

HXU Series

- Long life with a new composite sealing structure
- Endurance : 6,000 hours at 125°C/135°C
- For automobile modules and other high temperature applications
- High vibration resistance (40G) in combination with vibration resistant structure
- High temperature reflow soldering (Peak temp.:260°C/1 cycle or 245°C/2 cycle)
- Available for JEDEC J-STD-020D reflow soldering.
- AEC-Q200 compliant : Please contact Chemi-Con for more details.
- Adaptable for Immersion cooling (70°C max.)

This Engineering bulletin is issued for Engineering sample.
There is possibility to stop mass production due to market situation changed, and product specifications in this bulletin are subject to change without notice.

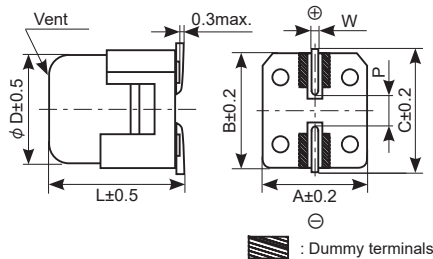
◆ SPECIFICATIONS

Items	Characteristics					
Category	-55 to +135°C					
Temperature Range	-55 to +135°C					
Rated Voltage Range	25 to 63V _{dc}					
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 _{dc})	25V	35V	50V	63V	(at 20°C, 120Hz)
	tan δ (Max.)	0.14	0.12	0.10	0.08	
Low Temperature Characteristics (Max. Impedance Ratio)	Z(-25°C)/Z(+20°C) ≤ 1.5					
	Z(-55°C)/Z(+20°C) ≤ 2.0 (at 120Hz)					
Endurance 1 (Normal atmosphere)	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 6,000 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 (Normal atmosphere)	The following specifications shall be satisfied when the capacitors are restored to 20°C after the test condition that the rated voltage is applied for 300 hours at 150°C and DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 5,000 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 (Normal atmosphere)	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				
Vibration	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to vibration test (vibration conditions shown below) at room temperature (15 to 35°C).					
	Appearance	No significant damage				
	Capacitance change	≤ ±5% of the initial value				
	D.F. (tan δ)	≤ The initial specified value				
	Leakage current	≤ The initial specified value				
	Conditions					
	Vibration frequency range	10 to 2,000Hz				
	Amplitude or acceleration	One-side amplitudes (peak values) 0.75mm or 392.2m/s ² (40G), Whichever is less sever				
	Sweep rate	10 to 2,000 to 10Hz in about 20 minutes				
	Direction and period of motion	2 hours in each of 3 mutually perpendicular directions (total of 6 hours)				
	Fixation	Solder the body to the board under the recommended conditions, please contact us for deateil.				

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◆ DIMENSIONS [mm]

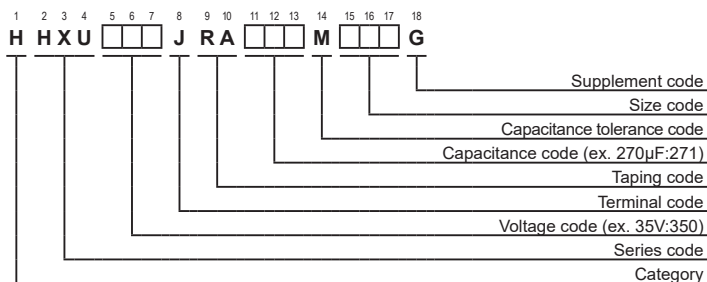
- Terminal Code : J (Vibration resistant structure)
- Size code : JA0



Size code	D	L	A	B	C	W	P
JA0	10	10.5	10.4	10.4	11.7	0.7 to 1.1	4.5

⊞ : Dummy terminals

◆ PART NUMBERING SYSTEM



◆ MARKING

EX) 35V270μF



• Rated voltage symbol

Rated voltage(Vdc)	Symbol
25	E
35	V
50	H
63	J

◆ STANDARD RATINGS

WV (Vdc)	Cap (μF)	Size code	ESR (mΩ max./20°C, 100kHz)	Rated ripple current (mA rms/100kHz)		Part No.
				125°C	135°C	
25	330	JA0	20	4,000	3,000	HHXU250JRA331MJA0G
35	270	JA0	20	4,000	3,000	HHXU350JRA271MJA0G
50	120	JA0	25	3,700	2,700	HHXU500JRA121MJA0G
63	82	JA0	30	3,500	2,500	HHXU630JRA820MJA0G

□ : Enter the appropriate terminal code.

◆ About specified immersion cooling fluids

Evaluated and confirmed by the following fluids. Please contact us for details.

HydroCarbon	Shell S3X
	Exxon Mobile SpectraSyn Max3.5

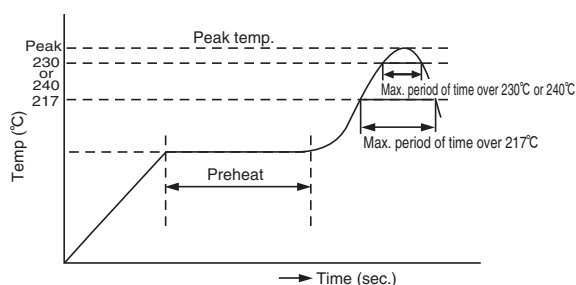
◆ RECOMMENDED REFLOW SOLDERING CONDITIONS

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.

When performing reflow twice, be sure to perform the second reflow after confirming that the capacitor has cooled down to room temperature (5 to 35°C) after the first reflow.

● Recommended soldering heat conditions



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