

# HXF Series

- Guaranteed short time operating temperature at 150°C
- High reliability and high voltage are realized by hybrid electrolyte
- Endurance with ripple current : 4,000 hours at 135°C
- Rated voltage range : 25 to 63V<sub>dc</sub>, Capacitance range : 33 to 330μF
- For high temperature and high reliability applications. (Automotive equipment, Base station equipment, etc.)
- RoHS2 Compliant
- Halogen Free
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

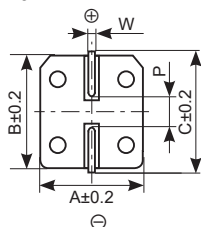
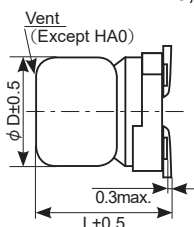
## ◆ SPECIFICATIONS

Items	Characteristics					
Category	-55 to +135°C					
Temperature Range	-55 to +135°C					
Rated Voltage Range	25 to 63V <sub>dc</sub>					
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)					
Leakage Current	I=0.01CV Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)					
Dissipation Factor (tan δ)	Rated voltage (V <sub>dc</sub> )	25V	35V	50V	63V	
	tan δ (Max.)	0.14	0.12	0.10	0.08	(at 20°C, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Z(-25°C) / Z(+20°C) ≤ 1.5 Z(-55°C) / Z(+20°C) ≤ 2.0 (at 100kHz)					
Endurance 1	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 4,000 hours at 125°C or 135°C.					
	Capacitance change	≤ ±30% of the initial value				
	D.F. (tan δ)	≤ 200% of the initial specified value				
	ESR	≤ 200% of the initial specified value				
	Leakage current	≤ The initial specified value				
Endurance 2	The following specifications shall be satisfied when the capacitors are restored to 20°C after the 2 test condition. (1) The rated voltage is applied for 300 hours at 150°C. (2) DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 3,000 hours at 125°C or 135°C.					
	Capacitance change	≤ ±30% of the initial value				
	D.F. (tan δ)	≤ 200% of the initial specified value				
	ESR	≤ 200% of the initial specified value				
	Leakage current	≤ The initial specified value				
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 135°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.					
	Capacitance change	≤ ±30% of the initial value				
	D.F. (tan δ)	≤ 200% of the initial specified value				
	ESR	≤ 200% of the initial specified value				
	Leakage current	≤ The initial specified value				
Bias Humidity Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to the DC rated voltage at 85°C, 85% RH for 2,000 hours.					
	Appearance	No significant damage				
	Capacitance change	≤ ±30% of the initial value				
	D.F. (tan δ)	≤ 200% of the initial specified value				
	ESR	≤ 200% of the initial specified value				
	Leakage current	≤ The initial specified value				

## ◆ DIMENSIONS [mm]

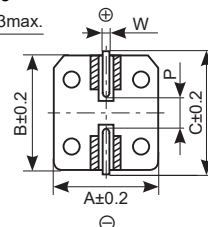
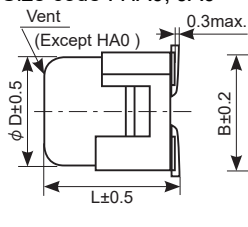
● Terminal Code : A

● Size code : HA0, JA0



● Terminal Code : G(Vibration resistant structure)

● Size code : HA0, JA0



Size Code	φD	L	A	B	C	W	P
HA0	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
JA0	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5

▨ : Dummy terminals

## ◆ MARKING

EX) 63V82μF



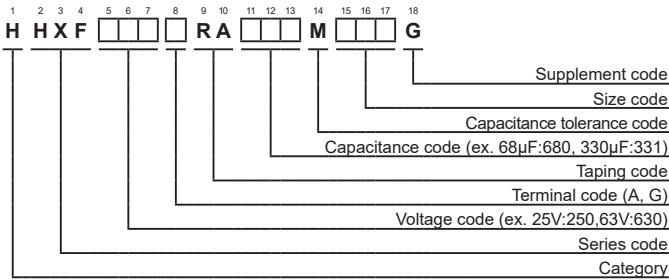
● Rated voltage symbol

Rated voltage (V <sub>dc</sub> )	Symbol
25	E
35	V
50	H
63	J

Product specifications in this bulletin are subject to change without notice. Request our product specifications before purchase and/or use. Please use our products based on the information contained in this bulletin and product specifications. Please contact us for mass production schedule.

# HXF Series

## ◆ PART NUMBERING SYSTEM



## ◆ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Size code	ESR (mΩ max./20°C, 100kHz)	Rated ripple current (mA rms/100kHz)		Part No.
				125°C	135°C	
25	150	HA0	18	3,900	2,800	HHXF250 <input type="checkbox"/> RA151MHA0G
	220	HA0	18	3,900	2,800	HHXF250 <input type="checkbox"/> RA221MHA0G
	270	JA0	16	4,500	3,300	HHXF250 <input type="checkbox"/> RA271MJA0G
	330	JA0	16	4,500	3,300	HHXF250 <input type="checkbox"/> RA331MJA0G
35	100	HA0	18	3,900	2,800	HHXF350 <input type="checkbox"/> RA101MHA0G
	150	HA0	18	3,900	2,800	HHXF350 <input type="checkbox"/> RA151MHA0G
	150	JA0	16	4,500	3,300	HHXF350 <input type="checkbox"/> RA151MJA0G
	270	JA0	16	4,500	3,300	HHXF350 <input type="checkbox"/> RA271MJA0G
50	47	HA0	24	3,600	2,500	HHXF500 <input type="checkbox"/> RA470MHA0G
	68	HA0	24	3,600	2,500	HHXF500 <input type="checkbox"/> RA680MHA0G
	100	JA0	20	4,300	3,000	HHXF500 <input type="checkbox"/> RA101MJA0G
	120	JA0	20	4,300	3,000	HHXF500 <input type="checkbox"/> RA121MJA0G
63	33	HA0	27	3,300	2,300	HHXF630 <input type="checkbox"/> RA330MHA0G
	47	HA0	27	3,300	2,300	HHXF630 <input type="checkbox"/> RA470MHA0G
	56	JA0	22	4,000	2,800	HHXF630 <input type="checkbox"/> RA560MJA0G
	82	JA0	22	4,000	2,800	HHXF630 <input type="checkbox"/> RA820MJA0G

## ◆ RECOMMENDED REFLOW SOLDERING CONDITIONS

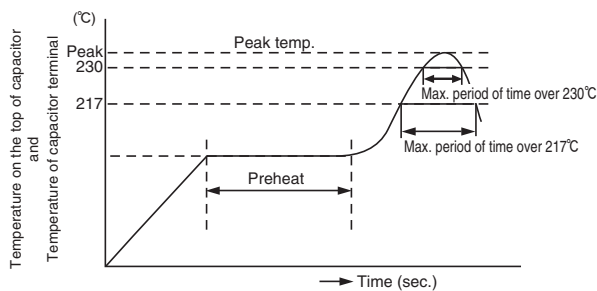
The following conditions are recommended for air convection and infrared reflow soldering on the SMD products on to a glass epoxy circuit boards by cream solder. The dimensions of the glass epoxy boards with resist are 90×50×0.8mm.

The temperatures shown are the surface temperature values on the top of the can and on the capacitor terminals.

Reflow should be performed twice or less.

Please ensure that the capacitor became cold enough to the room temperature (5 to 35°C) before the second reflow.

### ● Reflow Profile



Size Code	Preheat	Time maintained above 217°C	Time maintained above 230°C	Peak temp.	Reflow number
HA0, JA0	150 to 180°C	50 sec. max.	40 sec. max.	260°C max.	1-cycle only
	120 sec. max.			245°C max.	2-cycles allowed