HXE Series

- High ripple current model is now available for JC5 size.
- High reliability is realized by hybrid electrolyte
- Endurance with ripple current : 2,000 to 4,000 hours at 135℃
- Rated voltage range : 16 to 63Vdc, Capacitance range : 22 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

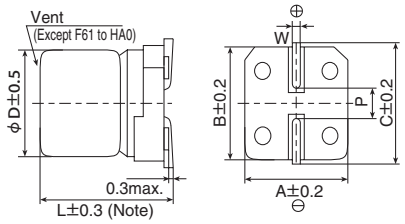


◆SPECIFICATIONS

Items	Characteristics						
Category Temperature Range	-55 to +135℃						
Rated Voltage Range	16 to 63Vdc						
Capacitance Tolerance	±20% (M)						(at 20℃, 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℃ 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℃, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Z(-25℃)/Z(+20℃)≦1.5 Z(-55℃)/Z(+20℃)≦2.0						(at 100kHz)
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ 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 (F61, F80 : 2,000 hours) at 125℃ or 135℃.						
	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℃ after exposing them for 1,000 hours at 135℃ 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℃ after subjecting them to the DC rated voltage at 85℃, 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					

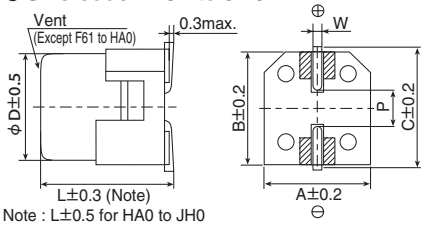
◆DIMENSIONS [mm]

● Terminal Code : A
● Size code : F61 to JH0



Note : L±0.5 for HA0 to JH0

● Terminal Code : G(Vibration resistant structure)
● Size code : F61 to JH0



Note : L±0.5 for HA0 to JH0

▨ : Supportive terminals

Size Code	ϕD	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
JC5	10	12.5	10.3	10.3	11.0	0.7 to 1.1	4.5
JH0	10	16.5	10.3	10.3	11.0	1.0 to 1.3	4.2

◆PART NUMBERING SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
H	H	X	E					R	A				M				G

- 18 Supplement code
- 15 16 17 Size code
- 14 Capacitance tolerance code
- 11 12 13 Capacitance code (ex. 47μF:470, 100μF:101)
- 9 10 Taping code
- 8 Terminal code (A, G)
- 5 6 7 Voltage code (ex. 35V:350, 50V:500)
- 4 Series code
- 1 2 3 Category

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

◆MARKING

EX) 35V270μF



●Rated voltage symbol

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

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HXE Series

◆STANDARD RATINGS

WV (V_{dc})	Cap (μF)	Size code	ESR (mΩ max./20℃, 100kHz)	Rated ripple current (mArms/100kHz)		Part No.
				125℃	135℃	
16	82	F61	45	1,700	950	HHXE160□RA820MF61G
	150	F80	27	2,500	1,450	HHXE160□RA151MF80G
	270	HA0	20	3,050	1,700	HHXE160□RA271MHA0G
	470	JA0	18	3,400	2,100	HHXE160□RA471MJA0G
	560	JC5	15	4,200	2,550	HHXE160□RA561MJC5G
25	56	F61	50	1,400	900	HHXE250□RA560MF61G
	100	F80	30	2,100	1,400	HHXE250□RA101MF80G
	220	HA0	22	2,900	1,600	HHXE250□RA221MHA0G
	330	JA0	20	3,300	2,000	HHXE250□RA331MJA0G
	470	JC5	16	4,050	2,500	HHXE250□RA471MJC5G
	560	JH0	14	4,300	2,500	HHXE250□RA561MJH0G
35	47	F61	60	1,400	900	HHXE350□RA470MF61G
	68	F80	35	2,100	1,400	HHXE350□RA680MF80G
	150	HA0	22	2,900	1,600	HHXE350□RA151MHA0G
	270	JA0	20	3,300	2,000	HHXE350□RA271MJA0G
	330	JC5	17	3,950	2,400	HHXE350□RA331MJC5G
	470	JH0	14	4,300	2,500	HHXE350□RA471MJH0G
50	33	HA0	30	2,400	1,250	HHXE500□RA330MHA0G
	47	HA0	30	2,400	1,250	HHXE500□RA470MHA0G
	56	JA0	25	2,900	1,600	HHXE500□RA560MJA0G
	68	HA0	30	2,400	1,250	HHXE500□RA680MHA0G
	100	JA0	25	2,900	1,600	HHXE500□RA101MJA0G
	120	JA0	25	2,900	1,600	HHXE500□RA121MJA0G
	150	JC5	19	3,700	2,250	HHXE500□RA151MJC5G
	220	JH0	16	4,100	2,400	HHXE500□RA221MJH0G
63	22	HA0	40	2,100	1,100	HHXE630□RA220MHA0G
	33	HA0	40	2,100	1,100	HHXE630□RA330MHA0G
	33	JA0	30	2,600	1,400	HHXE630□RA330MJA0G
	47	HA0	40	2,100	1,100	HHXE630□RA470MHA0G
	56	JA0	30	2,600	1,400	HHXE630□RA560MJA0G
	82	JA0	30	2,600	1,400	HHXE630□RA820MJA0G
	100	JC5	22	3,450	2,100	HHXE630□RA101MJC5G
	150	JH0	16	4,100	2,400	HHXE630□RA151MJH0G

□ : Enter the appropriate terminal code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(μF) \ Frequency(Hz)	120	1k	5k	10k	20k	30k	100k to 500k
22 to 33	0.07	0.30	0.50	0.60	0.70	0.75	1.00
47 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

Product specifications in this catalog are subject to change without notice.Request our product specifications before purchase and/or use. Please use our products based on the information contained in this catalog and product specifications.

■ 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

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