

# HXC Series

- High reliability and high voltage are realized by hybrid electrolyte
- Endurance with ripple current : 4,000 hours at 125°C
- Rated voltage range : 16 to 63Vdc, Capacitance range : 6.8 to 560μF
- 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.

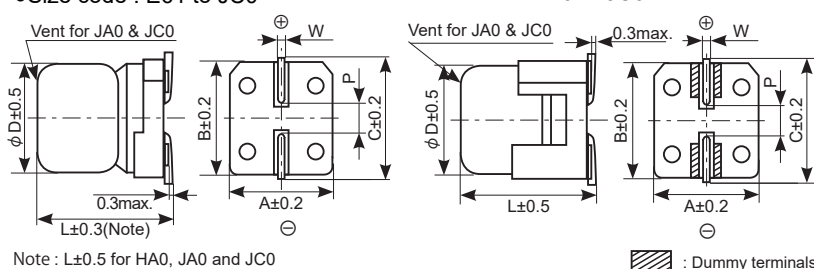


## SPECIFICATIONS

Items	Characteristics
Category	-55 to +125°C
Temperature Range	
Rated Voltage Range	16 to 63Vdc
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 (Vdc) 16V 25V 35V 50V 63V tan δ (Max.) 0.16 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	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 . 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 125°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

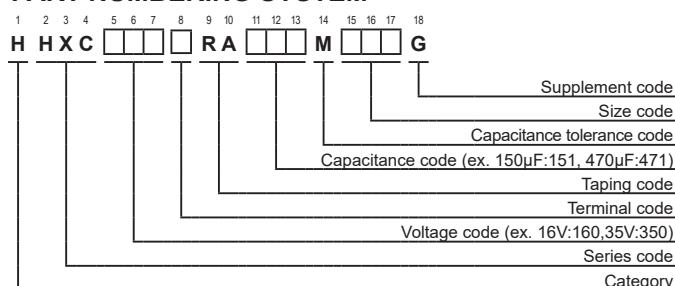
## DIMENSIONS [mm]

- Terminal Code : A
- Size code : E61 to JC0
- Terminal Code : G(Vibration resistant structure)
- Size code : HA0 to JC0



Size Code	φ D	L	A	B	C	W	P
E61	5	5.8	5.3	5.3	5.9	0.5 to 0.8	1.4
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
JC0	10	12.2	10.3	10.3	11.0	0.7 to 1.1	4.5

## PART NUMBERING SYSTEM



## MARKING

EX) 35V150μF



### Rated voltage symbol

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

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◆ STANDARD RATINGS

WV (Vdc)	Cap ( $\mu$ F)	Size code	ESR (m $\Omega$ max./20°C, 100kHz)	Rated ripple current (mA rms/125°C, 100kHz)	Part No.
16	47	E61	80	550	HHXC160ARA470ME61G
	82	F61	45	950	HHXC160ARA820MF61G
	150	F80	27	1,450	HHXC160ARA151MF80G
	270	HA0	22	1,700	HHXC160 □ RA271MHA0G
	470	JA0	18	2,100	HHXC160 □ RA471MJA0G
	560	JC0	15	2,320	HHXC160 □ RA561MJC0G
25	33	E61	80	550	HHXC250ARA330ME61G
	47	F61	50	900	HHXC250ARA470MF61G
	56	F61	50	900	HHXC250ARA560MF61G
	68	F80	30	1,400	HHXC250ARA680MF80G
	100	F80	30	1,400	HHXC250ARA101MF80G
	150	HA0	27	1,600	HHXC250 □ RA151MHA0G
	220	HA0	27	1,600	HHXC250 □ RA221MHA0G
	270	JA0	20	2,000	HHXC250 □ RA271MJA0G
	330	JA0	20	2,000	HHXC250 □ RA331MJA0G
	470	JC0	16	2,300	HHXC250 □ RA471MJC0G
35	22	E61	100	550	HHXC350ARA220ME61G
	27	F61	60	900	HHXC350ARA270MF61G
	47	F61	60	900	HHXC350ARA470MF61G
	47	F80	35	1,400	HHXC350ARA470MF80G
	68	F80	35	1,400	HHXC350ARA680MF80G
	100	HA0	27	1,600	HHXC350 □ RA101MHA0G
	150	HA0	27	1,600	HHXC350 □ RA151MHA0G
	150	JA0	20	2,000	HHXC350 □ RA151MJA0G
	270	JA0	20	2,000	HHXC350 □ RA271MJA0G
	330	JC0	17	2,200	HHXC350 □ RA331MJC0G
50	10	F61	80	750	HHXC500ARA100MF61G
	15	F80	40	1,100	HHXC500ARA150MF80G
	22	F61	80	750	HHXC500ARA220MF61G
	33	F80	40	1,100	HHXC500ARA330MF80G
	33	HA0	30	1,250	HHXC500 □ RA330MHA0G
	47	HA0	30	1,250	HHXC500 □ RA470MHA0G
	56	JA0	25	1,600	HHXC500 □ RA560MJA0G
	68	HA0	30	1,250	HHXC500 □ RA680MHA0G
	100	JA0	25	1,600	HHXC500 □ RA101MJA0G
	120	JA0	25	1,600	HHXC500 □ RA121MJA0G
63	6.8	F61	120	700	HHXC630ARA6R8MF61G
	10	F61	120	700	HHXC630ARA100MF61G
	10	F80	80	900	HHXC630ARA100MF80G
	22	F80	80	900	HHXC630ARA220MF80G
	22	HA0	40	1,100	HHXC630 □ RA220MHA0G
	33	HA0	40	1,100	HHXC630 □ RA330MHA0G
	33	JA0	30	1,400	HHXC630 □ RA330MJA0G
	47	HA0	40	1,100	HHXC630 □ RA470MHA0G
	56	JA0	30	1,400	HHXC630 □ RA560MJA0G
	82	JA0	30	1,400	HHXC630 □ RA820MJA0G

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## ◆ RECOMMENDED REFLOW SOLDERING CONDITIONS

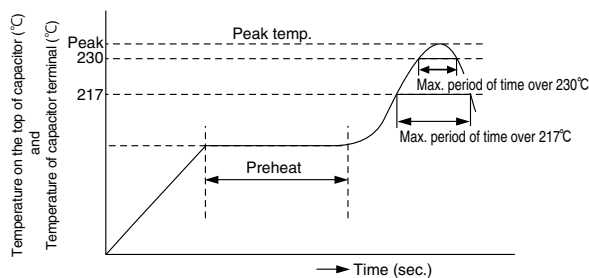
The following conditions are recommended for air convection and infrared reflow soldering on the SMD products on to a glass epoxy circuit boards by cream solder. The dimensions of the glass epoxy boards with resist are 90×50×0.8mm.

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
E61, F61, F80	150 to 180°C 120 sec. max.	50 sec. max.	40 sec. max.	260°C max.	2-cycle allowed
HA0, JA0, JC0		50 sec. max.	40 sec. max.	260°C max. 245°C max.	1-cycle only 2-cycle allowed