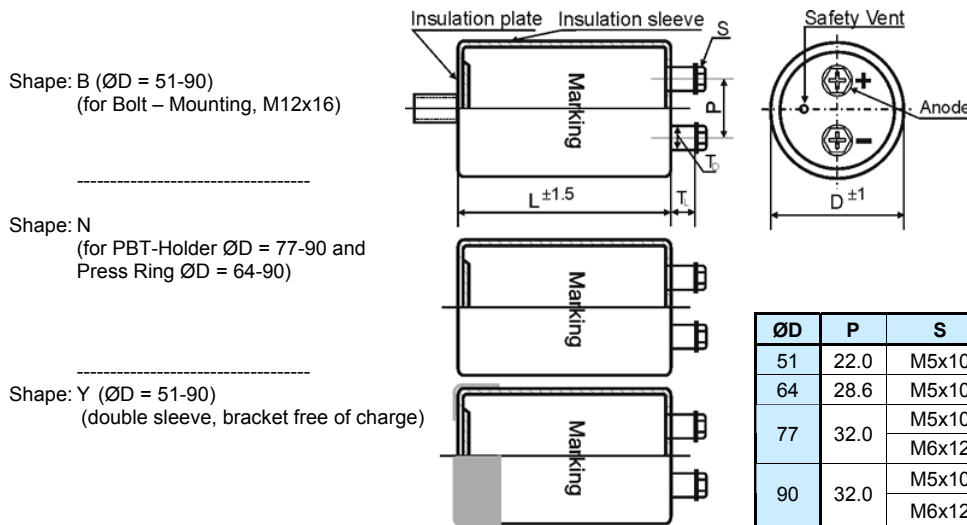


► **Specifications /**

Items	Characteristics
Temperature range	-40°C ~ + 105°C
Rated voltage V_r	400 VDC - 500 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	5.5	10	PH
64	28.6	M5x10	5.5	10	PH
77	32.0	M5x10	5.0	10	PH
		M6x12	5.0	16	PPS
90	32.0	M5x10	5.0	10	PH
		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: 5600µF 500V D=90mm L=196mm with Y-Bracket

GX2 **2H** **562** **Y** **F** **196** **()**

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
2G	400	2H	500
2W	450		

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
400 2G (450)	1 200	13.0	4.8	65	70	17	51x75	GX22G122□C075
	1 500	16.2	6.0	53	55	17	51x96	GX22G152□C096
	1 800	18.9	7.0	44	44	17	51x115	GX22G182□C115
	2 200	22.1	8.2	42	45	17	51x130	GX22G222□C130
	2 700	23.5	8.7	38	40	18	64x96	GX22G272□D096
	3 300	28.1	10.4	30	35	18	64x115	GX22G332□D115
	3 900	31.9	11.8	27	32	18	64x130	GX22G392□D130
	4 700	35.4	13.1	22	23	20	77x115	GX22G472□E115
		37.8	14.0	22	23	18	64x155	GX22G472□D155
	5 600	40.8	15.1	20	23	20	77x130	GX22G562□E130
		42.9	15.9	20	21	18	64x170	GX22G562□D170
	6 100	44.0	16.3	19	20	20	77x144	GX22G612□E144
		44.8	16.6	19	20	18	64x170	GX22G612□D170
	6 800	47.8	17.7	18	18	20	77x155	GX22G682□E155
		47.8	17.7	18	18	20	90x131	GX22G682□F131
	8 200	54.3	20.1	15	17	20	77x171	GX22G822□E171
57.8		21.4	15	17	20	90x196	GX22G822□F196	
10 000	63.7	23.6	12	15	20	90x171	GX22G103□F171	
450 2W (500)	1 000	12.2	4.5	70	75	17	51x75	GX22W102□C075
	1 200	14.3	5.3	65	70	17	51x96	GX22W122□C096
	1 500	16.5	6.1	68	70	17	51x105	GX22W152□C105
		17.0	6.3	53	55	17	51x115	GX22W152□C115
	1 800	20.0	7.4	44	45	17	51x130	GX22W182□C130
	2 200	21.3	7.9	42	42	18	64x96	GX22W222□D096
	2 700	25.1	9.3	42	42	20	77x96	GX22W272□E096
		25.4	9.4	42	42	18	64x115	GX22W272□D115
	3 300	29.7	11.0	35	40	20	77x115	GX22W332□E115
	3 900	35.4	13.1	27	32	20	77x144	GX22W392□E144
		35.9	13.3	27	32	18	64x170	GX22W392□D170
	4 700	38.8	14.4	24	27	20	77x144	GX22W472□E144
		41.6	15.4	24	27	18	64x195	GX22W472□D195
	5 600	45.4	16.8	24	23	20	77x171	GX22W562□E171
6 800	51.3	19.0	20	20	20	90x157	GX22W682□F157	
8 200	58.0	21.5	18	18	20	90x171	GX22W822□F171	
500 2H (550)	1 000	14.0	5.2	112	120	17	51x130	GX22H102□C130
	1 200	16.2	6.0	93	100	18	64x115	GX22H122□D115
	1 500	18.9	7.0	74	80	18	64x130	GX22H152□D130
	1 800	20.8	7.7	62	50	20	77x115	GX22H182□E115
	2 200	24.3	9.0	53	50	20	77x130	GX22H222□E130
	2 700	28.9	10.7	40	35	20	77x155	GX22H272□E155
	3 300	31.6	11.7	38	32	20	77x155	GX22H332□E155
	3 900	37.0	13.7	30	27	20	90x157	GX22H392□F157
	4 700	41.8	15.5	25	20	20	90x171	GX22H472□F171
	5 600	48.1	17.8	20	17	20	90x196	GX22H562□F196
6 800	57.5	21.3	17	17	20	90x236	GX22H682□F236	

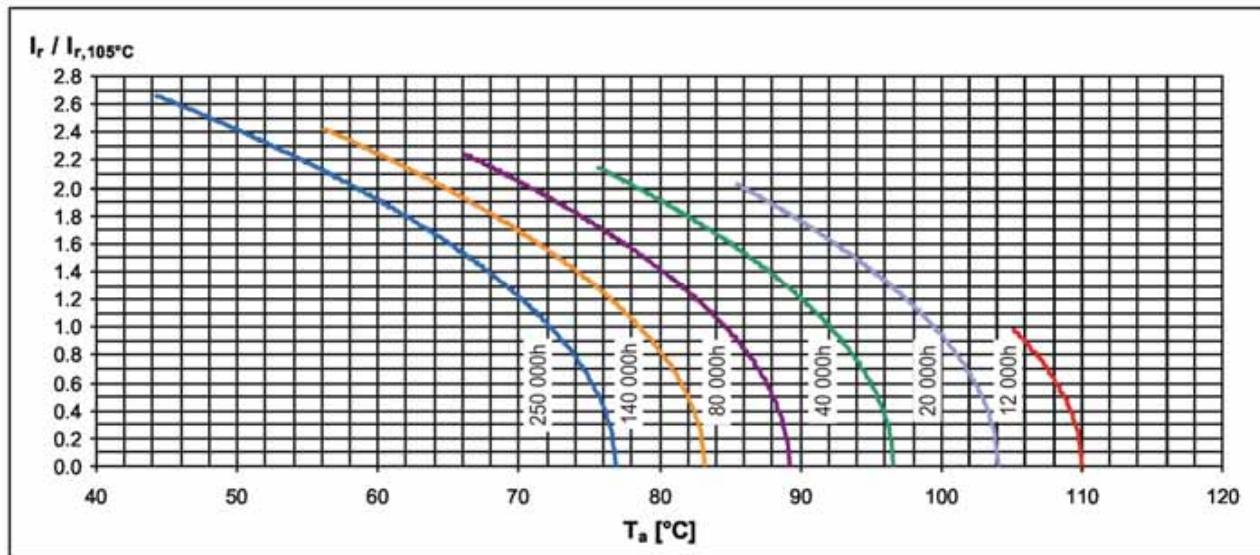
► **Life Time Table /**

GX2 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°C	250	250	250	250	250	250	250	250	250	250	250	250	250
T _a = 45°C	250	250	250	250	250	250	250	250	250	250	250	250	250
T _a = 50°C	250	250	250	250	250	250	250	250	250	250	250	210	
T _a = 55°C	250	250	250	250	250	250	250	241	199	163			
T _a = 60°C	250	250	250	250	250	217	183	152	126				
T _a = 65°C	250	250	250	250	189	137	116	96					
T _a = 70°C	250	250	205	159	120	87	73	61					
T _a = 75°C	194	162	130	101	76	55	46						
T _a = 80°C	123	102	82	64	48	35	29						
T _a = 85°C	78	65	52	40	30	22							
T _a = 90°C	49	41	33	25	19								
T _a = 95°C	31	26	21	16									
T _a = 100°C	19	16											
T _a = 105°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°C,120Hz}



► **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°C; V _r , I _r applied 8000 hours	ΔC/C < 15% Tanδ < 175% (of initial value) I _L = spec. value
Useful life	JIS-C-5104-4 IEC 60384-4	T _a = 105°C; V _r , I _r applied 12000 hours	ΔC/C < 20% Tanδ < 200% (of initial value) I _L = spec. value