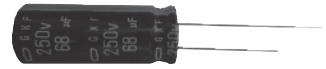




# GXF Series

- Downsizing and high-ripple current version of GXE series
- For automobile modules and networking equipment and other high temperature applications
- Endurance with ripple current : 3,000 hours at 125°C
- Solvent resistant type except 160 to 400V<sub>dc</sub>
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

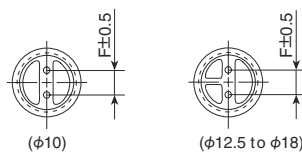
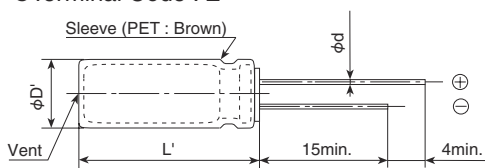


### ◆ SPECIFICATIONS

Items	Characteristics								
<b>Category</b>	-40 to +125°C								
<b>Temperature Range</b>	-40 to +125°C								
<b>Rated Voltage Range</b>	25 to 400V <sub>dc</sub>								
<b>Capacitance Tolerance</b>	±20%(M) (20°C, 120Hz)								
<b>Leakage Current</b>	25 to 100V <sub>dc</sub>				160 to 400V <sub>dc</sub>				
	I=0.03CV or 4 μA, whichever is greater.				CV ≤ 1,000 I=0.1CV+40 CV > 1,000 I=0.04CV+100				
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 1 minute)								
<b>Dissipation Factor (tan δ)</b>	Rated voltage (V <sub>dc</sub> )	25V	35V	50V	63V	80V	100V	160 to 250V	350 to 400V
	tan δ (Max.)	0.14	0.12	0.10	0.10	0.08	0.08	0.15	0.20
	When nominal capacitance exceeds 1,000 μF, add 0.02 to the value above for each 1,000 μF increase. (at 20°C, 120Hz)								
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	Rated voltage (V <sub>dc</sub> )	25V	35V	50V	63V	80V	100V	160 to 250V	350 to 400V
	Z(-25°C)/Z(+20°C)	2	2	2	2	2	2	3	6
	Z(-40°C)/Z(+20°C)	4	4	4	4	4	4	6	12
<b>Endurance</b>	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 the 3,000 hours at 125°C.								
	Rated Voltage	25 to 100V <sub>dc</sub>				160 to 400V <sub>dc</sub>			
	Capacitance change	≤ ±30% of the initial value				≤ ±20% of the initial value			
	D.F. (tan δ)	≤ 300% of the initial specified value				≤ 200% of the initial specified value			
	Leakage current	≤ The initial specified value				≤ The initial specified value			
<b>Shelf Life</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours (500hours for 160 to 400V <sub>dc</sub> ) 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.								
	Rated Voltage	25 to 100V <sub>dc</sub>				160 to 400V <sub>dc</sub>			
	Capacitance change	≤ ±30% of the initial value				≤ ±20% of the initial value			
	D.F. (tan δ)	≤ 300% of the initial specified value				≤ 200% of the initial specified value			
	Leakage current	≤ The initial specified value				≤ 500% of the initial specified value			

### ◆ DIMENSIONS [mm]

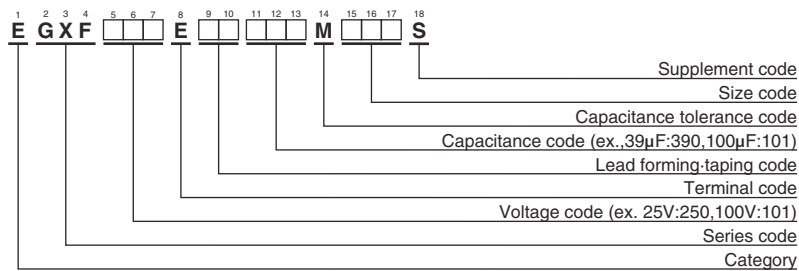
- Terminal Code : E



Gas escape end seal

ΦD	10	12.5	14.5	16	18
Φd	0.6	0.6	0.8	0.8	0.8
F	5.0	5.0	7.5	7.5	7.5
ΦD'	ΦD+0.5max.				
L'	L+1.5max.				

### ◆ PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"



STANDARD RATINGS

Table with columns: WV (Vdc), Cap (µF), Case size φDxL (mm), ESR (Ωmax./100kHz) at 20°C and -40°C, Rated ripple current (mA rms/125°C, 100kHz), Part No. The table is organized into sections for WV values of 25, 35, and 50, and further subdivided by capacitance values.

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.



◆STANDARD RATINGS

VV (V <sub>dc</sub> )	Cap (μF)	Case size φDxL(mm)	ESR (Ωmax./100kHz)		Rated ripple current (mA <sub>rms</sub> /125°C, 100kHz)	Part No.	VV (V <sub>dc</sub> )	Cap (μF)	Case size φDxL(mm)	ESR (Ωmax./100kHz)		Rated ripple current (mA <sub>rms</sub> /125°C, 100kHz)	Part No.
			20°C	-40°C						20°C	-40°C		
100	330	16×25	0.057	0.39	2,190	EGXF101E□□331ML25S	*1	39	10×30	—	—	1,410	EGXF251E□□390MJ30S
	330	18×20	0.069	0.39	1,690	EGXF101E□□331MM20S		47	10×35	—	—	1,600	EGXF251E□□470MJ35S
	360	14.5×30	0.050	0.40	2,620	EGXF101E□□361MU30S		51	12.5×25	—	—	1,510	EGXF251E□□510MK25S
	390	12.5×40	0.044	0.33	2,970	EGXF101E□□391MK40S		51	14.5×20	—	—	1,340	EGXF251E□□510MU20S
	390	14.5×35	0.044	0.33	2,850	EGXF101E□□391MU35S		56	10×40	—	—	1,790	EGXF251E□□560MJ40S
	390	16×30	0.044	0.33	2,770	EGXF101E□□391ML30S		62	16×20	—	—	1,500	EGXF251E□□620ML20S
	430	18×25	0.054	0.32	2,310	EGXF101E□□431MM25S		68	12.5×30	—	—	1,770	EGXF251E□□680MK30S
	510	14.5×40	0.038	0.26	3,230	EGXF101E□□511MU40S		68	14.5×25	—	—	1,610	EGXF251E□□680MU25S
	510	16×35	0.037	0.26	3,010	EGXF101E□□511ML35S		82	12.5×35	—	—	1,970	EGXF251E□□820MK35S
	560	18×30	0.043	0.26	2,830	EGXF101E□□561MM30S		82	18×20	—	—	1,730	EGXF251E□□820MM20S
	620	16×40	0.032	0.21	3,320	EGXF101E□□621ML40S		91	14.5×30	—	—	1,880	EGXF251E□□910MU30S
	680	18×35	0.034	0.19	3,210	EGXF101E□□681MM35S		91	16×25	—	—	1,850	EGXF251E□□910ML25S
	820	18×40	0.029	0.16	3,410	EGXF101E□□821MM40S		100	12.5×40	—	—	2,150	EGXF251E□□101MK40S
	*1	51	10×20	—	—	900		EGXF161E□□510MJ20S	100	14.5×35	—	—	2,030
62		10×25	—	—	1,200	EGXF161E□□620MJ25S	120	18×25	—	—	2,050	EGXF251E□□121MM25S	
75		12.5×20	—	—	1,220	EGXF161E□□750MK20S	130	14.5×40	—	—	2,250	EGXF251E□□131MU40S	
82		10×30	—	—	1,410	EGXF161E□□820MJ30S	16	10×20	—	—	460	EGXF351E□□160MJ20S	
100		10×35	—	—	1,600	EGXF161E□□101MJ35S	20	10×25	—	—	610	EGXF351E□□200MJ25S	
100		14.5×20	—	—	1,340	EGXF161E□□101MU20S	24	12.5×20	—	—	680	EGXF351E□□240MK20S	
110		12.5×25	—	—	1,510	EGXF161E□□111MK25S	27	10×30	—	—	720	EGXF351E□□270MJ30S	
120		10×40	—	—	1,790	EGXF161E□□121MJ40S	33	10×35	—	—	820	EGXF351E□□330MJ35S	
130		16×20	—	—	1,500	EGXF161E□□131ML20S	33	14.5×20	—	—	870	EGXF351E□□330MU20S	
150		12.5×30	—	—	1,770	EGXF161E□□151MK30S	36	10×40	—	—	940	EGXF351E□□360MJ40S	
150		14.5×25	—	—	1,610	EGXF161E□□151MU25S	36	12.5×25	—	—	980	EGXF351E□□360MK25S	
180		12.5×35	—	—	1,970	EGXF161E□□181MK35S	43	16×20	—	—	970	EGXF351E□□430ML20S	
180		14.5×30	—	—	1,880	EGXF161E□□181MU30S	47	12.5×30	—	—	1,210	EGXF351E□□470MK30S	
180		18×20	—	—	1,730	EGXF161E□□181MM20S	47	14.5×25	—	—	1,210	EGXF351E□□470MU25S	
*1	200	12.5×40	—	—	2,150	EGXF161E□□201MK40S	56	12.5×35	—	—	1,330	EGXF351E□□560MK35S	
	200	16×25	—	—	1,850	EGXF161E□□201ML25S	56	16×25	—	—	1,130	EGXF351E□□560ML25S	
	220	14.5×35	—	—	2,030	EGXF161E□□221MU35S	56	18×20	—	—	1,060	EGXF351E□□560MM20S	
	240	18×25	—	—	2,050	EGXF161E□□241MM25S	62	14.5×30	—	—	1,410	EGXF351E□□620MU30S	
	270	14.5×40	—	—	2,250	EGXF161E□□271MU40S	68	12.5×40	—	—	1,450	EGXF351E□□680MK40S	
	*1	36	10×20	—	—	900	EGXF201E□□360MJ20S	68	14.5×35	—	—	1,590	EGXF351E□□680MU35S
		43	10×25	—	—	1,200	EGXF201E□□430MJ25S	75	18×25	—	—	1,200	EGXF351E□□750MM25S
		56	12.5×20	—	—	1,220	EGXF201E□□560MK20S	91	14.5×40	—	—	1,820	EGXF351E□□910MU40S
		62	10×30	—	—	1,410	EGXF201E□□620MJ30S	12	10×20	—	—	460	EGXF401E□□120MJ20S
		75	10×35	—	—	1,600	EGXF201E□□750MJ35S	16	10×25	—	—	610	EGXF401E□□160MJ25S
		75	14.5×20	—	—	1,340	EGXF201E□□750MU20S	20	10×30	—	—	720	EGXF401E□□200MJ30S
		82	10×40	—	—	1,790	EGXF201E□□820MJ40S	20	12.5×20	—	—	680	EGXF401E□□200MK20S
		82	12.5×25	—	—	1,510	EGXF201E□□820MK25S	24	10×35	—	—	820	EGXF401E□□240MJ35S
		100	12.5×30	—	—	1,770	EGXF201E□□101MK30S	24	14.5×20	—	—	870	EGXF401E□□240MU20S
100		16×20	—	—	1,500	EGXF201E□□101ML20S	27	12.5×25	—	—	980	EGXF401E□□270MK25S	
110		14.5×25	—	—	1,610	EGXF201E□□111MU25S	30	10×40	—	—	940	EGXF401E□□300MJ40S	
130		12.5×35	—	—	1,970	EGXF201E□□131MK35S	33	16×20	—	—	970	EGXF401E□□330ML20S	
130		14.5×30	—	—	1,880	EGXF201E□□131MU30S	36	12.5×30	—	—	1,210	EGXF401E□□360MK30S	
130		18×20	—	—	1,730	EGXF201E□□131MM20S	36	14.5×25	—	—	1,210	EGXF401E□□360MU25S	
150	12.5×40	—	—	2,150	EGXF201E□□151MK40S	43	12.5×35	—	—	1,330	EGXF401E□□430MK35S		
150	16×25	—	—	1,850	EGXF201E□□151ML25S	43	18×20	—	—	1,060	EGXF401E□□430MM20S		
160	14.5×35	—	—	2,030	EGXF201E□□161MU35S	47	14.5×30	—	—	1,410	EGXF401E□□470MU30S		
180	18×25	—	—	2,050	EGXF201E□□181MM25S	47	16×25	—	—	1,130	EGXF401E□□470ML25S		
200	14.5×40	—	—	2,250	EGXF201E□□201MU40S	51	12.5×40	—	—	1,450	EGXF401E□□510MK40S		
*1	24	10×20	—	—	900	EGXF251E□□240MJ20S	56	14.5×35	—	—	1,590	EGXF401E□□560MU35S	
	30	10×25	—	—	1,200	EGXF251E□□300MJ25S	62	18×25	—	—	1,200	EGXF401E□□620MM25S	
	36	12.5×20	—	—	1,220	EGXF251E□□360MK20S	68	14.5×40	—	—	1,820	EGXF401E□□680MU40S	

□ □ : Enter the appropriate lead forming or taping code.  
 \*1: Assembly boards with the designated products attached cannot be cleaned.

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

(25 to 100V<sub>dc</sub>)

Capacitance(μF)	Frequency(Hz)	120	1k	10k	100k
130 to 240		0.40	0.82	0.93	1.00
270 to 560		0.50	0.85	0.94	1.00
620 to 2,000		0.60	0.87	0.95	1.00
2,200 to 4,300		0.75	0.90	0.95	1.00
4,700 to 11,000		0.85	0.95	0.98	1.00

(160 to 400V<sub>dc</sub>)

Capacitance(μF)	Frequency(Hz)	50	120	300	1k	10k	100k
12 to 33		0.15	0.30	0.45	0.65	0.95	1.00
36 to 270		0.25	0.35	0.50	0.70	0.96	1.00

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.

Please contact us for lifetime estimation.



- 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 and Packaging](#)

[Available Terminals for Snap-in and Screw Mount Type](#)