

# **PRODUCT DISCONTINUATION NOTICE**

**SUBJECT:** SMT Aluminum Capacitor Discontinuation Containing Lead (Pb)

**BULLETIN #:** PDN.PG44.09.15.10-2

**Date:** September 30, 2010

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Panasonic will discontinue all SMT Aluminum Capacitors containing lead (Pb) in its terminals in an effort to become more environmentally friendly.

**EFFECTIVE DATE:**

September 30, 2010

**LAST TIME BUY DATE:**

November 30, 2010

**LAST TIME SHIP DATE:**

March 31, 2011

**DISCONTINUATION DETAILS:**

Panasonic continues its efforts to promote environmentally friendly products in line with global conservation activities including, but not limited to RoHS, REACH, ELV Directives. The industry demand of lead (Pb) contained materials has significantly decreased to the point that procurement of Pb terminal wire becomes very difficult.

Panasonic has decided to discontinue all SMT Aluminum Capacitors containing lead (Pb) in its terminals. We have developed replacement parts that offer equal or better spec and reflow process capability.

**AFFECTED PARTS:**

Panasonic series  
ECE-Vxxx  
EEV-xxxx , except parts suffix -Q and -M.

**SUGGESTED REPLACEMENTS:**

EEE- prefix parts.  
See following pages for cross reference by series

Panasonic Industrial Co.  
Panasonic Electronic Components  
3 Panasonic Way • Secaucus, NJ 07094  
1-800-344-2112 • [www.panasonic.com/industrial/components](http://www.panasonic.com/industrial/components)

V-HA series (EEV-HA -> EEE-HA)

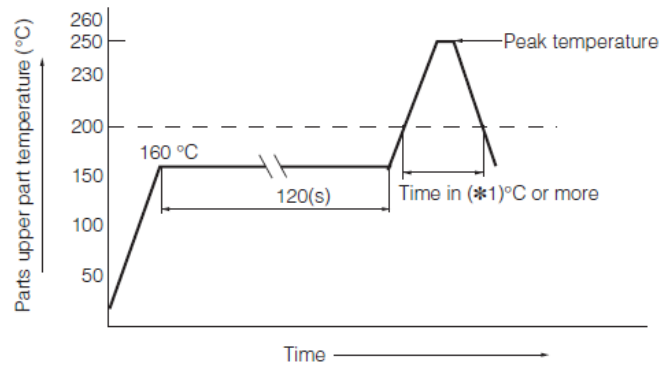
W.V. (V)	Cap (uF)	Case size	Part No.	Reflow	Part No.	Reflow	Part No.	Reflow
			RoHS: not compliant		RoHS: compliant		RoHS: compliant <i>high temp reflow (suffix - A)</i>	
6.3	22	B	EEV-HA0J220R	12	EEE-HA0J220R	1	EEE-HA0J220AR	5
6.3	33	B	EEV-HA0J330WR	12	EEE-HA0J330WR	1	EEE-HAJ330WAR	5
6.3	47	B	EEV-HA0J470WR	12	EEE-HA0J470WR	1		
6.3	47	C	EEV-HA0J470R	12	EEE-HA0J470R	1	EEE-HA0J470AR	5
6.3	100	C	EEV-HA0J101WR	12	EEE-HA0J101WR	1	EEE-HAJ101WAR	5
6.3	100	D	EEV-HA0J101P	12	EEE-HA0J101P	1	EEE-HA0J101AP	5
6.3	220	D	EEV-HA0J221WP	12	EEE-HA0J221WP	1		
6.3	330	D8	EEV-HA0J331XP	12	EEE-HA0J331XP	1	EEE-HAJ331XAP	5
6.3	330	E					EEE-HAJ331UAP	7
6.3	330	F	EEV-HA0J331P	13	EEE-HA0J331P	2	EEE-HA0J331AP	7
6.3	470	F	EEV-HA0J471UP	13	EEE-HA0J471UP	2	EEE-HAJ471UAP	7
6.3	1000	F	EEV-HA0J102UP	13	EEE-HA0J102UP	2		
6.3	1000	G	EEV-HA0J102P	13	EEE-HA0J102P	2	EEE-HA0J102AP	7
6.3	1500	G	EEV-HA0J152P	13	EEE-HA0J152P	2	EEE-HAJ152UAP	7
10	22	B	EEV-HA1A220WR	12	EEE-HA1A220WR	1	EEE-HAA220WAR	5
10	33	B	EEV-HA1A330WR	12	EEE-HA1A330WR	1	EEE-HAA330WAR	5
10	33	C	EEV-HA1A330R	12	EEE-HA1A330R	1	EEE-HA1A330AR	5
10	47	C	EEV-HA1A470WR	12	EEE-HA1A470WR	1	EEE-HAA470WAR	5
10	100	D	EEV-HA1A101WP	12	EEE-HA1A101WP	1	EEE-HAA101WAP	5
10	100	E	EEV-HA1A101P	13	EEE-HA1A101P	2	EEE-HA1A101AP	7
10	220	D8	EEV-HA1A221XP	12	EEE-HA1A221XP	1	EEE-HAA221XAP	5
10	220	F	EEV-HA1A221P	13	EEE-HA1A221P	2	EEE-HA1A221AP	7
10	470	F	EEV-HA1A471UP	13	EEE-HA1A471UP	2	EEE-HAA471UAP	7
10	470	G	EEV-HA1A471P	13	EEE-HA1A471P	2	EEE-HA1A471AP	7
10	1000	G	EEV-HA1A102P	13	EEE-HA1A102P	2	EEE-HAA102UAP	7
16	10	B	EEV-HA1C100R	12	EEE-HA1C100R	1	EEE-HA1C100AR	5
16	22	B	EEV-HA1C220WR	12	EEE-HA1C220WR	1	EEE-HAC220WAR	5
16	22	C	EEV-HA1C220R	12	EEE-HA1C220R	1	EEE-HA1C220AR	5
16	33	C	EEV-HA1C330WR	12	EEE-HA1C330WR	1	EEE-HAC330WAR	5
16	47	C	EEV-HA1C470WR	12	EEE-HA1C470WR	1	EEE-HAC470WAR	5
16	47	D	EEV-HA1C470P	12	EEE-HA1C470P	1	EEE-HA1C470AP	5
16	100	D	EEV-HA1C101WP	12	EEE-HA1C101WP	1	EEE-HAC101WAP	5
16	220	F	EEV-HA1C221UP	13	EEE-HA1C221UP	2	EEE-HAC221UAP	7
16	220	D8	EEV-HA1C221XP	12	EEE-HA1C221XP	1	EEE-HAC221XAP	5
16	220	G	EEV-HA1C221P	13	EEE-HA1C221P	2	EEE-HA1C221AP	7
16	330	F	EEV-HA1C331UP	13	EEE-HA1C331UP	2	EEE-HAC331UAP	7
16	330	G	EEV-HA1C331P	13	EEE-HA1C331P	2	EEE-HA1C331AP	7
16	470	F	EEV-HA1C471UP	13	EEE-HA1C471UP	2	EEE-HA1C471UAP	7
16	470	G	EEV-HA1C471P	13	EEE-HA1C471P	2	EEE-HA1C471AP	7
16	680	G	EEV-HA1C681P	13	EEE-HA1C681P	2	EEE-HAC681UAP	7
25	4.7	B	EEV-HA1E4R7R	12	EEE-HA1E4R7R	1	EEE-HA1E4R7AR	5
25	10	B	EEV-HA1E100WR	12	EEE-HA1E100WR	1	EEE-HAE100WAR	5
25	10	C	EEV-HA1E100R	12	EEE-HA1E100R	1	EEE-HA1E100AR	5
25	22	C	EEV-HA1E220WR	12	EEE-HA1E220WR	1	EEE-HAE220WAR	5
25	22	D	EEV-HA1E220P	12			EEE-HA1E220AP	5

25	33	C	EEV-HA1E330WR	12	EEE-HA1E330WR	1	EEE-HAE330WAR	5
25	33	D	EEV-HA1E330P	12	EEE-HA1E330P	1	EEE-HA1E330AP	5
25	47	D	EEV-HA1E470WP	12	EEE-HA1E470WP	1	EEE-HAE470WAP	5
25	47	E	EEV-HA1E470P	13	EEE-HA1E470P	2	EEE-HA1E470AP	7
25	100	D8	EEV-HA1E101XP	12	EEE-HA1E101XP	1	EEE-HAE101XAP	5
25	100	E	EEV-HA1E101UP	13	EEE-HA1E101UP	2	EEE-HAE101UAP	7
25	100	F	EEV-HA1E101P	13	EEE-HA1E101P	2	EEE-HA1E101AP	7
25	220	F	EEV-HA1E221UP	13	EEE-HA1E221UP	2	EEE-HAE221UAP	7
25	220	G	EEV-HA1E221P	13	EEE-HA1E221P	2	EEE-HA1E221AP	7
25	330	F	EEV-HA1E331UP	13	EEE-HA1E331UP	2	EEE-HAE331UAP	7
25	330	G	EEV-HA1E331P	13	EEE-HA1E331P	2	EEE-HA1E331AP	7
25	470	G	EEV-HA1E471P	13	EEE-HA1E471P	2	EEE-HAE471UAP	7
35	4.7	B	EEV-HA1V4R7R	12	EEE-HA1V4R7R	1	EEE-HA1V4R7AR	5
35	10	B	EEV-HA1V100WR	12	EEE-HA1V100WR	1	EEE-HAV100WAR	5
35	10	C	EEV-HA1V100R	12	EEE-HA1V100R	1	EEE-HA1V100AR	5
35	22	C	EEV-HA1V220WR	12	EEE-HA1V220WR	1	EEE-HAV220WAR	5
35	22	D	EEV-HA1V220P	12	EEE-HA1V220P	1	EEE-HA1V220AP	5
35	33	D	EEV-HA1V330WP	12	EEE-HA1V330WP	1	EEE-HAV330WAP	5
35	33	E	EEV-HA1V330P	13	EEE-HA1V330P	2	EEE-HA1V330AP	7
35	47	E	EEV-HA1V470UP	13	EEE-HA1V470UP	2	EEE-HAV470UAP	7
35	47	F	EEV-HA1V470P	13	EEE-HA1V470P	2	EEE-HA1V470AP	7
35	100	D8	EEV-HA1V101XP	12	EEE-HA1V101XP	1	EEE-HAV101XAP	5
35	100	F	EEV-HA1V101UP	13	EEE-HA1V101UP	2	EEE-HAV101UAP	7
35	100	G	EEV-HA1V101P	13	EEE-HA1V101P	2	EEE-HA1V101AP	7
35	220	F	EEV-HA1V221UP	13	EEE-HA1V221UP	2	EEE-HAV221UAP	7
35	220	G	EEV-HA1V221P	13	EEE-HA1V221P	2	EEE-HA1V221AP	7
35	330	G	EEV-HA1V331P	13	EEE-HA1V331P	2	EEE-HAV331UAP	7
50	0.1	B	EEV-HA1HR10R	12	EEE-HA1HR10R	1	EEE-HA1HR10AR	5
50	0.22	B	EEV-HA1HR22R	12	EEE-HA1HR22R	1	EEE-HA1HR22AR	5
50	0.33	B	EEV-HA1HR33R	12	EEE-HA1HR33R	1	EEE-HA1HR33AR	5
50	0.47	B	EEV-HA1HR47R	12	EEE-HA1HR47R	1	EEE-HA1HR47AR	5
50	1	B	EEV-HA1H1R0R	12	EEE-HA1H1R0R	1	EEE-HA1H1R0AR	5
50	2.2	B	EEV-HA1H2R2R	12	EEE-HA1H2R2R	1	EEE-HA1H2R2AR	5
50	3.3	B	EEV-HA1H3R3R	12	EEE-HA1H3R3R	1	EEE-HA1H3R3AR	5
50	4.7	C	EEV-HA1H4R7R	12	EEE-HA1H4R7R	1	EEE-HA1H4R7AR	5
50	10	C					EEE-HA1H100AP	5
50	10	D	EEV-HA1H100P	12	EEE-HA1H100P	1		
50	22	E	EEV-HA1H220P	13	EEE-HA1H220P	2	EEE-HA1H220AP	7
50	33	D8	EEV-HA1H330XP	12	EEE-HA1H330XP	1	EEE-HAH330XAP	5
50	33	E	EEV-HA1H330UP	13	EEE-HA1H330UP	2	EEE-HAH330UAP	7
50	33	F	EEV-HA1H330P	13	EEE-HA1H330P	2	EEE-HA1H330AP	7
50	47	D8	EEV-HA1H470XP	12	EEE-HA1H470XP	1	EEE-HAH470XAP	5
50	47	F	EEV-HA1H470UP	13	EEE-HA1H470UP	2	EEE-HAH470UAP	7
50	47	G	EEV-HA1H470P	13	EEE-HA1H470P	2	EEE-HA1H470AP	7
50	100	F	EEV-HA1H101UP	13	EEE-HA1H101UP	2	EEE-HAH101UAP	7
50	100	G	EEV-HA1H101P	13	EEE-HA1H101P	2	EEE-HA1H101AP	7
50	220	G	EEV-HA1H221P	13	EEE-HA1H221P	2	EEE-HAH221UAP	7
63	10	E	EEV-HA1J100P	13	EEE-HA1J100P	2		
63	22	E	EEV-HA1J220UP	13	EEE-HA1J220UP	2		
63	22	F	EEV-HA1J220P	13	EEE-HA1J220P	2		
63	33	G	EEV-HA1J330P	13	EEE-HA1J330P	2		

63	47	F	EEV-HA1J470UP	13	EEE-HA1J470UP	2		
63	47	G	EEV-HA1J470P	13	EEE-HA1J470P	2		
100	3.3	E	EEV-HA2A3R3P	13	EEE-HA2A3R3P	2		
100	4.7	E	EEV-HA2A4R7UP	13	EEE-HA2A4R7UP	2		
100	4.7	F	EEV-HA2A4R7P	13	EEE-HA2A4R7P	2		
100	10	F	EEV-HA2A100P	13	EEE-HA2A100P	2		
100	22	F	EEV-HA2A220UP	13	EEE-HA2A220UP	2		
100	22	G	EEV-HA2A220P	13	EEE-HA2A220P	2		
100	33	G	EEV-HA2A330P	13	EEE-HA2A330P	2		
100	47	G	EEV-HA2A470UP	13	EEE-HA2A470UP	2		

■ Reflow guaranteed condition

● RoHS compliant



Reflow condition

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
1	EEE-	R	3mm to 5mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
1	EEE-	P	6.3mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
5	EEE-	AR	4mm to 5mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
5	EEE-	AP	6.3mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
7	EEE-	AP	8mm to 10mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Once
12	ECE-V	R	3mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	ECE-V	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	R	4mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

V-HB series

W.V. (V)	Cap (uF)	Case size	Part No.		Part No.		Part No.	
			RoHS: not compliant	Reflow	RoHS: compliant	Reflow	RoHS: compliant <i>high temp reflow (suffix - A)</i>	Reflow
4	47	B	EEV-HB0G470R	12	EEE-HB0G470R	1		
4	100	C	EEV-HB0G101R	12	EEE-HB0G101R	1		
4	150	D	EEV-HB0G151P	12	EEE-HB0G151P	1		
4	220	D	EEV-HB0G221P	12	EEE-HB0G221P	1		
6.3	22	B	EEV-HB0J220R	12	EEE-HB0J220R	1	EEE-HB0J220AR	5
6.3	33	B	EEV-HB0J330R	12	EEE-HB0J330R	1	EEE-HB0J330AR	5
6.3	47	B					EEE-HBJ470UAR	5
6.3	47	C	EEV-HB0J470R	12	EEE-HB0J470R	1	EEE-HB0J470AR	5
6.3	100	C					EEE-HBJ101UAR	5
6.3	100	D	EEV-HB0J101P	12	EEE-HB0J101P	1	EEE-HB0J101AP	5
6.3	220	D					EEE-HBJ221UAP	5
6.3	220	F	EEV-HB0J221P	13	EEE-HB0J221P	2	EEE-HB0J221AP	7
6.3	330	E					EEE-HBJ331UAP	7
6.3	330	F	EEV-HB0J331P	13	EEE-HB0J331P	2	EEE-HB0J331AP	7
6.3	470	F					EEE-HBJ471UAP	7
6.3	1500	G					EEE-HBJ152UAP	7
10	33	B					EEE-HBA330UAR	5
10	33	C	EEV-HB1A330R	12	EEE-HB1A330R	1	EEE-HB1A330AR	5
10	68	D					EEE-HB1A680AP	5
10	100	D					EEE-HBA101UAR	5
10	100	E	EEV-HB1A101P	13	EEE-HB1A101P	2	EEE-HB1A101AP	7
10	150	D					EEE-HBA151UAR	5
10	220	E					EEE-HBA221UAR	7
10	220	F	EEV-HB1A221P	13	EEE-HB1A221P	2	EEE-HB1A221AP	7
10	470	F					EEE-HBA471UAR	7
10	470	G	EEV-HB1A471P	13	EEE-HB1A471P	2	EEE-HB1A471AP	7
16	10	B	EEV-HB1C100R	12	EEE-HB1C100R	1	EEE-HB1C100AR	5
16	22	B					EEE-HBC220UAR	5
16	22	C	EEV-HB1C220R	12	EEE-HB1C220R	1	EEE-HB1C220AR	5
16	33	D					EEE-HB1C330AP	5
16	47	C					EEE-HBC470UAR	5
16	47	D	EEV-HB1C470P	12	EEE-HB1C470P	1	EEE-HB1C470AP	5
16	47	D8					EEE-HBC470XAP	5
16	100	D					EEE-HBC101UAR	5
16	100	F	EEV-HB1C101P	13	EEE-HB1C101P	2	EEE-HB1C101AP	7
16	220	F					EEE-HBC221UAR	7
16	220	G	EEV-HB1C221P	13	EEE-HB1C221P	2	EEE-HB1C221AP	7
16	330	G	EEV-HB1C331P	13	EEE-HB1C331P	2	EEE-HB1C331AP	7
16	470	F					EEE-HBC471UAR	7
16	470	G					EEE-HB1C471AP	7
25	4.7	B	EEV-HB1E4R7R	12	EEE-HB1E4R7R	1	EEE-HB1E4R7AR	5
25	6.8	B	EEV-HB1E6R8R	12	EEE-HB1E6R8R	1	EEE-HB1E6R8AR	5
25	10	B					EEE-HBE100UAR	5
25	10	C					EEE-HB1E100AR	5
25	22	D					EEE-HB1E220AP	5
25	33	C					EEE-HBE330UAR	5
25	33	D	EEV-HB1E330P	12	EEE-HB1E330P	1	EEE-HB1E330AP	5

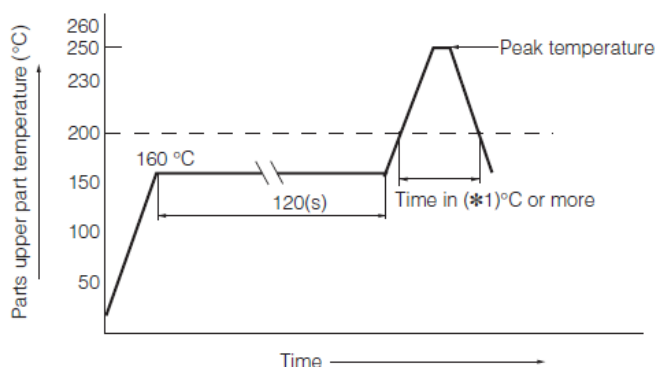
25	47	D					EEE-HBE470UAP	5
25	47	E	EEV-HB1E470P	13	EEE-HB1E470P	2	EEE-HB1E470AP	7
25	100	E					EEE-HBE101UAP	7
25	100	F	EEV-HB1E101P	13	EEE-HB1E101P	2	EEE-HB1E101AP	7
25	220	F					EEE-HBE221UAP	7
25	220	G	EEV-HB1E221P	13	EEE-HB1E221P	2	EEE-HB1E221AP	7
25	330	F					EEE-HBE331UAP	7
25	330	G					EEE-HB1E331AP	7
25	470	G					EEE-HBE471UAP	7
35	4.7	B					EEE-HB1V4R7AR	5
35	6.8	B					EEE-HBV6R8UAR	5
35	10	C	EEV-HB1V100R	12	EEE-HB1V100R	1	EEE-HB1V100AR	5
35	22	D	EEV-HB1V220P	12	EEE-HB1V220P	1	EEE-HB1V220AP	5
35	33	E	EEV-HB1V330P	13	EEE-HB1V330P	2	EEE-HB1V330AP	7
35	47	D8					EEE-HBV470YAP	5
35	47	E					EEE-HBV470UAP	7
35	47	F	EEV-HB1V470P	13	EEE-HB1V470P	2	EEE-HB1V470AP	7
35	100	F					EEE-HBV101UAP	7
35	100	G	EEV-HB1V101P	13	EEE-HB1V101P	2	EEE-HB1V101AP	7
35	220	G					EEE-HBV221UAP	7
50	0.1	B	EEV-HB1HR10R	12	EEE-HB1HR10R	1	EEE-HB1HR10AR	5
50	0.22	B	EEV-HB1HR22R	12	EEE-HB1HR22R	1	EEE-HB1HR22AR	5
50	0.33	B	EEV-HB1HR33R	12	EEE-HB1HR33R	1	EEE-HB1HR33AR	5
50	0.47	B	EEV-HB1HR47R	12	EEE-HB1HR47R	1	EEE-HB1HR47AR	5
50	0.68	B					EEE-HB1HR68AR	5
50	1	B	EEV-HB1H1R0R	12	EEE-HB1H1R0R	1	EEE-HB1H1R0AR	5
50	2.2	B	EEV-HB1H2R2R	12	EEE-HB1H2R2R	1	EEE-HB1H2R2AR	5
50	3.3	B	EEV-HB1H3R3R	12	EEE-HB1H3R3R	1	EEE-HB1H3R3AR	5
50	4.7	C	EEV-HB1H4R7R	12	EEE-HB1H4R7R	1	EEE-HB1H4R7AR	5
50	6.8	C	EEV-HB1H6R8R	12	EEE-HB1H6R8R	1	EEE-HB1H6R8AR	5
50	10	D	EEV-HB1H100P	12	EEE-HB1H100P	1	EEE-HB1H100AP	5
50	22	D					EEE-HBH220UAP	5
50	22	E	EEV-HB1H220P	13	EEE-HB1H220P	2	EEE-HB1H220AP	7
50	33	F	EEV-HB1H330P	13	EEE-HB1H330P	2	EEE-HB1H330AP	7
50	47	D8					EEE-HBH470YAP	5
50	47	F					EEE-HBH470UAP	7
50	47	G	EEV-HB1H470P	13	EEE-HB1H470P	2	EEE-HB1H470AP	7
50	100	G					EEE-HBH101UAP	7
50	220	G					EEE-HBH221UAP	7

### V-HB (Bi-polar) series

W.V. (V)	Cap (uF)	Case size	Part No.		Part No.	
			RoHS: not compliant	Reflow	RoHS: compliant	Reflow
6.3	47	D	EEV-HP0J470P	12	EEE-HP0J470P	1
10	10	B	EEV-HP1A100R	12	EEE-HP1A100R	1
10	33	D	EEV-HP1A330P	12	EEE-HP1A330P	1
16	10	C	EEV-HP1C100R	12	EEE-HP1C100R	1
25	3.3	B	EEV-HP1E3R3R	12	EEE-HP1E3R3R	1
25	4.7	B	EEV-HP1E4R7R	12	EEE-HP1E4R7R	1
25	10	D	EEV-HP1E100P	12	EEE-HP1E100P	1
25	22	D	EEV-HP1E220P	12	EEE-HP1E220P	1
35	2.2	B	EEV-HP1V2R2R	12	EEE-HP1V2R2R	1
50	0.22	B	EEV-HP1HR22R	12	EEE-HP1HR22R	1
50	0.33	B	EEV-HP1HR33R	12	EEE-HP1HR33R	1
50	0.47	B	EEV-HP1HR47R	12	EEE-HP1HR47R	1
50	1	B	EEV-HP1H1R0R	12	EEE-HP1H1R0R	1
50	3.3	D	EEV-HP1H3R3P	12	EEE-HP1H3R3P	1
50	4.7	D	EEV-HP1H4R7P	12	EEE-HP1H4R7P	1

■ Reflow guaranteed condition

● RoHS compliant



#### Reflow condition

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
1	EEE-	R	3mm to 5mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
1	EEE-	P	6.3mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
5	EEE-	AR	4mm to 5mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
5	EEE-	AP	6.3mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
7	EEE-	AP	8mm to 10mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Once
12	ECE-V	R	3mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	ECE-V	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	R	4mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

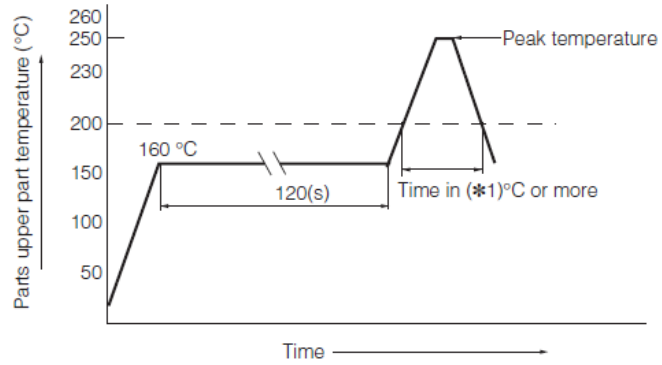
V-HD series (EEV-HD -> EEE-HD)

W.V. (V)	Cap (uF)	Case size	Part No.		Part No.		Part No.	
			RoHS: not compliant	Reflow	RoHS: compliant	Reflow	RoHS: compliant <i>high temp reflow (suffix - A)</i>	Reflow
6.3	330	F					EEE-HD0J331AP	7
6.3	1000	G					EEE-HD0J102AP	7
10	100	E	EEV-HD1A101P	13			EEE-HD1A101AP	7
10	220	F	EEV-HD1A221P	13			EEE-HD1A221AP	7
10	330	G	EEV-HD1A331P	13			EEE-HD1A331AP	7
16	10	B	EEV-HD1C100R	12			EEE-HD1C100AR	5
16	22	C	EEV-HD1C220R	12			EEE-HD1C220AR	5
16	47	D	EEV-HD1C470P	12			EEE-HD1C470AP	5
16	100	F	EEV-HD1C101P	13			EEE-HD1C101AP	7
16	220	G	EEV-HD1C221P	13			EEE-HD1C221AP	7
16	470	G					EEE-HD1C471AP	7
25	4.7	B	EEV-HD1E4R7R	12			EEE-HD1E4R7AR	5
25	10	C	EEV-HD1E100R	12			EEE-HD1E100AR	5
25	22	D	EEV-HD1E220P	12			EEE-HD1E220AP	5
25	33	D	EEV-HD1E330P	12			EEE-HD1E330AP	5
25	47	E	EEV-HD1E470P	13			EEE-HD1E470AP	7
25	100	F	EEV-HD1E101P	13			EEE-HD1E101AP	7
25	330	G	EEV-HD1E331P	13			EEE-HD1E331AP	7
35	4.7	B	EEV-HD1V4R7R	12			EEE-HD1V4R7AR	5
35	10	C	EEV-HD1V100R	12			EEE-HD1V100AR	5
35	22	D	EEV-HD1V220P	12			EEE-HD1V220AP	5
35	33	D8					EEE-HDV330XAP	5
35	33	E	EEV-HD1V330P	13			EEE-HD1V330AP	7
35	47	D8					EEE-HDV470XAP	5
35	47	F	EEV-HD1V470P	13			EEE-HD1V470AP	7
35	100	G	EEV-HD1V101P	13			EEE-HD1V101AP	7
35	220	G	EEV-HD1V221P	13			EEE-HD1V221AP	7
50	0.47	B	EEV-HD1HR47R	12	EEE-HD1HR47R	1		
50	1	B	EEV-HD1H1R0R	12	EEE-HD1H1R0R	1		
50	2.2	B	EEV-HD1H2R2R	12	EEE-HD1H2R2R	1		
50	3.3	B	EEV-HD1H3R3R	12	EEE-HD1H3R3R	1		
50	4.7	C	EEV-HD1H4R7R	12	EEE-HD1H4R7R	1		
50	10	D	EEV-HD1H100P	12	EEE-HD1H100P	1		
50	22	E	EEV-HD1H220P	13	EEE-HD1H220P	2		
50	33	F	EEV-HD1H330P	13	EEE-HD1H330P	2		
50	47	G	EEV-HD1H470P	13	EEE-HD1H470P	2		
50	100	G			EEE-HD1H101P	2		
63	10	E	EEV-HD1J100P	13	EEE-HD1J100P	2		
63	22	F	EEV-HD1J220P	13	EEE-HD1J220P	2		
63	33	G	EEV-HD1J330P	13	EEE-HD1J330P	2		
100	3.3	E	EEV-HD2A3R3P	13	EEE-HD2A3R3P	2		
100	4.7	F	EEV-HD2A4R7P	13	EEE-HD2A4R7P	2		
100	10	F	EEV-HD2A100P	13	EEE-HD2A100P	2		
100	22	G	EEV-HD2A220P	13	EEE-HD2A220P	2		



■ Reflow guaranteed condition

● RoHS compliant



Reflow condition

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
1	EEE-	R	3mm to 5mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
1	EEE-	P	6.3mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
5	EEE-	AR	4mm to 5mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
5	EEE-	AP	6.3mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
7	EEE-	AP	8mm to 10mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Once
12	ECE-V	R	3mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	ECE-V	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	R	4mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

V-FK series

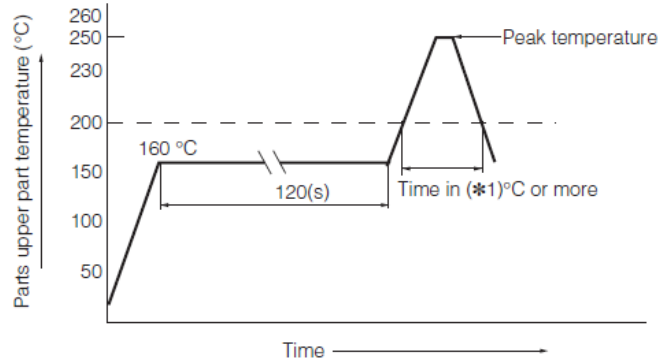
W.V. (V)	Cap (uF)	Case size	Part No.	Reflow	Part No.	Reflow	Part No.	Reflow
			RoHS: not compliant		RoHS: compliant		RoHS: compliant <i>high temp reflow</i> <i>(suffix - A)</i>	
6.3	22	B	EEV-FK0J220R	12	EEE-FK0J220R	1	EEE-FK0J220AR	5
6.3	47	B	EEV-FK0J470UR	12	EEE-FK0J470UR	1	EEE-FKJ470UAR	5
6.3	47	C	EEV-FK0J470R	12	EEE-FK0J470R	1	EEE-FK0J470AR	5
6.3	100	C	EEV-FK0J101UR	12	EEE-FK0J101UR	1	EEE-FKJ101UAR	5
6.3	100	D	EEV-FK0J101P	12	EEE-FK0J101P	1	EEE-FK0J101AP	5
6.3	220	D	EEV-FK0J221P	12	EEE-FK0J221P	1	EEE-FK0J221AP	5
6.3	330	D8	EEV-FK0J331XP	12	EEE-FK0J331XP	1	EEE-FKJ331XAP	5
6.3	330	E	EEV-FK0J331P	13	EEE-FK0J331P	2	EEE-FK0J331AP	6
6.3	470	F	EEV-FK0J471P	13	EEE-FK0J471P	2	EEE-FK0J471AP	6
6.3	1000	F	EEV-FK0J102P	13	EEE-FK0J102P	2	EEE-FK0J102AP	6
6.3	1500	G	EEV-FK0J152P	13	EEE-FK0J152P	2	EEE-FK0J152AP	6
6.3	3300	H13			EEV-FK0J332Q	3	EEE-FK0J332AQ	9
6.3	6800	J16			EEV-FK0J682M	3	EEE-FK0J682AM	9
10	22	B	EEV-FK1A220R	12	EEE-FK1A220R	1	EEE-FK1A220AR	5
10	33	B	EEV-FK1A330UR	12	EEE-FK1A330UR	1	EEE-FKA330UAR	5
10	33	C	EEV-FK1A330R	12	EEE-FK1A330R	1	EEE-FK1A330AR	5
10	150	D	EEV-FK1A151P	12	EEE-FK1A151P	1	EEE-FK1A151AP	5
10	220	D8	EEV-FK1A221XP	12	EEE-FK1A221XP	1	EEE-FKA221XAP	5
10	220	E	EEV-FK1A221P	13	EEE-FK1A221P	2	EEE-FK1A221AP	6
10	330	F	EEV-FK1A331P	13	EEE-FK1A331P	2	EEE-FK1A331AP	6
10	470	F	EEV-FK1A471P	13	EEE-FK1A471P	2	EEE-FK1A471AP	6
10	680	F	EEV-FK1A681P	13	EEE-FK1A681P	2	EEE-FK1A681AP	6
10	1000	G	EEV-FK1A102P	13	EEE-FK1A102P	2	EEE-FK1A102AP	6
10	2200	H13			EEV-FK1A222Q	3	EEE-FK1A222AQ	9
10	4700	J16			EEV-FK1A472M	3	EEE-FK1A472AM	9
10	6800	K16			EEV-FK1A682M	3	EEE-FK1A682AM	9
16	10	B	EEV-FK1C100R	12	EEE-FK1C100R	1	EEE-FK1C100AR	5
16	22	B	EEV-FK1C220UR	12	EEE-FK1C220UR	1	EEE-FKC220UAR	5
16	22	C	EEV-FK1C220R	12	EEE-FK1C220R	1	EEE-FK1C220AR	5
16	47	C	EEV-FK1C470UR	12	EEE-FK1C470UR	1	EEE-FKC470UAR	5
16	47	D	EEV-FK1C470P	12	EEE-FK1C470P	1	EEE-FK1C470AP	5
16	68	D	EEV-FK1C680P	12	EEE-FK1C680P	1	EEE-FK1C680AP	5
16	100	D	EEV-FK1C101P	12	EEE-FK1C101P	1	EEE-FK1C101AP	5
16	150	D8	EEV-FK1C151XP	12	EEE-FK1C151XP	1	EEE-FKC151XAP	5
16	220	D8	EEV-FK1C221XP	12	EEE-FK1C221XP	1	EEE-FKC221XAP	5
16	220	E	EEV-FK1C221P	13	EEE-FK1C221P	2	EEE-FK1C221AP	6
16	330	F	EEV-FK1C331P	13	EEE-FK1C331P	2	EEE-FK1C331AP	6
16	470	F	EEV-FK1C471P	13	EEE-FK1C471P	2	EEE-FK1C471AP	6
16	680	G	EEV-FK1C681P	13	EEE-FK1C681P	2	EEE-FK1C681AP	6
16	1500	H13			EEV-FK1C152Q	3	EEV-FK1C152AQ	9
16	3300	J16			EEV-FK1C332M	3	EEV-FK1C332AM	9
16	4700	K16			EEV-FK1C472M	3	EEV-FK1C472AM	9
25	10	B	EEV-FK1E100R	12	EEE-FK1E100R	1	EEE-FK1E100AR	5
25	22	C	EEV-FK1E220R	12	EEE-FK1E220R	1	EEE-FK1E220AR	5
25	33	C	EEV-FK1E330UR	12	EEE-FK1E330UR	1	EEE-FKE330UAR	5

25	33	D	EEV-FK1E330P	12	EEE-FK1E330P	1	EEE-FK1E330AP	5
25	47	D	EEV-FK1E470P	12	EEE-FK1E470P	1	EEE-FK1E470AP	5
25	68	D	EEV-FK1E680P	12	EEE-FK1E680P	1	EEE-FK1E680AP	5
25	100	D8	EEV-FK1E101XP	12	EEE-FK1E101XP	1	EEE-FK1E101XAP	5
25	100	E	EEV-FK1E101P	13	EEE-FK1E101P	2	EEE-FK1E101AP	6
25	150	F	EEV-FK1E151P	13	EEE-FK1E151P	2	EEE-FK1E151AP	6
25	220	F	EEV-FK1E221P	13	EEE-FK1E221P	2	EEE-FK1E221AP	6
25	330	F	EEV-FK1E331P	13	EEE-FK1E331P	2	EEE-FK1E331AP	6
25	470	G	EEV-FK1E471P	13	EEE-FK1E471P	2	EEE-FK1E471AP	6
25	1000	H13			EEV-FK1E102Q	3	EEE-FK1E102AQ	9
25	1500	J16					EEE-FK1E152AM	9
25	2200	J16			EEV-FK1E222M	3	EEE-FK1E222AM	9
25	3300	K16			EEV-FK1E332M	3	EEE-FK1E332AM	9
35	4.7	B	EEV-FK1V4R7R	12	EEE-FK1V4R7R	1	EEE-FK1V4R7AR	5
35	10	B	EEV-FK1V100UR	12	EEE-FK1V100UR	1	EEE-FK1V100UAR	5
35	10	C	EEV-FK1V100R	12	EEE-FK1V100R	1	EEE-FK1V100AR	5
35	22	C	EEV-FK1V220R	12	EEE-FK1V220R	1	EEE-FK1V220AR	5
35	33	D	EEV-FK1V330P	12	EEE-FK1V330P	1	EEE-FK1V330AP	5
35	47	D	EEV-FK1V470P	12	EEE-FK1V470P	1	EEE-FK1V470AP	5
35	68	D8	EEV-FK1V680XP	12	EEE-FK1V680XP	1	EEE-FK1V680XAP	5
35	100	D8	EEV-FK1V101XP	12	EEE-FK1V101XP	1		
35	100	F	EEV-FK1V101P	13	EEE-FK1V101P	2	EEE-FK1V101AP	6
35	150	F	EEV-FK1V151P	13	EEE-FK1V151P	2	EEE-FK1V151AP	6
35	220	F	EEV-FK1V221P	13	EEE-FK1V221P	2	EEE-FK1V221AP	6
35	330	G	EEV-FK1V331P	13	EEE-FK1V331P	2	EEE-FK1V331AP	6
35	470	H13			EEV-FK1V471Q	3	EEE-FK1V471AQ	9
35	680	H13			EEV-FK1V681Q	3	EEE-FK1V681AQ	9
35	1000	J16			EEV-FK1V102M	3	EEE-FK1V102AM	9
35	1500	J16			EEV-FK1V152M	3	EEE-FK1V152AM	9
50	4.7	B	EEV-FK1H4R7R	12	EEE-FK1H4R7R	1		
50	10	C	EEV-FK1H100UR	12	EEE-FK1H100UR	1		
50	10	D	EEV-FK1H100P	12	EEE-FK1H100P	1		
50	22	D	EEV-FK1H220P	12	EEE-FK1H220P	1		
50	33	D8	EEV-FK1H330XP	12	EEE-FK1H330XP	1		
50	33	E	EEV-FK1H330P	13	EEE-FK1H330P	2		
50	47	D8	EEV-FK1H470XP	12	EEE-FK1H470XP	1		
50	47	E	EEV-FK1H470P	13	EEE-FK1H470P	2		
50	100	F	EEV-FK1H101P	13	EEE-FK1H101P	2		
50	150	G	EEV-FK1H151P	13	EEE-FK1H151P	2		
50	220	G	EEV-FK1H221P	13	EEE-FK1H221P	2		
50	330	H13			EEV-FK1H331Q	3	EEE-FK1H331AQ	10
50	390	H13			EEV-FK1H391Q	3	EEE-FK1H391AQ	10
50	470	J16			EEV-FK1H471M	3	EEE-FK1H471AM	10
50	560	J16					EEE-FK1H561AM	10
50	680	J16			EEV-FK1H681M	3	EEE-FK1H681AM	10
50	1000	J16			EEV-FK1H102M	3	EEE-FK1H102AM	10
63	4.7	C	EEV-FK1J4R7R	12	EEE-FK1J4R7R	1		
63	10	D	EEV-FK1J100P	12	EEE-FK1J100P	1		
63	22	D8	EEV-FK1J220XP	12	EEE-FK1J220XP	1		
63	22	E	EEV-FK1J220P	13	EEE-FK1J220P	2		
63	33	F	EEV-FK1J330P	13	EEE-FK1J330P	2		

63	47	F	EEV-FK1J470P	13	EEE-FK1J470P	2		
63	68	F	EEV-FK1J680UP	13	EEE-FK1J680UP	2		
63	100	G	EEV-FK1J101P	13	EEE-FK1J101P	2		
63	150	H13			EEV-FK1J151Q	3	EEE-FK1J151AQ	10
63	220	H13			EEV-FK1J221Q	3	EEE-FK1J221AQ	10
63	470	J16			EEV-FK1J471M	3	EEE-FK1J471AM	10
63	680	K16			EEV-FK1J681M	3	EEE-FK1J681AM	10
80	3.3	C	EEV-FK1K3R3R	12	EEE-FK1K3R3R	1		
80	4.7	D	EEV-FK1K4R7P	12	EEE-FK1K4R7P	1		
80	10	D8	EEV-FK1K100XP	12	EEE-FK1K100XP	1		
80	10	E	EEV-FK1K100P	13	EEE-FK1K100P	2		
80	22	F	EEV-FK1K220P	13	EEE-FK1K220P	2		
80	33	F	EEV-FK1K330P	13	EEE-FK1K330P	2		
80	47	G	EEV-FK1K470P	13	EEE-FK1K470P	2		
80	68	H13			EEV-FK1K680Q	3	EEE-FK1K680AQ	11
80	100	H13			EEV-FK1K101Q	3	EEE-FK1K101AQ	11
80	150	H13			EEV-FK1K151Q	3	EEE-FK1K151AQ	11
80	330	J16			EEV-FK1K331M	3	EEE-FK1K331AM	11
80	470	K16			EEV-FK1K471M	3	EEE-FK1K471AM	11
100	22	F	EEV-FK2A220P	13	EEE-FK2A220P	2		
100	33	G	EEV-FK2A330P	13	EEE-FK2A330P	2		
100	47	H13			EEV-FK2A470Q	3	EEE-FK2A470AQ	11
100	68	H13			EEV-FK2A680Q	3	EEE-FK2A680AQ	11
100	100	J16			EEV-FK2A101M	3	EEE-FK2A101AM	11
100	150	J16			EEV-FK2A151M	3	EEE-FK2A151AM	11
100	220	K16			EEV-FK2A221M	3	EEE-FK2A221AM	11
100	330	K16			EEV-FK2A331M	3	EEE-FK2A331AM	11

■ Reflow guaranteed condition

● RoHS compliant



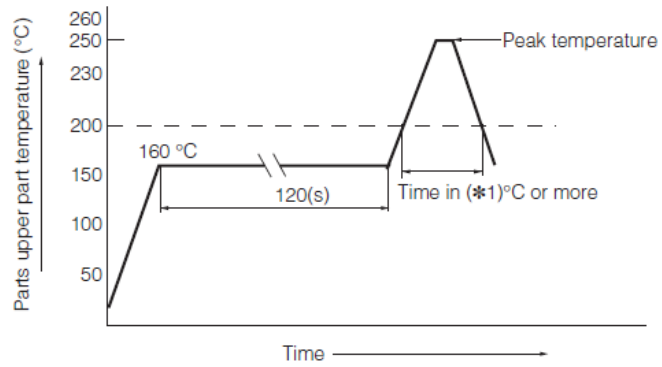
Reflow condition

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
1	EEE-	R	3mm to 5mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
1	EEE-	P	6.3mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
3	EEV-	Q	12.5mm	Yes	Sn	230degC			200degC	20 seconds	Once
3	EEV-	M	16mm to 18mm	Yes	Sn	230degC			200degC	20 seconds	Once
5	EEE-	AR	4mm to 5mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
5	EEE-	AP	6.3mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
6	EEE-	AP	8mm to 10mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Once
9	EEE-	AQ	12.5mm	Yes	Sn	245degC	240degC	30 seconds	217degC	90 seconds	Twice
9	EEE-	AM	16mm to 18mm	Yes	Sn	245degC	240degC	30 seconds	217degC	90 seconds	Twice
10	EEE-	AQ	12.5mm	Yes	Sn	245degC	240degC	5 seconds	217degC	30 seconds	Twice
10	EEE-	AM	16mm to 18mm	Yes	Sn	245degC	240degC	5 seconds	217degC	30 seconds	Twice
11	EEE-	AQ	12.5mm	Yes	Sn	245degC	240degC	5 seconds	217degC	30 seconds	Once
11	EEE-	AM	16mm to 18mm	Yes	Sn	245degC	240degC	5 seconds	217degC	30 seconds	Once
12	ECE-V	R	3mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	ECE-V	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	R	4mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

V-FC series (EEV-FC -> EEE-FC)

W.V. (V)	Cap (uF)	Case size	Part No.		Part No.		Part No.	
			RoHS: not compliant	Reflow	RoHS: compliant	Reflow	RoHS: compliant <i>high temp reflow (suffix - A)</i>	Reflow
6.3	22	B	EEV-FC0J220R	12	EEE-FC0J220R	1	EEE-FC0J220AR	5
6.3	47	C	EEV-FC0J470R	12	EEE-FC0J470R	1	EEE-FC0J470AR	5
6.3	68	D	EEV-FC0J680P	12	EEE-FC0J680P	1	EEE-FC0J680AP	5
6.3	100	D	EEV-FC0J101P	12	EEE-FC0J101P	1	EEE-FC0J101AP	5
6.3	220	E	EEV-FC0J221P	13	EEE-FC0J221P	2	EEE-FC0J221AP	6
6.3	330	F	EEV-FC0J331P	13	EEE-FC0J331P	2	EEE-FC0J331AP	6
6.3	1000	G	EEV-FC0J102P	13	EEE-FC0J102P	2	EEE-FC0J102AP	6
6.3	1500	G	EEV-FC0J152P	13	EEE-FC0J152P	2	EEE-FC0J152AP	6
10	33	C	EEV-FC1A330R	12	EEE-FC1A330R	1	EEE-FC1A330AR	5
10	100	E	EEV-FC1A101P	13	EEE-FC1A101P	2	EEE-FC1A101AP	6
10	150	E	EEV-FC1A151P	13	EEE-FC1A151P	2	EEE-FC1A151AP	6
10	220	F	EEV-FC1A221P	13	EEE-FC1A221P	2	EEE-FC1A221AP	6
10	470	G	EEV-FC1A471P	13	EEE-FC1A471P	2	EEE-FC1A471AP	6
10	1000	G	EEV-FC1A102P	13	EEE-FC1A102P	2	EEE-FC1A102AP	6
16	10	B	EEV-FC1C100R	12	EEE-FC1C100R	1	EEE-FC1C100AR	5
16	22	C	EEV-FC1C220R	12	EEE-FC1C220R	1	EEE-FC1C220AR	5
16	47	D	EEV-FC1C470P	12	EEE-FC1C470P	1	EEE-FC1C470AP	5
16	68	E	EEV-FC1C680P	13	EEE-FC1C680P	2	EEE-FC1C680AP	6
16	100	E	EEV-FC1C101P	13	EEE-FC1C101P	2	EEE-FC1C101AP	6
16	220	G	EEV-FC1C221P	13	EEE-FC1C221P	2	EEE-FC1C221AP	6
16	330	G	EEV-FC1C331P	13	EEE-FC1C331P	2	EEE-FC1C331AP	6
16	470	G	EEV-FC1C471P	13	EEE-FC1C471P	2	EEE-FC1C471AP	6
16	680	G	EEV-FC1C681P	13	EEE-FC1C681P	2	EEE-FC1C681AP	6
25	6.8	B	EEV-FC1E6R8R	12	EEE-FC1E6R8R	1	EEE-FC1E6R8AR	5
25	22	D	EEV-FC1E220P	12	EEE-FC1E220P	1	EEE-FC1E220AP	5
25	33	D	EEV-FC1E330P	12	EEE-FC1E330P	1	EEE-FC1E330AP	5
25	47	E	EEV-FC1E470P	13	EEE-FC1E470P	2	EEE-FC1E470AP	6
25	68	F	EEV-FC1E680P	13	EEE-FC1E680P	2	EEE-FC1E680AP	6
25	100	F	EEV-FC1E101P	13	EEE-FC1E101P	2	EEE-FC1E101AP	6
25	220	G	EEV-FC1E221P	13	EEE-FC1E221P	2	EEE-FC1E221AP	6
25	330	G	EEV-FC1E331P	13	EEE-FC1E331P	2	EEE-FC1E331AP	6
25	470	G	EEV-FC1E471P	13	EEE-FC1E471P	2	EEE-FC1E471AP	6
35	1	B	EEV-FC1V1R0R	12	EEE-FC1V1R0R	1	EEE-FC1V1R0AR	5
35	2.2	B	EEV-FC1V2R2R	12	EEE-FC1V2R2R	1	EEE-FC1V2R2AR	5
35	3.3	B	EEV-FC1V3R3R	12	EEE-FC1V3R3R	1	EEE-FC1V3R3AR	5
35	4.7	B	EEV-FC1V4R7R	12	EEE-FC1V4R7R	1	EEE-FC1V4R7AR	5
35	6.8	C	EEV-FC1V6R8R	12	EEE-FC1V6R8R	1	EEE-FC1V6R8AR	5
35	10	C	EEV-FC1V100R	12	EEE-FC1V100R	1	EEE-FC1V100AR	5
35	22	D	EEV-FC1V220P	12	EEE-FC1V220P	1	EEE-FC1V220AP	5
35	33	E	EEV-FC1V330P	13	EEE-FC1V330P	2	EEE-FC1V330AP	6
35	47	E	EEV-FC1V470P	13	EEE-FC1V470P	2	EEE-FC1V470AP	6
35	100	G	EEV-FC1V101P	13	EEE-FC1V101P	2	EEE-FC1V101AP	6
35	220	G	EEV-FC1V221P	13	EEE-FC1V221P	2	EEE-FC1V221AP	6
35	330	G	EEV-FC1V331P	13	EEE-FC1V331P	2	EEE-FC1V331AP	6
50	1	B	EEV-FC1H1R0R	12	EEE-FC1H1R0R	1		
50	2.2	B	EEV-FC1H2R2R	12	EEE-FC1H2R2R	1		
50	3.3	B	EEV-FC1H3R3R	12	EEE-FC1H3R3R	1		
50	4.7	C	EEV-FC1H4R7R	12	EEE-FC1H4R7R	1		
50	10	D	EEV-FC1H100P	12	EEE-FC1H100P	1		
50	22	E	EEV-FC1H220P	13	EEE-FC1H220P	2		
50	33	F	EEV-FC1H330P	13	EEE-FC1H330P	2		
50	47	G	EEV-FC1H470P	13	EEE-FC1H470P	2		
50	100	G	EEV-FC1H101P	13	EEE-FC1H101P	2		
50	220	G	EEV-FC1H221P	13	EEE-FC1H221P	2		

- Reflow guaranteed condition
- RoHS compliant



**Reflow condition**

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
1	EEE-	R	3mm to 5mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
1	EEE-	P	6.3mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
5	EEE-	AR	4mm to 5mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
5	EEE-	AP	6.3mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
6	EEE-	AP	8mm to 10mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Once
12	ECE-V	R	3mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	ECE-V	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	R	4mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

V-S series

W.V. (V)	Cap (uF)	Case size	Part No.		Part No.		Part No.	
			RoHS: not compliant	Reflow	RoHS: compliant	Reflow	RoHS: compliant <i>high temp reflow</i> <i>(suffix - A)</i>	Reflow
4	22	A	ECE-V0GS220SR	12	EEE-0GS220SR	1		
4	33	B	ECE-V0GA330SR	12	EEE-0GA330SR	1		
4	47	B	ECE-V0GA470SR	12	EEE-0GA470SR	1		
4	100	C	ECE-V0GA101SR	12	EEE-0GA101SR	1		
4	220	D	ECE-V0GA221SP	12	EEE-0GA221SP	1		
4	330	D	ECE-V0GA331WP	12	EEE-0GA331WP	1		
4	470	D8	ECE-V0GA471XP	12	EEE-0GA471XP	1		
6.3	22	A	ECE-V0JS220WR	12	EEE-0JS220WR	1		
6.3	22	B	ECE-V0JA220SR	12	EEE-0JA220SR	1	EEE-0JA220AR	5
6.3	33	B	ECE-V0JA330WR	12	EEE-0JA330WR	1	EEE-0JA330WAR	5
6.3	47	B	ECE-V0JA470WR	12	EEE-0JA470WR	1		
6.3	47	C	ECE-V0JA470SR	12	EEE-0JA470SR	1	EEE-0JA470AR	5
6.3	100	C	ECE-V0JA101WR	12	EEE-0JA101WR	1	EEE-0JA101WAR	5
6.3	100	D	ECE-V0JA101SP	12	EEE-0JA101SP	1	EEE-0JA101AP	5
6.3	220	D	ECE-V0JA221WP	12	EEE-0JA221WP	1		
6.3	330	D8	ECE-V0JA331XP	12	EEE-0JA331XP	1	EEE-0JA331XAP	5
6.3	330	E	ECE-V0JA331P	13	EEE-0JA331P	2	EEE-0JA331AP	7
6.3	470	F	ECE-V0JA471P	13	EEE-0JA471P	2	EEE-0JA471UAP	7
6.3	1000	F	ECE-V0JA102UP	13	EEE-0JA102UP	2		
6.3	1000	G	ECE-V0JA102P	13	EEE-0JA102P	2	EEE-0JA102AP	7
6.3	1500	G	ECE-V0JA152P	13	EEE-0JA152P	2	EEE-0JA152UAP	7
10	22	B	ECE-V1AA220WR	12	EEE-1AA220WR	1	EEE-1AA220WAR	5
10	33	B	ECE-V1AA330WR	12	EEE-1AA330WR	1	EEE-1AA330WAR	5
10	33	C	ECE-V1AA330SR	12	EEE-1AA330SR	1	EEE-1AA330AR	5
10	47	C	ECE-V1AA470WR	12	EEE-1AA470WR	1	EEE-1AA470WAR	5
10	100	C	ECE-V1AA101WR	12	EEE-1AA101WR	1	EEE-1AA101WAR	5
10	100	D	ECE-V1AA101SP	12	EEE-1AA101SP	1	EEE-1AA101AP	5
10	220	D8	ECE-V1AA221XP	12	EEE-1AA221XP	1	EEE-1AA221XAP	5
10	220	E	ECE-V1AA221P	13	EEE-1AA221P	2	EEE-1AA221AP	7
10	330	F	ECE-V1AA331P	13	EEE-1AA331P	2	EEE-1AA331AP	7
10	470	F	ECE-V1AA471UP	13	EEE-1AA471UP	2	EEE-1AA471UAP	7
10	470	G	ECE-V1AA471P	13	EEE-1AA471P	2	EEE-1AA471AP	7
10	1000	G	ECE-V1AA102P	13	EEE-1AA102P	2	EEE-1AA102UAP	7
16	10	A	ECE-V1CS100SR	12	EEE-1CS100SR	1		
16	10	B	ECE-V1CA100SR	12	EEE-1CA100SR	1	EEE-1CA100AR	5
16	22	B	ECE-V1CA220WR	12	EEE-1CA220WR	1	EEE-1CA220WAR	5
16	22	C	ECE-V1CA220SR	12	EEE-1CA220SR	1	EEE-1CA220AR	5
16	33	C	ECE-V1CA330WR	12	EEE-1CA330WR	1	EEE-1CA330WAR	5
16	47	C	ECE-V1CA470WR	12	EEE-1CA470WR	1	EEE-1CA470WAR	5
16	47	D	ECE-V1CA470SP	12	EEE-1CA470SP	1	EEE-1CA470AP	5
16	100	D	ECE-V1CA101WP	12	EEE-1CA101WP	1	EEE-1CA101WAP	5



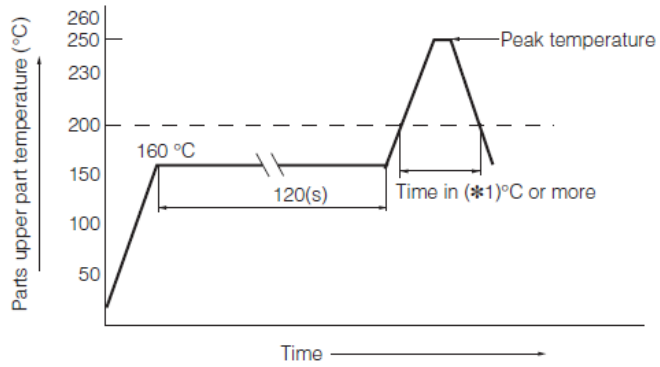
16	100	E	ECE-V1CA101P	13	EEE-1CA101P	2	EEE-1CA101AP	7
16	220	F	ECE-V1CA221P	13	EEE-1CA221P	2	EEE-1CA221UAP	7
16	220	D8	ECE-V1CA221XP	12	EEE-1CA221XP	1	EEE-1CA221XAP	5
16	330	F	ECE-V1CA331UP	13	EEE-1CA331UP	2	EEE-1CA331UAP	7
16	330	G	ECE-V1CA331P	13	EEE-1CA331P	2	EEE-1CA331AP	7
16	470	F	ECE-V1CA471UP	13	EEE-1CA471UP	2	EEE-1CA471UAP	7
16	470	G	ECE-V1CA471P	13	EEE-1CA471P	2	EEE-1CA471AP	7
25	4.7	A	ECE-V1ES4R7SR	12	EEE-1ES4R7SR	1		
25	4.7	B	ECE-V1EA4R7SR	12	EEE-1EA4R7SR	1	EEE-1EA4R7AR	5
25	10	B	ECE-V1EA100WR	12	EEE-1EA100WR	1	EEE-1EA100WAR	5
25	10	C	ECE-V1EA100SR	12	EEE-1EA100SR	1	EEE-1EA100AR	5
25	22	C	ECE-V1EA220WR	12	EEE-1EA220WR	1	EEE-1EA220WAR	5
25	22	D	ECE-V1EA220SP	12	EEE-1EA220SP	1	EEE-1EA220AP	5
25	33	C	ECE-V1EA330WR	12	EEE-1EA330WR	1	EEE-1EA330WAR	5
25	33	D	ECE-V1EA330SP	12	EEE-1EA330SP	1	EEE-1EA330AP	5
25	47	D	ECE-V1EA470WP	12	EEE-1EA470WP	1	EEE-1EA470WAP	5
25	100	D8	ECE-V1EA101XP	12	EEE-1EA101XP	1	EEE-1EA101XAP	5
25	100	E	ECE-V1EA101UP	13	EEE-1EA101UP	2	EEE-1EA101UAP	7
25	100	F	ECE-V1EA101P	13	EEE-1EA101P	2	EEE-1EA101AP	7
25	220	F	ECE-V1EA221UP	13	EEE-1EA221UP	2	EEE-1EA221UAP	7
25	220	G	ECE-V1EA221P	13	EEE-1EA221P	2	EEE-1EA221AP	7
25	330	F	ECE-V1EA331UP	13	EEE-1EA331UP	2	EEE-1EA331UAP	7
25	330	G	ECE-V1EA331P	13	EEE-1EA331P	2	EEE-1EA331AP	7
25	470	G	ECE-V1EA471P	13	EEE-1EA471P	2	EEE-1EA471UAP	7
35	2.2	A	ECE-V1VS2R2SR	12	EEE-1VS2R2SR	1		
35	3.3	A	ECE-V1VS3R3SR	12	EEE-1VS3R3SR	1		
35	4.7	B	ECE-V1VA4R7SR	12	EEE-1VA4R7SR	1	EEE-1VA4R7AR	5
35	10	B	ECE-V1VA100WR	12	EEE-1VA100WR	1	EEE-1VA100WAR	5
35	10	C	ECE-V1VA100SR	12	EEE-1VA100SR	1	EEE-1VA100AR	5
35	22	C	ECE-V1VA220WR	12	EEE-1VA220WR	1	EEE-1VA220WAR	5
35	22	D	ECE-V1VA220SP	12	EEE-1VA220SP	1	EEE-1VA220AP	5
35	33	D	ECE-V1VA330WP	12	EEE-1VA330WP	1	EEE-1VA330WAP	5
35	33	E	ECE-V1VA330P	13	EEE-1VA330P	2	EEE-1VA330AP	7
35	47	D	ECE-V1VA470WP	12	EEE-1VA470WP	1	EEE-1VA470WAP	5
35	47	E	ECE-V1VA470P	13	EEE-1VA470P	2	EEE-1VA470AP	7
35	100	D8	ECE-V1VA101XP	12	EEE-1VA101XP	1	EEE-1VA101XAP	5
35	100	F	ECE-V1VA101UP	13	EEE-1VA101UP	2	EEE-1VA101UAP	7
35	100	G	ECE-V1VA101P	13	EEE-1VA101P	2	EEE-1VA101AP	7
35	220	F	ECE-V1VA221UP	13	EEE-1VA221UP	2	EEE-1VA221UAP	7
35	220	G	ECE-V1VA221P	13	EEE-1VA221P	2	EEE-1VA221AP	7
35	330	G	ECE-V1VA331P	13	EEE-1VA331P	2	EEE-1VA331UAP	7
50	0.1	A	ECE-V1HS0R1SR	12	EEE-1HS0R1SR	1		
50	0.1	B	ECE-V1HA0R1SR	12	EEE-1HA0R1SR	1	EEE-1HAR10AR	5
50	0.22	A	ECE-V1HSR22SR	12	EEE-1HSR22SR	1		
50	0.22	B	ECE-V1HAR22SR	12	EEE-1HAR22SR	1	EEE-1HAR22AR	5
50	0.33	A	ECE-V1HSR33SR	12	EEE-1HSR33SR	1		

50	0.33	B	ECE-V1HAR33SR	12	EEE-1HAR33SR	1	EEE-1HAR33AR	5
50	0.47	A	ECE-V1HSR47SR	12	EEE-1HSR47SR	1		
50	0.47	B	ECE-V1HAR47SR	12	EEE-1HAR47SR	1	EEE-1HAR47AR	5
50	1	A	ECE-V1HS010SR	12	EEE-1HS010SR	1		
50	1	B	ECE-V1HA010SR	12	EEE-1HA010SR	1	EEE-1HA1R0AR	5
50	2.2	A	ECE-V1HS2R2SR	12	EEE-1HS2R2SR	1		
50	2.2	B	ECE-V1HA2R2SR	12	EEE-1HA2R2SR	1	EEE-1HA2R2AR	5
50	3.3	B	ECE-V1HA3R3SR	12	EEE-1HA3R3SR	1	EEE-1HA3R3AR	5
50	4.7	B	ECE-V1HA4R7WR	12	EEE-1HA4R7WR	1	EEE-1HA4R7WAR	5
50	4.7	C	ECE-V1HA4R7SR	12	EEE-1HA4R7SR	1	EEE-1HA4R7AR	5
50	10	C	ECE-V1HA100WR	12	EEE-1HA100WR	1	EEE-1HA100WAR	5
50	10	D	ECE-V1HA100SP	12	EEE-1HA100SP	1	EEE-1HA100AP	5
50	22	D	ECE-V1HA220WP	12	EEE-1HA220WP	1	EEE-1HA220WAP	5
50	22	E	ECE-V1HA220P	13	EEE-1HA220P	2	EEE-1HA220AP	7
50	33	D8	ECE-V1HA330XP	12	EEE-1HA330XP	1	EEE-1HA330XAP	5
50	33	E	ECE-V1HA330UP	13	EEE-1HA330UP	2	EEE-1HA330UAP	7
50	33	F	ECE-V1HA330P	13	EEE-1HA330P	2	EEE-1HA330AP	7
50	47	D8	ECE-V1HA470XP	12	EEE-1HA470XP	1	EEE-1HA470XAP	5
50	47	F	ECE-V1HA470UP	13	EEE-1HA470UP	2	EEE-1HA470UAP	7
50	47	G	ECE-V1HA470P	13	EEE-1HA470P	2	EEE-1HA470AP	7
50	100	F	ECE-V1HA101UP	13	EEE-1HA101UP	2	EEE-1HA101UAP	7
50	100	G	ECE-V1HA101P	13	EEE-1HA101P	2	EEE-1HA101AP	7
50	220	G	ECE-V1HA221P	13	EEE-1HA221P	2	EEE-1HA221UAP	7
63	22	E	ECE-V1JA220UP	13	EEE-1JA220UP	2		
63	22	F	ECE-V1JA220P	13	EEE-1JA220P	2		
63	33	F	ECE-V1JA330P	13	EEE-1JA330P	2		
63	47	F	ECE-V1JA470UP	13	EEE-1JA470UP	2		
63	47	G	ECE-V1JA470P	13	EEE-1JA470P	2		
63	100	G	ECE-V1JA101P	13	EEE-1JA101P	2		
100	3.3	E	ECE-V2AA3R3P	13	EEE-2AA3R3P	2		
100	4.7	E	ECE-V2AA4R7UP	13	EEE-2AA4R7UP	2		
100	4.7	F	ECE-V2AA4R7P	13	EEE-2AA4R7P	2		
100	10	E	ECE-V2AA100UP	13	EEE-2AA100UP	2		
100	10	F	ECE-V2AA100P	13	EEE-2AA100P	2		
100	22	F	ECE-V2AA220UP	13	EEE-2AA220UP	2		
100	22	G	ECE-V2AA220P	13	EEE-2AA220P	2		
100	33	G	ECE-V2AA330P	13	EEE-2AA330P	2		

**V-S (Bi-polar) series (ECE-V -> EEE)**

W.V. (V)	Cap (uF)	Case size	Part No.	Reflow	Part No.	Reflow
			RoHS: not compliant		RoHS: compliant	
6.3	22	C	ECE-V0JA220NR	12	EEE-0JA220NR	1
6.3	47	D	ECE-V0JA470NP	12	EEE-0JA470NP	1
10	10	B	ECE-V1AA100NR	12	EEE-1AA100NR	1
10	33	D	ECE-V1AA330NP	12	EEE-1AA330NP	1
16	4.7	B	ECE-V1CA4R7NR	12	EEE-1CA4R7NR	1
16	10	C	ECE-V1CA100NR	12	EEE-1CA100NR	1
16	22	D	ECE-V1CA220NP	12	EEE-1CA220NP	1
25	3.3	B	ECE-V1EA3R3NR	12	EEE-1EA3R3NR	1
25	4.7	C	ECE-V1EA4R7NR	12	EEE-1EA4R7NR	1
25	10	D	ECE-V1EA100NP	12	EEE-1EA100NP	1
35	2.2	B	ECE-V1VA2R2NR	12	EEE-1VA2R2NR	1
35	4.7	C	ECE-V1VA4R7NR	12	EEE-1VA4R7NR	1
35	10	D	ECE-V1VA100NP	12	EEE-1VA100NP	1
50	0.22	B	ECE-V1HAR22NR	12	EEE-1HAR22NR	1
50	0.33	B	ECE-V1HAR33NR	12	EEE-1HAR33NR	1
50	0.47	B	ECE-V1HAR47NR	12	EEE-1HAR47NR	1
50	1	B	ECE-V1HA010NR	12	EEE-1HA010NR	1
50	2.2	C	ECE-V1HA2R2NR	12	EEE-1HA2R2NR	1
50	3.3	C	EEV-NZ1H3R3R	12	EEE-NZ1H3R3R	1
50	4.7	D	ECE-V1HA4R7NP	12	EEE-1HA4R7NP	1

- Reflow guaranteed condition
- RoHS compliant



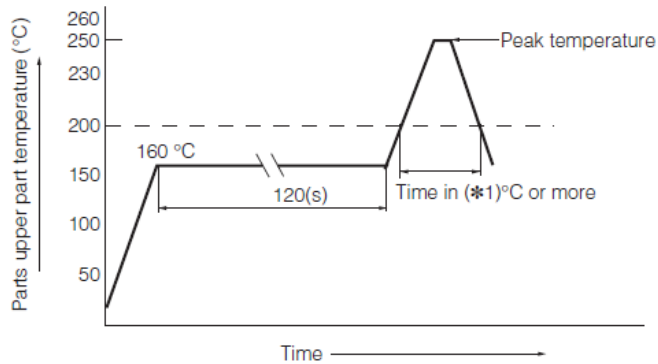
**Reflow condition**

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
1	EEE-	R	3mm to 5mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
1	EEE-	P	6.3mm	Yes	Sn-Bi	250degC	250degC	5 seconds	200degC	60 seconds	Once
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
5	EEE-	AR	4mm to 5mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
5	EEE-	AP	6.3mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Twice
7	EEE-	AP	8mm to 10mm	Yes	Sn-Bi	260 degC	250degC	5 seconds	200degC	70 seconds	Once
12	ECE-V	R	3mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	ECE-V	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	R	4mm to 5mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
12	EEV-	P	6.3mm	No	Sn-Pb	240degC			200degC	20 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

V-TA series -> V-TG series

W.V. (V)	Cap (uF)	Case size	Part No.	Reflow	Part No.	Reflow
			RoHS: not compliant		RoHS: compliant	
10	100	E	EEV-TA1A101P	13	EEE-TG1A101P	2
10	220	F	EEV-TA1A221P	13	EEE-TG1A221P	2
10	330	G	EEV-TA1A331P	13	EEE-TG1A331P	2
16	100	F	EEV-TA1C101P	13	EEE-TG1C101P	2
16	220	G	EEV-TA1C221P	13	EEE-TG1C221P	2
25	47	E	EEV-TA1E470P	13	EEE-TG1E470P	2
25	100	F	EEV-TA1E101P	13	EEE-TG1E101P	2
35	33	E	EEV-TA1V330P	13	EEE-TG1V330P	2
35	47	F	EEV-TA1V470P	13	EEE-TG1V470P	2
35	100	G	EEV-TA1V101P	13	EEE-TG1V101P	2
50	10	E	EEV-TA1H100P	13	EEE-TG1H100P	2
50	22	E	EEV-TA1H220P	13	EEE-TG1H220P	2
50	33	F	EEV-TA1H330P	13	EEE-TG1H330P	2
50	47	G	EEV-TA1H470P	13	EEE-TG1H470P	2

- Reflow guaranteed condition
- RoHS compliant



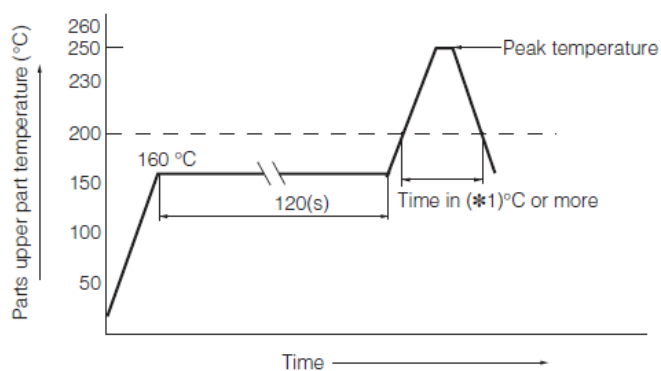
Reflow condition

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

### V-TB series (EEV-TB -> EEE-TB)

W.V. (V)	Cap (uF)	Case size	Part No.		Part No.	
			RoHS: not compliant	Reflow	RoHS: compliant	Reflow
10	100	E	EEV-TB1A101P	13	EEE-TB1A101P	2
10	220	F	EEV-TB1A221P	13	EEE-TB1A221P	2
10	330	G	EEV-TB1A331P	13	EEE-TB1A331P	2
16	100	F	EEV-TB1C101P	13	EEE-TB1C101P	2
16	220	G	EEV-TB1C221P	13	EEE-TB1C221P	2
25	47	E	EEV-TB1E470P	13	EEE-TB1E470P	2
25	100	F	EEV-TB1E101P	13	EEE-TB1E101P	2
35	33	E	EEV-TB1V330P	13	EEE-TB1V330P	2
35	47	F	EEV-TB1V470P	13	EEE-TB1V470P	2
35	100	G	EEV-TB1V101P	13	EEE-TB1V101P	2
50	10	E	EEV-TB1H100P	13	EEE-TB1H100P	2
50	22	E	EEV-TB1H220P	13	EEE-TB1H220P	2
50	33	F	EEV-TB1H330P	13	EEE-TB1H330P	2
50	47	G	EEV-TB1H470P	13	EEE-TB1H470P	2

- Reflow guaranteed condition
- RoHS compliant



#### Reflow condition

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once

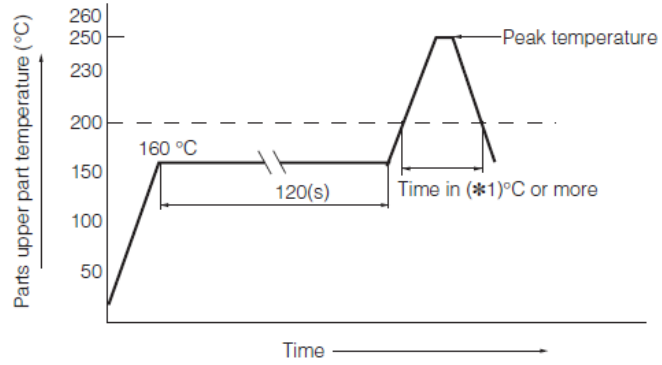
V-TG series

W.V. (V)	Cap (uF)	Case size	Part No.	Reflow	Part No.	Reflow
			RoHS: not compliant		RoHS: compliant	
10	100	E	EEV-TG1A101P	13	EEE-TG1A101P	2
10	220	E	EEV-TG1A221UP	13	EEE-TG1A221UP	2
10	220	F	EEV-TG1A221P	13	EEE-TG1A221P	2
10	330	F	EEV-TG1A331UP	13	EEE-TG1A331UP	2
10	330	G	EEV-TG1A331P	13	EEE-TG1A331P	2
10	470	G	EEV-TG1A471UP	13	EEE-TG1A471UP	2
10	1000	H13			EEV-TG1A102Q	3
10	1500	H13			EEV-TG1A152UQ	3
10	2200	J16			EEV-TG1A222M	3
10	3300	J16			EEV-TG1A332UM	3
10	3300	K16			EEV-TG1A332M	3
10	4700	K16			EEV-TG1A472M	3
16	100	F	EEV-TG1C101P	13	EEE-TG1C101P	2
16	220	F	EEV-TG1C221UP	13	EEE-TG1C221UP	2
16	220	G	EEV-TG1C221P	13	EEE-TG1C221P	2
16	330	G	EEV-TG1C331UP	13	EEE-TG1C331UP	2
16	330	H13			EEV-TG1C331Q	3
16	470	H13			EEV-TG1C471Q	3
16	680	H13			EEV-TG1C681Q	3
16	1000	H13			EEV-TG1C102UQ	3
16	1000	J16			EEV-TG1C102M	3
16	2200	J16			EEV-TG1C222UM	3
16	2200	K16			EEV-TG1C222M	3
16	3300	K16			EEV-TG1C332M	3
25	47	E	EEV-TG1E470P	13	EEE-TG1E470P	2
25	100	E	EEV-TG1E101UP	13	EEE-TG1E101UP	2
25	100	F	EEV-TG1E101P	13	EEE-TG1E101P	2
25	220	F	EEV-TG1E221UP	13	EEE-TG1E221UP	2
25	220	G	EEV-TG1E221P	13	EEE-TG1E221P	2
25	330	G	EEV-TG1E331UP	13	EEE-TG1E331UP	2
25	330	H13			EEV-TG1E331Q	3
25	470	H13			EEV-TG1E471Q	3
25	680	H13			EEV-TG1E681UQ	3
25	680	J16			EEV-TG1E681M	3
25	1000	J16			EEV-TG1E102UM	3
25	1000	K16			EEV-TG1E102M	3
25	2200	K16			EEV-TG1E222M	3
35	33	E	EEV-TG1V330P	13	EEE-TG1V330P	2
35	47	E	EEV-TG1V470UP	13	EEE-TG1V470UP	2
35	47	F	EEV-TG1V470P	13	EEE-TG1V470P	2
35	100	F	EEV-TG1V101UP	13	EEE-TG1V101UP	2
35	100	G	EEV-TG1V101P	13	EEE-TG1V101P	2
35	220	G	EEV-TG1V221UP	13	EEE-TG1V221UP	2
35	470	H13			EEV-TG1V471UQ	3
35	470	J16			EEV-TG1V471M	3

35	680	J16			EEV-TG1V681UM	3
35	680	K16			EEV-TG1V681M	3
35	1000	K16			EEV-TG1V102M	3
50	10	E	EEV-TG1H100P	13	EEE-TG1H100P	2
50	22	E	EEV-TG1H220P	13	EEE-TG1H220P	2
50	33	E	EEV-TG1H330UP	13	EEE-TG1H330UP	2
50	33	F	EEV-TG1H330P	13	EEE-TG1H330P	2
50	47	F	EEV-TG1H470UP	13	EEE-TG1H470UP	2
50	47	G	EEV-TG1H470P	13	EEE-TG1H470P	2
50	100	G	EEV-TG1H101UP	13	EEE-TG1H101UP	2
50	220	H13			EEV-TG1H221Q	3
50	330	H13			EEV-TG1H331Q	3
50	470	J16			EEV-TG1H471M	3
50	680	J16			EEV-TG1H681UM	3
50	680	K16			EEV-TG1H681M	3
50	1000	K16			EEV-TG1H102M	3
63	10	E	EEV-TG1J100P	13	EEE-TG1J100P	2
63	22	F	EEV-TG1J220P	13	EEE-TG1J220P	2
63	33	F	EEV-TG1J330UP	13	EEE-TG1J330UP	2
63	33	G	EEV-TG1J330P	13	EEE-TG1J330P	2
63	47	F	EEV-TG1J470UP	13	EEE-TG1J470UP	2
63	47	G	EEV-TG1J470P	13	EEE-TG1J470P	2
63	100	G	EEV-TG1J101UP	13	EEE-TG1J101UP	2
63	100	H13			EEV-TG1J101Q	3
63	220	H13			EEV-TG1J221Q	3
63	330	J16			EEV-TG1J331M	3
63	470	J16			EEV-TG1J471M	3
80	10	F	EEV-TG1K100P	13	EEE-TG1K100P	2
80	22	F	EEV-TG1K220UP	13	EEE-TG1K220UP	2
80	22	G	EEV-TG1K220P	13	EEE-TG1K220P	2
80	33	F	EEV-TG1K330UP	13	EEE-TG1K330UP	2
80	33	G	EEV-TG1K330P	13	EEE-TG1K330P	2
80	47	G	EEV-TG1K470UP	13	EEE-TG1K470UP	2
80	47	H13			EEV-TG1K470Q	3
80	100	H13			EEV-TG1K101UQ	3
80	100	J16			EEV-TG1K101M	3
80	220	J16			EEV-TG1K221UM	3
80	220	K16			EEV-TG1K221M	3
80	330	J16			EEV-TG1K331UM	3
80	330	K16			EEV-TG1K331M	3
80	470	K16			EEV-TG1K471M	3
100	10	F	EEV-TG2A100P	13	EEE-TG2A100P	2
100	22	F	EEV-TG2A220UP	13	EEE-TG2A220UP	2
100	22	G	EEV-TG2A220P	13	EEE-TG2A220P	2
100	33	G	EEV-TG2A330P	13	EEE-TG2A330P	2
100	47	H13			EEV-TG2A470Q	3
100	100	J16			EEV-TG2A101M	3
100	220	K16			EEV-TG2A221M	3
100	330	K16			EEV-TG2A331M	3



- Reflow guaranteed condition
- RoHS compliant



**Reflow condition**

Reflow	Pre-fix	Suffix	Case Diameter	RoHS	Terminal Finish	Peak temp Deg C	Time of actual peak or near temp.		Time in (*1) degC or more	Time above 200degC	Reflow Freq
2	EEE-	P	8mm to 10mm	Yes	Sn-Bi	235degC	235degC	5 seconds	200degC	60 seconds	Once
3	EEV-	Q	12.5mm	Yes	Sn	230degC			200degC	20 seconds	Once
3	EEV-	M	16mm to 18mm	Yes	Sn	230degC			200degC	20 seconds	Once
13	ECE-V	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once
13	EEV-	P	8mm to 10mm	No	Sn-Pb	230degC			200degC	20 seconds	Once