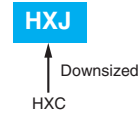


HXJ Upgrade! Series

- High reliability is realized by hybrid electrolyte
- Endurance with ripple current : 4,000 hours at 125°C
- Rated voltage range : 16 to 63V_{dc}, Capacitance range : 56 to 1,000μF
- 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.

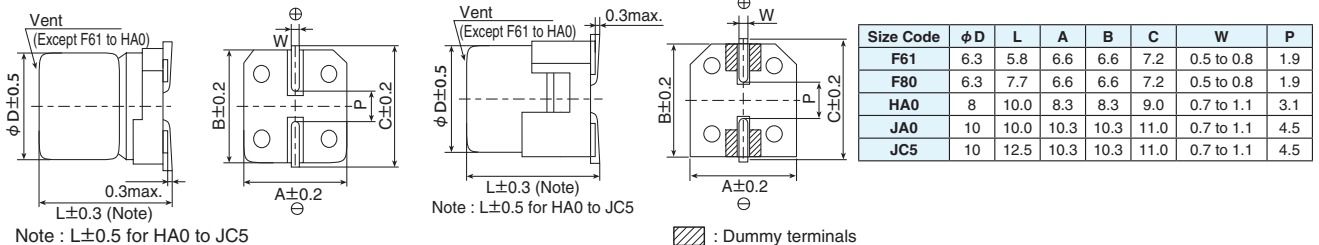


◆ SPECIFICATIONS

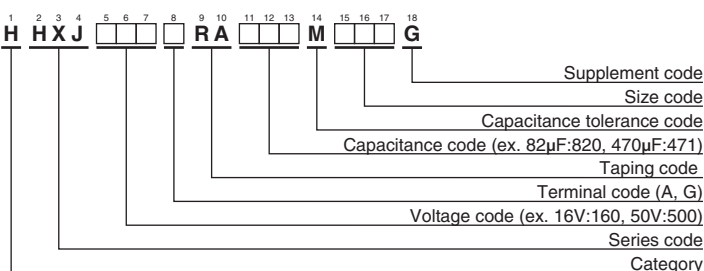
Items	Characteristics						
Category	-55 to +125°C						
Temperature Range							
Rated Voltage Range	16 to 63V _{dc}						
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)						
Leakage Current	I=0.01CV or 3μA, whichever is greater Where, I : Max. leakage current (μA), C: Nominal capacitance(μF), V : Rated voltage(V) (at 20°C after 2 minutes)						
Dissipation Factor (tan δ)	Rated voltage(V _{dc})	16V	25V	35V	50V	63V	(at 20°C, 120Hz)
	tan δ (Max.)	0.16	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 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]

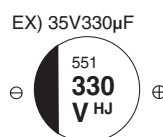
- Terminal Code : A
- Size code : F61 to JC5
- Terminal Code : G (Vibration resistant structure)
- Size code : F61 to JC5



◆ PART NUMBERING SYSTEM



◆ MARKING



● Rated voltage symbol

Rated voltage (V _{dc})	Symbol
16	C
25	E
35	V
50	H
63	J

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



◆STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Size code	ESR (mΩ max./20°C, 100kHz)	Rated ripple current (mA _{rms} /125°C, 100kHz)	Part No.
16	150	F61	45	1,080	HHXJ160□RA151MF61G
	220	F80	27	1,800	HHXJ160□RA221MF80G
	470	HA0	20	2,000	HHXJ160□RA471MHA0G
	820	JA0	18	2,800	HHXJ160□RA821MJA0G
	1,000	JC5	15	3,700	HHXJ160□RA102MJC5G
25	68	F61	50	1,300	HHXJ250□RA680MF61G
	82	F61	50	1,300	HHXJ250□RA820MF61G
	100	F61	50	1,300	HHXJ250□RA101MF61G
	150	F80	30	1,800	HHXJ250□RA151MF80G
	180	F80	30	1,800	HHXJ250□RA181MF80G
	270	HA0	22	2,000	HHXJ250□RA271MHA0G
	330	HA0	22	2,000	HHXJ250□RA331MHA0G
	470	JA0	20	2,800	HHXJ250□RA471MJA0G
	560	JA0	20	2,800	HHXJ250□RA561MJA0G
	680	JC5	15	3,700	HHXJ250□RA681MJC5G
35	56	F61	60	1,200	HHXJ350□RA560MF61G
	68	F61	60	1,200	HHXJ350□RA680MF61G
	100	F80	35	1,700	HHXJ350□RA101MF80G
	120	F80	35	1,700	HHXJ350□RA121MF80G
	180	HA0	22	2,000	HHXJ350□RA181MHA0G
	220	HA0	22	2,000	HHXJ350□RA221MHA0G
	330	JA0	20	2,800	HHXJ350□RA331MJA0G
	390	JA0	20	2,800	HHXJ350□RA391MJA0G
	470	JC5	16	3,600	HHXJ350□RA471MJC5G
50	82	HA0	30	1,700	HHXJ500□RA820MHA0G
	150	JA0	25	2,000	HHXJ500□RA151MJA0G
	180	JC5	19	3,300	HHXJ500□RA181MJC5G
63	56	HA0	40	1,700	HHXJ630□RA560MHA0G
	100	JA0	30	2,000	HHXJ630□RA101MJA0G
	120	JC5	19	3,300	HHXJ630□RA121MJC5G

□ : Enter the appropriate terminal code.
 New products are indicated in red text.

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Capacitance(μF)	Frequency(Hz)							
	120	1k	5k	10k	20k	30k	100k to 500k	
56 to 82	0.15	0.50	0.70	0.75	0.80	0.80	1.00	
100 to 1,000	0.15	0.50	0.70	0.75	0.85	0.85	1.00	



- 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 ⑧ Submarine equipment ⑨ 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.
Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.
- We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.
- We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.
The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
- We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.
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](#)