1
	P	8mm to 10mm	No	Sn-Pb	230 for 5 seconds	20 seconds	(2) Fig.2
EEV-	R	4mm to 5mm	No	Sn-Pb	240 for 5 seconds	20 seconds	(1) Fig.1
	P	6mm	No	Sn-Pb	240 for 5 seconds	20 seconds	(1) Fig.1
	P	8mm to 10mm	No	Sn-Pb	230 for 5 seconds	20 seconds	(2) Fig.2
	Q	12.5mm	Yes	Sn	230 for 5 seconds	20 seconds	(2) Fig.2 (Except for EB series) (3) Fig.3 (EB series only)
	M	16mm to 18mm	Yes	Sn	230 for 5 seconds	20 seconds	(2) Fig.2 (Except for EB series)
							(3) Fig.3 (EB series only)
EEE-	R	3mm to 5mm	Yes	Sn-Bi	250 for 5 seconds	60 seconds	(4) Fig.4
	P	6mm	Yes	Sn-Bi	250 for 5 seconds	60 seconds	(4) Fig.4
	P	8mm to 10mm	Yes	Sn-Bi	235 for 5 seconds	60 seconds	(5) Fig.5

