

## HXB Series

- High reliability and high voltage are realized by hybrid electrolyte
- Endurance with ripple current : 10,000 hours at 105°C for 8 and 10mm diameter
- Rated voltage range : 16 to 80V<sub>dc</sub>, Capacitance range : 10 to 470μF
- For high reliability applications. (Automotive equipment, Base station equipment, etc.)

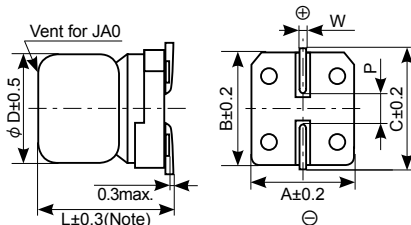
◆ AEC-Q200 Capable

### ◆ SPECIFICATIONS

Items	Characteristics							
Category	-55 to +105°C							
Temperature Range								
Rated Voltage Range	16 to 80V <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> )	16V	25V	35V	50V	63V	80V	
	tan δ (Max.)	0.16	0.14	0.12	0.10	0.08	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	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 5,000 hours at 105°C, 10,000 hours 8 and 10 dia.							
	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 105°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						

### ◆ DIMENSIONS [mm]

- Terminal Code : A



Note : L±0.5 for HA0 and JA0

Size Code	φ D	L	A	B	C	W	P
F61	6.3	5.8	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
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

### ◆ MARKING

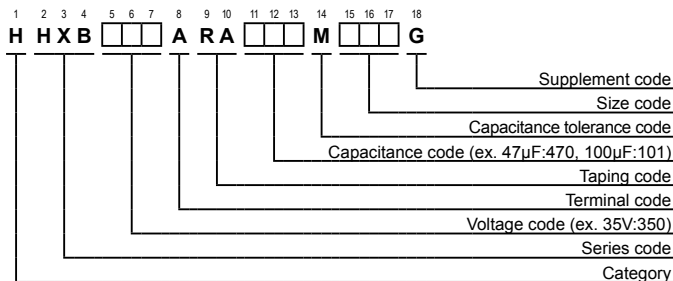
EX) 35V47μF



- Rated voltage symbol

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

### ◆ PART NUMBERING SYSTEM



Please contact us for mass production schedule.  
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### ◆ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Size code	ESR (mΩ <sub>max</sub> /20°C, 100kHz)	Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.
16	82	F61	45	1,600	HHXB160ARA820MF61G
	150	F80	27	2,200	HHXB160ARA151MF80G
	270	HA0	22	2,500	HHXB160ARA271MHA0G
	470	JA0	18	2,600	HHXB160ARA471MJA0G
25	56	F61	50	1,300	HHXB250ARA560MF61G
	100	F80	30	2,000	HHXB250ARA101MF80G
	220	HA0	27	2,300	HHXB250ARA221MHA0G
	330	JA0	20	2,500	HHXB250ARA331MJA0G
35	47	F61	60	1,300	HHXB350ARA470MF61G
	68	F80	35	2,000	HHXB350ARA680MF80G
	150	HA0	27	2,300	HHXB350ARA151MHA0G
	270	JA0	20	2,500	HHXB350ARA271MJA0G
50	22	F61	80	1,100	HHXB500ARA220MF61G
	33	F80	40	1,600	HHXB500ARA330MF80G
	68	HA0	30	1,800	HHXB500ARA680MHA0G
	100	JA0	28	2,000	HHXB500ARA101MJA0G
63	10	F61	120	1,000	HHXB630ARA100MF61G
	22	F80	80	1,500	HHXB630ARA220MF80G
	33	HA0	40	1,600	HHXB630ARA330MHA0G
	56	JA0	30	1,800	HHXB630ARA560MJA0G
80	22	HA0	45	1,600	HHXB800ARA220MHA0G
	39	JA0	35	1,700	HHXB800ARA390MJA0G

### ◆ RECOMMENDED REFLOW SOLDERING CONDITIONS

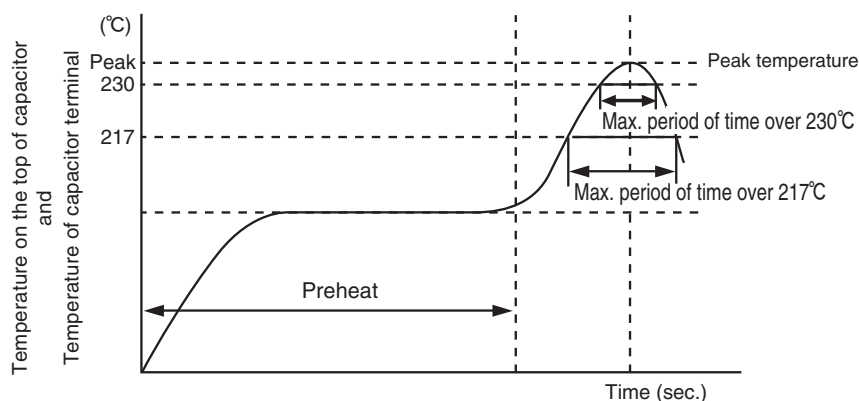
The following conditions are recommended for air convection and infrared reflow soldering on the SMD products on to a glass epoxy circuit boards by cream solder. The dimensions of the glass epoxy boards with resist are 90×50×0.8mm.

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
F61, F80	150 to 180°C 120 sec. max.	50 sec. max.	40 sec. max.	260°C max.	2-cycle allowed
HA0, JA0		50 sec. max.	40 sec. max.	260°C max. 245°C max.	1-cycle only 2-cycle allowed

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