

### Surface Mount Type

# Discontinued

Series: **WA** Type : Aluminum CAN Type

- Features Excellent Noise-absorbent Characteristics  
High Voltage . High Capacitance

Japan



#### ■ Specifications

Category temp. range	-55 to 105°C	
Rated W.V. Range	6.3 to 25V .DC	
Nominal Cap. Range	22 to 680 μ F	
Capacitance Tolerance	±20 % (120Hz/20°C)	
DC Leakage Current *1	$I \leq 0.2CV (\mu A)$ After 2 minutes application of rated working voltage at 20°C.	
tan δ	Please see the attached standard products list	
Surge voltage	Rated Working Voltage x 1.15(15 to 35°C)	
Endurance	After applying rated working voltage for 2000 hours at 105±2°C and then being stabilized at +20°C, capacitors shall meet the following limits.	
	Capacitance change	±20% of initial measured value
	tan δ	≤ 150 % of initial specified value
Moisture resistance	After Storing for 1000hours at 60°C/90 to 95%R.H	
	Capacitance change	±20% of initial measured value
	tan δ	≤ 150% of initial specified value
	DC leakage current	≤ initial specified value

\*1 voltage treatment: Measurement should be made again after rated voltage is applied for 120minutes

#### ■ Marking

Example.6.3V150μF  
Marking color : BLUE

W.V. code: V, 6.3, 10, 16, 20, 25  
Code: j, A, C, D, E

Capacitance (μF): 150

Series identification: WA

Lot number: j A C D E

#### ■ DIMENSIONS IN MM (NOT TO SCALE)

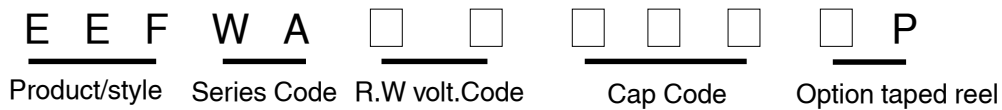
Size code	φD±0.5	L	A,B±0.2	H max	(l)	W±0.2	( P )	K
E70	8.0	6.9 +0.1-0.2	8.3	10.0	(3.4)	0.9	(3.1)	0.5±0.2
G80	10.0	7.9 +0.1-0.2	10.3	12.0	(3.5)	0.9	(4.6)	0.5±0.2
G	10.0	10.2 +0.3-0.3	10.3	12.0	(3.5)	0.9	(4.6)	0.5±0.2

#### ■ Standard Products

Lated W.V.	6.3V(0J)		10V(1A)		16V(1C)		20V(1D)		25V(1E)				
	Size Code	ESR (100kHz) (20°C) (mΩ)	Ripple Current (100kHz) (20~105°C) (mA)	Size Code	ESR (100kHz) (20°C) (mΩ)	Ripple Current (100kHz) (20~105°C) (mA)	Size Code	ESR (100kHz) (20°C) (mΩ)	Ripple Current (100kHz) (20~105°C) (mA)	Size Code	ESR (100kHz) (20°C) (mΩ)	Ripple Current (100kHz) (20~105°C) (mA)	
22μF(220)										E70	50	1600	
33μF(330)										G80	39	2200	
47μF(470)							E70	50	2000				
68μF(680)													
82μF(820)					E70	39	2500	G80	39	2500	G	30	3300
100μF(101)					E70	39	2500						
120μF(121)			E70	35	2800								
150μF(151)	E70	35	3050	E70	35	2800	G80	29	3430	G	26	3700	
180μF(181)							G80	29	3430				
220μF(221)	E70	32	3050				G	27	4100				
270μF(271)				G80	24	3770	G	27	4100				
330μF(331)	G80	22	4130	G	22	4500	G	22	4100				
390μF(391)	G80	22	4130										
470μF(471)	G	20	5100	G	17	4500							
560μF(561)	G	20	5100										
680μF(681)	G	15	5100										

Design, Specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please inform us immediately for technical consultation without fail.

■ Part number system



SP  
Cap

■ Standard products

W.V (V)	Cap (±20%) (μF)	Case size			Specification			Part No.	Min.Packaging
		Dia (mm)	Length (mm)	Size Code	Ripple crrent (100kHz) (20~105°C) (mA)	ESR (100kHz) (20°C) (mΩ)	tan δ (120Hz) (20°C)		Q'ty Taping (pcs)
6.3	150	8	6.9	E70	3050	35	0.15	EEFWA0J151P	1000
	220	8	6.9	E70	3050	32	0.15	EEFWA0J221P	1000
	330	10	7.9	G80	4130	22	0.12	EEFWA0J331P	500
	390	10	7.9	G80	4130	22	0.12	EEFWA0J391P	500
	470	10	10.2	G	5100	20	0.12	EEFWA0J471P	500
	560	10	10.2	G	5100	20	0.12	EEFWA0J561P	500
	680	10	10.2	G	5100	15	0.12	EEFWA0J681P	500
10	120	8	6.9	E70	2800	35	0.15	EEFWA1A121P	1000
	150	8	6.9	E70	2800	35	0.15	EEFWA1A151P	1000
	270	10	7.9	G80	3770	24	0.12	EEFWA1A271P	500
	330	10	10.2	G	4500	22	0.12	EEFWA1A331P	500
	470	10	10.2	G	4500	17	0.12	EEFWA1A471P	500
16	82	8	6.9	E70	2500	39	0.12	EEFWA1C820P	1000
	100	8	6.9	E70	2500	39	0.12	EEFWA1C101P	1000
	150	10	7.9	G80	3430	29	0.12	EEFWA1C151P	500
	180	10	7.9	G80	3430	29	0.12	EEFWA1C181P	500
	220	10	10.2	G	4100	27	0.12	EEFWA1C221P	500
	270	10	10.2	G	4100	27	0.12	EEFWA1C271P	500
	330	10	10.2	G	4100	22	0.12	EEFWA1C331P	500
20	47	8	6.9	E70	2000	50	0.10	EEFWA1D470P	1000
	82	10	7.9	G80	2500	39	0.10	EEFWA1D820P	500
	150	10	10.2	G	3700	26	0.10	EEFWA1D151P	500
25	22	8	6.9	E70	1600	50	0.10	EEFWA1E220P	1000
	33	10	7.9	G80	2200	39	0.10	EEFWA1E330P	500
	82	10	10.2	G	3300	30	0.10	EEFWA1E820P	500

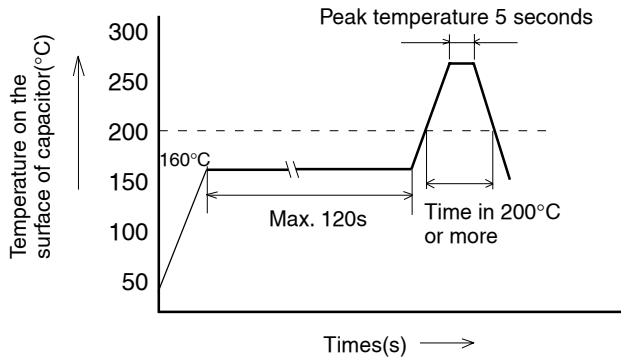
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### Maximum permissible reflow soldering temperature profile

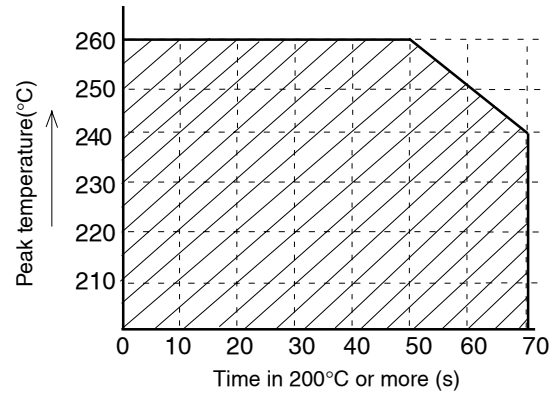
We recommend soldering shall be done according to following maximum permissible reflow soldering temperature reflow soldering temperature profile.

#### Reflow soldering

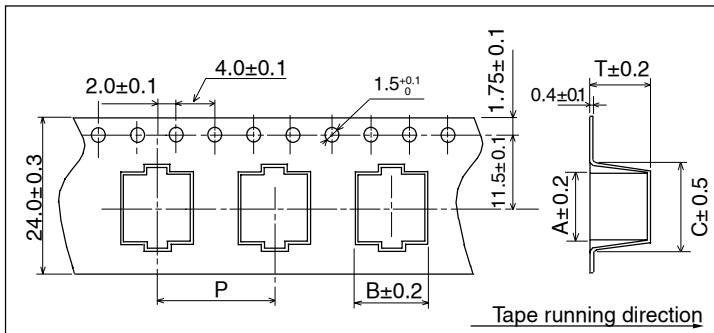
(This is a method to heat parts and the substrate by hot air or infrared furnace.)



Please carry out reflow soldering to 2 times.



### Taping Dimensions in mm(not to scale)

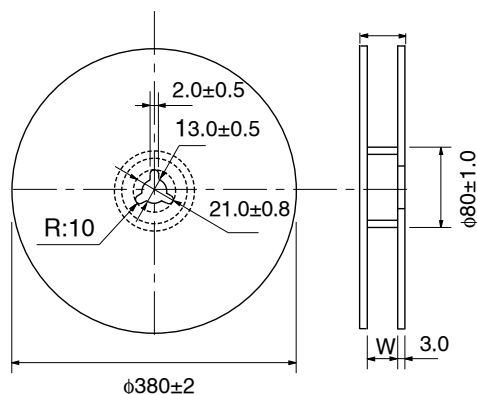


(mm)

Size Code	A	B	C	P	T
E70	8.6	8.6	12.1	12.0	7.7
G80	10.7	10.7	14.2	16.0	8.6
G	10.7	10.7	14.5	16.0	11.0

Ask factory for technical specifications.

### Reel Dimensions in mm(not to scale)



(mm)

Size code	Reel width(W)
E70,G80,G	25.5