

# **HXC**Series

- ●80WV model has been introduced to the product range. High ripple current model is now available for JC5 size.
- 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 80Vdc, 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.

# HXE Higher temperature Higher ripple HXC Downsized Higher temperature HXD



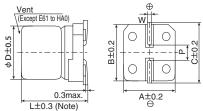
#### **SPECIFICATIONS**

Items	Characteristics								
Category Temperature Range	-55 to +125℃								
Rated Voltage Range	16 to 80V <sub>sc</sub>								
Capacitance Tolerance	±20% (M)							(at 20℃, 120Hz)	
Leakage Current	I=0.01CV or $3 \mu$ A, whichever is greater Where, I: Max. leakage current ( $\mu$ A), C: Nominal capacitance( $\mu$ F), V: Rated voltage(V) (at 20°C after 2 minutes)								
Dissipation Factor	Rated voltage(V <sub>dc</sub> )	16V	25V	35V	50V	63V	80V	(at 20°C, 120Hz)	
(tan δ)	$tan \delta$ (Max.)	0.16	0.14	0.12	0.10	0.08	0.08		
Low Temperature Characteristics (Max. Impedance Ratio)	$Z(-25^{\circ}C)/Z(+20^{\circ}C)$ ≦1.5 $Z(-55^{\circ}C)/Z(+20^{\circ}C)$ ≦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 $\delta$ )	≦ 200% of the initial specified value							
	ESR	≤ 200% of the initial specified value							
	Leakage current	$\leq$ 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 $\delta$ )	≤ 200% of the initial specified value							
	ESR	≤ 200% of the initial specified value							
	Leakage current	≦ The	initial spe	cified valu	ie				
Bias Humidity Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to the DC rate at 85°C, 85% RH for 2,000 hours.						20°C after subjecting them to the DC rated voltage		
	Appearance	No significant damage							
	Capacitance change	ŭ ŭ							
	D.F. (tan δ)	≤ 2009	% of the ir	nitial spec	ified value	,			
	ESR	≦ 2009	% of the ir	nitial spec	ified value	,			
	Leakage current	≦ The	initial spe	cified valu	ie	$\neg$			

## **◆DIMENSIONS** [mm]

• Terminal Code : A

• Size code: E61 to JC5

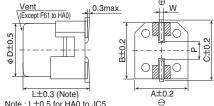


Note: L±0.5 for HA0 to JC5

Terminal Code : G(Vibration resistant structure)

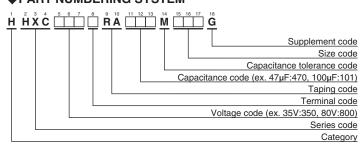
**///**:

• Size code : F61 to JC5



A±0.2 ⊖	
Dummy terminals	

## **◆PART NUMBERING SYSTEM**



Please refer to "Product code guide (conductive polymer hybrid type)"

## **◆**MARKING



Size Code

E61

F61

F80

HA0

JA0

φD

5 5.8 5.3 5.3 5.9

6.3 5.8 6.6

6.3 7.7 6.6 6.6 7.2

10

#### Rated voltage symbol

6.6 7.2

10.0 8.3 8.3 9.0

10.0 10.3 10.3 11.0

10 12.5 10.3 10.3 11.0 0.7 to 1.1

Rated voltage (Vdc)	Symbol
16	С
25	Е
35	V
50	Н
63	J
80	K

0.5 to 0.8

0.5 to 0.8

0.5 to 0.8

0.7 to 1.1

0.7 to 1.1 3.1

1.4

1.9

1.9



## **HXC**Series

## **STANDARD RATINGS**

WV (V <sub>dc</sub> )	Cap (μF)	Size code	ESR (mΩmax./20°C, 100kHz)	Rated ripple current (mArms/125°C, 100kHz)	Part No.
	47	E61	80	550	HHXC160ARA470ME61G
	82	F61	45	950	HHXC160□RA820MF61G
40	150	F80	27	1,450	HHXC160□RA151MF80G
16	270	HA0	22	1,700	HHXC160□RA271MHA0G
	470	JA0	18	2,100	HHXC160□RA471MJA0G
	560	JC5	15	2,550	HHXC160□RA561MJC5G
	33	E61	80	550	HHXC250ARA330ME61G
	47	F61	50	900	HHXC250□RA470MF61G
	56	F61	50	900	HHXC250□RA560MF61G
	68	F80	30	1,400	HHXC250□RA680MF80G
	100	F80	30	1,400	HHXC250□RA101MF80G
25	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	JC5	16	2,500	HHXC250□RA471MJC5G
	22	E61	100	550	HHXC350ARA220ME61G
	27	F61	60	900	HHXC350□RA270MF61G
	47	F61	60	900	HHXC350□RA470MF61G
	47	F80	35	1,400	HHXC350□RA470MF80G
35	68	F80	35	1,400	HHXC350□RA680MF80G
	100	HA0	27	1,600	HHXC350 RA101MHA00
	150	HA0	27	1,600	HHXC350 RA151MHA00
	150	JA0	20	2,000	HHXC350□RA151MJA0G
	270	JA0	20	2,000	HHXC350□RA271MJA0G
	330	JC5	17	2,400	HHXC350□RA331MJC5G
	10	F61	80	750	HHXC500□RA100MF61G
	15	F80	40	1,100	HHXC500□RA150MF80G
	22	F61	80	750	HHXC500□RA220MF61G
	33	F80	40	1,100	HHXC500□RA330MF80G
	33	HA0	30	1,250	HHXC500□RA330MHA0G
50	47	HA0	30	1,250	HHXC500□RA470MHA0G
50	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
	150	JC5	19	2,250	HHXC500 RA151MJC5G
	6.8	F61	120	700	HHXC630 RA6R8MF61G
	10	F61	120	700	HHXC630 RA100MF61G
	10	F80	80	900	HHXC630 RA100MF80G
63	22	F80	80	900	HHXC630□RA220MF80G
	22	HA0	40	1,100	HHXC630 RA220MHA0G
	33			,	
	33	JA0	40 30	1,100 1,400	HHXC630□RA330MHA0G HHXC630□RA330MJA0G
	47	HA0	40	1,100	HHXC630 RA470MHA0G
		+	30	·	
	56	JA0	30	1,400	HHXC630 RA560MJA0G
	82	JA0		1,400	HHXC630 RA820MJA0G
	100	JC5	22	2,100	HHXC630 RA101MJC5G
00	22	HA0	45	1,100	HHXC800 RA220MHA0G
80	39	JA0	33	1,400	HHXC800□RA390MJA0G
	47	JA0	33	1,700	HHXC800□RA470MJA0G

 $<sup>\</sup>hfill \square$  : Enter the appropriate terminal code.

## **♦**RATED RIPPLE CURRENT MULTIPLIERS

## Frequency Multipliers

Capacitance(µF) Frequency(Hz)	120	1k	5k	10k	20k	30k	100k to 500k
to 10	0.03	0.30	0.50	0.60	0.70	0.75	1.00
15 to 33	0.07	0.30	0.50	0.60	0.70	0.75	1.00
39 to 150	0.10	0.40	0.60	0.70	0.80	0.80	1.00
220 to 560	0.13	0.45	0.65	0.75	0.85	0.85	1.00



## CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS Product Guide

- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. 3 Medical equipment 4 Transport equipment (automobiles, trains, ships, etc.) (5) Transportation control equipment (6) Disaster prevention / crime prevention equipment (7) Highly publicized information processing equipment ® Submarine equipment ® Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.
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In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

Part Numbering System Part Numbering System (Appendix) Standardization Available Items by Manufacturing Locations **Environmental Measures Technical Note** Precautions and Guidelines Recommended Soldering Conditions Taping, Lead-preforming, Terminal and Packaging Options

products

## **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## United Chemi-Con (UCC):

HHXC250ARA470MF61G	HHXC500ARA101MJA0G	HHXC500ARA330MF80G	HHXC250ARA101MF80G
HHXC630ARA330MHA0G	HHXC350ARA101MHA0G	HHXC350ARA220ME61G	HHXC160ARA151MF80G
HHXC350ARA470MF61G	HHXC250ARA560MF61G	HHXC500ARA680MHA0G	HHXC350ARA470MF80G
HHXC350ARA151MHA0G	HHXC250ARA331MJA0G	HHXC630ARA220MHA0G	HHXC350ARA151MJA0G
HHXC630ARA820MJA0G	HHXC630ARA470MHA0G	HHXC350ARA271MJA0G	HHXC160ARA471MJA0G
HHXC250ARA330ME61G	HHXC350ARA680MF80G	HHXC250ARA221MHA0G	HHXC350ARA270MF61G
HHXC500ARA470MHA0G	HHXC630ARA100MF61G	HHXC160ARA271MHA0G	HHXC630ARA330MJA0G
HHXC500ARA330MHA0G	HHXC630ARA220MF80G	HHXC500ARA150MF80G	HHXC250ARA151MHA0G
HHXC630ARA100MF80G	HHXC250ARA680MF80G	HHXC500ARA220MF61G	HHXC500ARA100MF61G
HHXC500ARA560MJA0G	HHXC630ARA6R8MF61G	HHXC500ARA100ME61G	HHXC250ARA271MJA0G
HHXC630ARA560MJA0G	HHXC160ARA820MF61G	HHXC160ARA470ME61G	HHXC500ARA121MJA0G