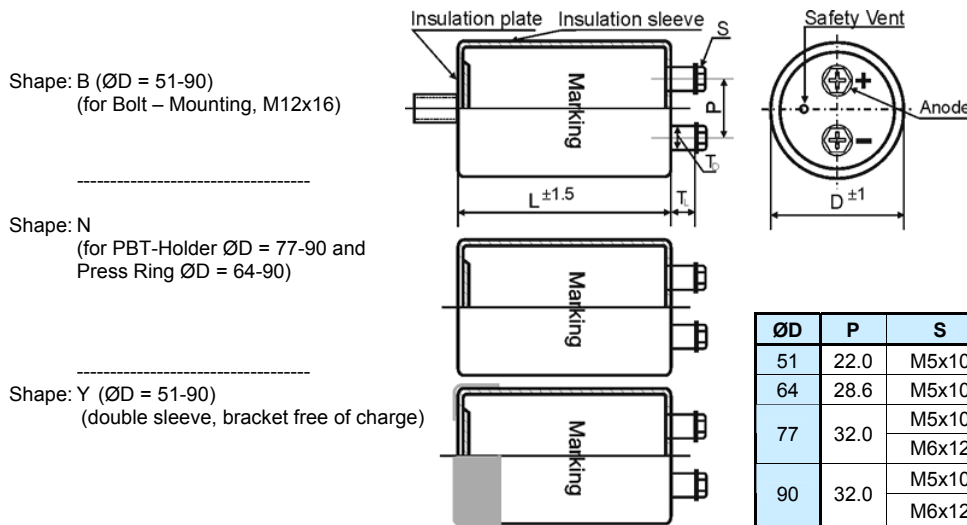


► **Specifications /**

Items	Characteristics
Temperature range	-40°C ~ + 105°C
Rated voltage V_r	350 VDC - 450 VDC
Surge voltage	Repetitive max. 30 sec per 6 Minutes
Leakage current max. I_L (20°C, 5 min)	$0.01 \cdot C \cdot V_r$ [μ A] or 3 mA, which is smaller.
Capacitance tolerance	+/- 20%
Useful life	12000 h at 105°C
Field failure rate	$0.5 \text{ FIT} = 0.5 \cdot 10^{-9}$ Failures/hour
Failure rate	Less than 0.1% within the useful life



► **Outline Drawing /**



ØD	P	S	T _L	T _D	Cap material
51	22.0	M5x10	4.5	10	PPS
64	28.6	M5x10	4.5	10	PPS
77	32.0	M5x10	4.5	10	PPS
		M6x12	5.0	16	PPS
90	32.0	M5x10	4.0	10	PPS
		M6x12	4.0	16	PPS

Size in mm. First listed terminal is standard.

► **Ripple Current Multiplier /**

Frequency [Hz]	50/60	120	300	1k	≥ 10k
multiplier	0.80	1.00	1.18	1.34	1.45

Forced cooling [m/sec]	v < 1.0	v ≥ 1.0
multiplier	1.0	1.1

► **Product Code /**

Example: 2700µF 350V D=64mm L=96mm with Y-Bracket

GXA **2V** **272** **Y** **D** **096** **()**

Type of series

Capacitance code

The first two digits are significant. The last digit indicates the number of following zeros in µF.

Fixing symbol code

B : Bolt
ØD = 51 - 90

N : No double sleeve (PBT-Safety-holder or press ring)

Y : 3 Stoppers Bracket
ØD = 51 - 90

refer to pages 89 – 96

Case code diameter

ØD	Code
51	C
64	D
77	E
90	F

Case Code length

Length in mm (3 digits)

Customers' specification

Rated voltage code			
Code	Voltage	Code	Voltage
2V	350	2W	450
2G	400		

Rated Voltage Code (Surge Voltage) V_r [V DC]	Capacitance C_r [μ F]	Ripple Current at 40°C/120Hz [A RMS]	Ripple Current at 105°C/120Hz I_r [A RMS]	ESR (typ) at 20°C/100Hz [m Ω]	Zmax at 20°C/10kHz [m Ω]	ESL (typ) [nH]	DxL [mm]	Product Code
350 2V (400)	1 000	12.2	4.5	70	75	17	51x75	GXA2V102□C075
	1 200	13.0	4.8	65	70	17	51x75	GXA2V122□C075
	1 500	16.2	6.0	53	55	17	51x96	GXA2V152□C096
	1 800	17.8	6.6	44	44	17	51x96	GXA2V182□C096
	2 200	22.1	8.2	28	28	17	51x130	GXA2V222□C130
	2 700	24.0	8.9	24	25	18	64x96	GXA2V272□D096
	3 300	28.4	10.5	21	22	18	64x115	GXA2V332□D115
	3 900	32.4	12.0	18	20	18	64x130	GXA2V392□D130
	4 700	35.6	13.2	14	18	20	77x115	GXA2V472□E115
		37.8	14.0	16	20	18	64x155	GXA2V472□D155
	5 600	40.8	15.1	12	15	20	77x130	GXA2V562□E130
		45.4	16.8	14	20	18	64x195	GXA2V562□D195
	6 800	46.9	17.4	14	18	20	77x144	GXA2V682□E144
		48.1	17.8	14	18	20	77x155	GXA2V682□E155
	8 200	56.2	20.8	12	15	20	90x157	GXA2V822□F157
10 000	61.8	22.9	10	15	20	90x157	GXA2V103□F157	
12 000	74.0	27.4	8	13	20	90x196	GXA2V123□F196	
15 000	89.4	33.1	6	10	20	90x236	GXA2V153□F236	
400 2G (450)	1 000	12.2	4.5	70	75	17	51x75	GXA2G102□C075
	1 200	14.3	5.3	65	70	17	51x96	GXA2G122□C096
	1 500	17.3	6.4	53	55	17	51x115	GXA2G152□C115
	1 800	20.0	7.4	44	44	17	51x130	GXA2G182□C130
	2 200	21.3	7.9	42	45	18	64x96	GXA2G222□D096
	2 700	25.4	9.4	38	40	18	64x115	GXA2G272□D115
	3 300	28.4	10.5	30	32	20	77x103	GXA2G332□E103
		29.4	10.9	30	35	18	64x130	GXA2G332□D130
	3 900	32.4	12.0	24	27	20	77x115	GXA2G392□E115
		34.6	12.8	27	32	18	64x155	GXA2G392□D155
	4 700	37.3	13.8	22	23	20	77x130	GXA2G472□E130
		41.6	15.4	20	21	18	64x195	GXA2G472□D195
	5 600	43.5	16.1	20	20	20	77x155	GXA2G562□E155
		45.4	16.8	20	20	18	64x195	GXA2G562□D195
	6 800	51.3	19.0	18	18	20	90x157	GXA2G682□F157
8 200	56.2	20.8	15	17	20	90x157	GXA2G822□F157	
10 000	67.5	25.0	12	15	20	90x196	GXA2G103□F196	
12 000	80.2	29.7	9	12	20	90x236	GXA2G123□F236	
450 2W (500)	1 000	13.0	4.8	70	75	17	51x96	GXA2W102□C096
	1 200	15.7	5.8	65	70	17	51x115	GXA2W122□C115
	1 500	18.4	6.8	53	55	17	51x130	GXA2W152□C130
	1 800	19.4	7.2	44	44	18	64x96	GXA2W182□D096
	2 200	23.0	8.5	42	45	18	64x115	GXA2W222□D115
	2 700	26.7	9.9	40	42	18	64x130	GXA2W272□D130
		27.0	10.0	42	45	20	77x115	GXA2W272□E115
	3 300	31.3	11.6	35	40	20	77x130	GXA2W332□E130
		31.6	11.7	30	35	18	64x155	GXA2W332□D155
		32.7	12.1	30	35	20	77x143	GXA2W332□E143
	3 900	38.1	14.1	27	32	18	64x195	GXA2W392□D195
	4 700	38.8	14.4	24	27	20	77x143	GXA2W472□E143
		40.0	14.8	24	27	20	77x155	GXA2W472□E155
	5 600	46.2	17.1	24	27	20	90x157	GXA2W562□F157
		47.8	17.7	22	23	20	77x195	GXA2W562□E195
6 800	55.9	20.7	20	20	20	90x196	GXA2W682□F196	
8 200	61.6	22.8	18	18	20	90x196	GXA2W822□F196	
10 000	73.2	27.1	15	15	20	90x236	GXA2W103□F236	

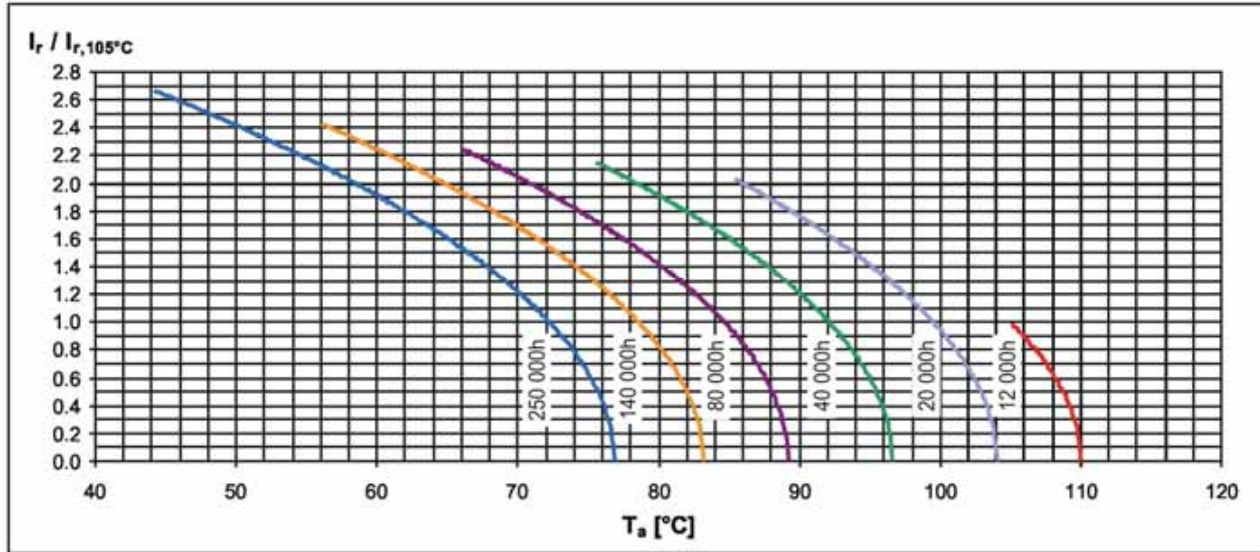
► **Life Time Table /**

GXA I_r at 105°C	Useful life as function of ambient temperature and ripple current												
	x 1.0	x 1.2	x 1.4	x 1.6	x 1.8	x 2.0	x 2.1	x 2.2	x 2.3	x 2.4	x 2.5	x 2.6	x 2.7
$T_a = 40^\circ\text{C}$	250	250	250	250	250	250	250	250	250	250	250	250	250
$T_a = 45^\circ\text{C}$	250	250	250	250	250	250	250	250	250	250	250	250	250
$T_a = 50^\circ\text{C}$	250	250	250	250	250	250	250	250	250	250	250	210	
$T_a = 55^\circ\text{C}$	250	250	250	250	250	250	250	241	199	163			
$T_a = 60^\circ\text{C}$	250	250	250	250	250	217	183	152	126				
$T_a = 65^\circ\text{C}$	250	250	250	250	189	137	116	96					
$T_a = 70^\circ\text{C}$	250	250	205	159	120	87	73	61					
$T_a = 75^\circ\text{C}$	194	162	130	101	76	55	46						
$T_a = 80^\circ\text{C}$	123	102	82	64	48	35	29						
$T_a = 85^\circ\text{C}$	78	65	52	40	30	22							
$T_a = 90^\circ\text{C}$	49	41	33	25	19								
$T_a = 95^\circ\text{C}$	31	26	21	16									
$T_a = 100^\circ\text{C}$	19	16											
$T_a = 105^\circ\text{C}$	12												

khrs Max. value limited to 250 000 hours.

► **Life Time Graph /**

Useful life depending on ambient temperature T_a and ripple current operating conditions I_r versus rated ripple current at the upper category temperature $I_{r,105^\circ\text{C},120\text{Hz}}$



► **Life Time Tests and Requirements /**

Life time test	Reference	Test procedure	Life time criteria
Endurance test	JIS-C-5101-4 JIS-C-5102 IEC 60384-4	$T_a = 105^\circ\text{C}$; V_r , I_r applied 8000 hours	$\Delta C/C < 15\%$ $\text{Tan}\delta < 175\%$ (of initial value) $I_L = \text{spec. value}$
Useful life	JIS-C-5104-4 IEC 60384-4	$T_a = 105^\circ\text{C}$; V_r , I_r applied 12000 hours	$\Delta C/C < 20\%$ $\text{Tan}\delta < 200\%$ (of initial value) $I_L = \text{spec. value}$