HCGF5A Series

Useful of 4,000 hours at 85°C (Warranty of 2,000 hours at 85°C)

• Conform RoHS

Features

• Standard products that have been used for many years.

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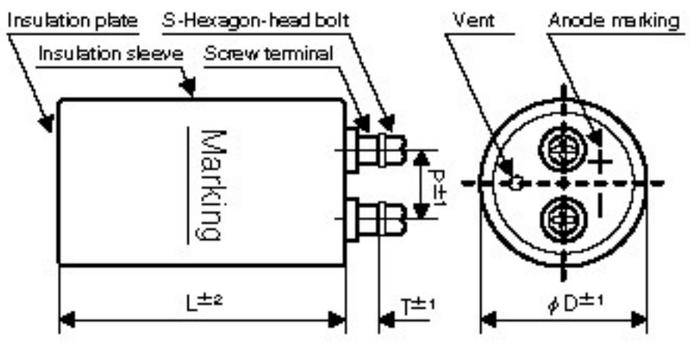

(unit : mm)

φD	P	S	T	Cap material
36	12.7	M5×10	7.0	PPS
51	22.0	M5×10	4.5	PPS
64	28.6	M5×10	4.5	PPS
77	32.0	M5×10	4.5	PPS
90	32.0	M5×10	4.0	PPS

Product Specifications

Items	Specifications
Temperature range	−25°C ~ +85°C
Rated voltage	160 ~ 450V.DC
Capacitance tolerance	±20% (20°C, 120Hz)
Leakage current	0.01CV (μA) or 5mA, whichever is smaller or less [C = nominal capacitance (μF), V = rated voltage (V)]
Dissipation factor	Less than the value specified in the standard products table. (20°C,120Hz)
Permissible ripple current	As specified in the standard products table. (40°C,120Hz)
High-temperature load	After the rated voltage with specified ripple current is applied at 85°C for 2000 hours: Capacitance tolerance: ±15% or less of the initial value Dissipation factor: 175% or less of the specified initial value Leakage current: Specified initial value or less
Others	JIS C 5101-4.

Ripple current correction coefficient

Temperature (°C)	40	60	70	85	
Correction coefficient	1.0	0.75	0.62	0.37	
Frequency (Hz)	50/60	120	300	1k	≧10K
Correction coefficient	0.7	1.0	1.1	1.3	1.4

Ripple current should be under 60 Arms at M5 terminal in accordance with from the permissible current.

Bracket

• See page 51 for shapes and dimensions.
• Product names in the Standard Products Table correspond to the bracket for Type Y (Type I for ø36 only), but Type I bracket may be used (Type of bracket Code = I).
• If bracket are not necessary, enter "N" for the type of bracket code.
• Bracket will be delivered separately.

Product code : (Example) HCGF5A Series A case 400V 10,000μF ±20%

HCGF5 A 2G 103 Y

- Y: Type of bracket code
- 103: Capacitance code
- 2G: Rated voltage code
- A: Terminal code A (screw)
- HCGF5: Type of series

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Standard Products Table

Rated Voltage Code (Surge Voltage) (V. DC)	Capacitance (μF)	Case size øDXL(mm)	tanδ 20°C,120Hz	Ripple current 40°C,120Hz (Arms)	ESR(typ.) 20°C,100Hz (mΩ)	Z max 20°C,10k Hz (mΩ)	ESL(typ.) (nH)	Product name
160 2C (200)	3300	36×121	0.25	14.0	40	35	18	HCGF5A2C332I
	3900	51×75	0.25	14.4	37	28	21	HCGF5A2C392Y
	4700	51×75	0.25	15.8	30	25	21	HCGF5A2C472Y
	5600	51×96	0.25	19.0	26	23	21	HCGF5A2C562Y
	6800	51×96	0.25	21.0	22	22	21	HCGF5A2C682Y
	8200	51×115	0.25	24.7	18	19	21	HCGF5A2C822Y
	10000	64×96	0.25	28.0	15	16	22	HCGF5A2C103Y
	12000	64×96	0.25	30.6	12	15	22	HCGF5A2C123Y
	15000	64×130	0.25	38.6	11	12	22	HCGF5A2C153Y
	18000	64×130	0.25	42.2	9	11	22	HCGF5A2C183Y
	22000	77×130	0.25	49.4	8	8	24	HCGF5A2C223Y
	27000	77×130	0.25	54.7	7	8	24	HCGF5A2C273Y
	33000	90×131	0.25	64.2	6	7	24	HCGF5A2C333Y
	39000	90×157	0.25	75.3	5	7	24	HCGF5A2C393Y
200 2D (250)	2200	36×100	0.25	10.6	68	60	18	HCGF5A2D222I
	2700	36×121	0.25	12.7	48	39	18	HCGF5A2D272I
	3300	51×75	0.25	13.3	45	35	21	HCGF5A2D332Y
	3900	51×75	0.25	14.4	37	30	21	HCGF5A2D392Y
	4700	51×96	0.25	17.4	30	27	21	HCGF5A2D472Y
	5600	51×115	0.25	20.4	26	25	21	HCGF5A2D562Y
	6800	51×130	0.25	23.7	21	20	21	HCGF5A2D682Y
	8200	64×96	0.25	25.4	17	18	22	HCGF5A2D822Y
	10000	64×96	0.25	28.0	14	14	22	HCGF5A2D103Y
	12000	77×96	0.25	32.6	12	14	24	HCGF5A2D123Y
	15000	77×96	0.25	39.0	10	13	24	HCGF5A2D153Y
	18000	77×130	0.25	44.6	8	12	24	HCGF5A2D183Y
	22000	77×155	0.25	53.0	7	7	24	HCGF5A2D223Y
	27000	90×131	0.25	58.2	6	7	24	HCGF5A2D273Y
	33000	90×157	0.25	69.0	5	7	24	HCGF5A2D333Y

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Rated Voltage Code (Surge Voltage) (V. DC)	Capacitance (μF)	Case size øDXL(mm)	tanδ 20°C,120Hz	Ripple current 40°C,120Hz (Arms)	ESR(typ.) 20°C,100Hz (mΩ)	Z max 20°C,10kHz (mΩ)	ESL(typ.) (nH)	Product name
250 2E (300)	1500	36×100	0.25	8.7	56	50	18	HCGF5A2E152I
	1800	36×100	0.25	9.5	52	44	18	HCGF5A2E182I
	2200	51×75	0.25	10.8	50	40	21	HCGF5A2E222Y
	2700	51×75	0.25	12.0	41	36	21	HCGF5A2E272Y
	3300	51×96	0.25	14.6	36	35	21	HCGF5A2E332Y
	3900	51×115	0.25	17.0	31	30	21	HCGF5A2E392Y
	4700	64×96	0.25	19.2	25	23	22	HCGF5A2E472Y
	5600	64×96	0.25	21.0	21	21	22	HCGF5A2E562Y
	6800	64×115	0.25	24.7	18	18	22	HCGF5A2E682Y
	8200	64×115	0.25	27.1	15	16	22	HCGF5A2E822Y
	10000	64×130	0.25	31.5	12	14	22	HCGF5A2E103Y
	12000	77×115	0.25	34.8	10	11	24	HCGF5A2E123Y
	15000	77×130	0.25	40.8	8	11	24	HCGF5A2E153Y
	18000	77×155	0.25	47.8	7	10	24	HCGF5A2E183Y
	22000	90×157	0.25	56.5	6	8	24	HCGF5A2E223Y
350 2V (400)	390	36×53	0.20	4.5	287	296	18	HCGF5A2V391I
	470	36×83	0.20	5.8	238	245	18	HCGF5A2V471I
	560	36×83	0.20	6.4	216	222	18	HCGF5A2V561I
	680	36×83	0.20	7.0	192	197	18	HCGF5A2V681I
	820	36×100	0.20	8.3	170	174	18	HCGF5A2V821I
	1000	36×100	0.20	9.2	131	135	18	HCGF5A2V102I
	1200	51×75	0.20	10.3	117	120	21	HCGF5A2V122Y
	1500	51×75	0.20	11.5	93	100	21	HCGF5A2V152Y
	1800	51×96	0.20	13.9	78	80	21	HCGF5A2V182Y
	2200	51×96	0.20	15.4	64	70	21	HCGF5A2V222Y
	2700	51×130	0.20	19.3	53	58	21	HCGF5A2V272Y
	3300	51×130	0.20	21.4	48	51	21	HCGF5A2V332Y
	3900	64×115	0.20	24.2	43	47	22	HCGF5A2V392Y
	4700	64×130	0.20	27.9	36	40	22	HCGF5A2V472Y
	5600	77×115	0.20	30.7	34	35	24	HCGF5A2V562Y
	6800	77×130	0.20	35.4	28	29	24	HCGF5A2V682Y
	8200	77×155	0.20	41.7	23	25	24	HCGF5A2V822Y
	10000	90×157	0.20	49.0	19	23	24	HCGF5A2V103Y
	12000	90×157	0.20	54.1	16	21	24	HCGF5A2V123Y
	15000	90×196	0.20	66.2	13	20	24	HCGF5A2V153Y
	18000	90×236	0.20	77.9	10	20	24	HCGF5A2V183Y
400 2G (450)	330	36×53	0.20	4.1	428	440	18	HCGF5A2G331I
	390	36×83	0.20	5.3	362	372	18	HCGF5A2G391I
	470	36×83	0.20	5.8	301	310	18	HCGF5A2G471I
	560	36×83	0.20	6.4	253	260	18	HCGF5A2G561I
	680	36×100	0.20	7.6	209	214	18	HCGF5A2G681I
	820	36×100	0.20	8.3	173	177	18	HCGF5A2G821I
	1000	51×75	0.20	9.4	140	150	21	HCGF5A2G102Y
	1200	51×75	0.20	10.3	117	125	21	HCGF5A2G122Y
	1500	51×96	0.20	12.7	100	108	21	HCGF5A2G152Y
	1800	51×96	0.20	13.9	88	90	21	HCGF5A2G182Y
	2200	51×130	0.20	17.4	68	75	21	HCGF5A2G222Y
	2700	64×96	0.20	18.8	59	66	22	HCGF5A2G272Y
	3300	64×115	0.20	22.2	48	53	22	HCGF5A2G332Y
	3900	64×130	0.20	25.4	43	48	22	HCGF5A2G392Y
	4700	77×115	0.20	28.2	36	41	24	HCGF5A2G472Y
	5600	77×130	0.20	32.2	32	37	24	HCGF5A2G562Y
	6800	77×155	0.20	38.0	26	30	24	HCGF5A2G682Y
	8200	90×157	0.20	44.4	22	26	24	HCGF5A2G822Y
	10000	90×157	0.20	49.4	19	23	24	HCGF5A2G103Y
	12000	90×196	0.20	59.1	16	21	24	HCGF5A2G123Y
	15000	90×236	0.20	71.1	15	21	24	HCGF5A2G153Y

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450 2W (500)	270	36×53	0.20	3.7	482	496	18	HCGF5A2W271I
	330	36×83	0.20	4.9	295	406	18	HCGF5A2W331I
	390	36×83	0.20	5.3	334	343	18	HCGF5A2W391I
	470	36×83	0.20	5.8	277	284	18	HCGF5A2W471I
	560	36×100	0.20	6.9	232	238	18	HCGF5A2W561I
	680	36×100	0.20	7.6	191	196	18	HCGF5A2W681I
	820	51×75	0.20	8.6	182	187	21	HCGF5A2W821Y
	1000	51×75	0.20	9.4	149	154	21	HCGF5A2W102Y
	1200	51×96	0.20	11.4	124	129	21	HCGF5A2W122Y
	1500	51×115	0.20	13.7	107	108	21	HCGF5A2W152Y
	1800	51×130	0.20	15.8	93	100	21	HCGF5A2W182Y
	2200	64×96	0.20	17.0	77	84	22	HCGF5A2W222Y
	2700	64×115	0.20	20.2	62	69	22	HCGF5A2W272Y
	3300	64×130	0.20	23.4	54	61	22	HCGF5A2W332Y
	3900	77×115	0.20	25.6	46	51	24	HCGF5A2W392Y
	4700	77×130	0.20	29.4	38	43	24	HCGF5A2W472Y
	5600	77×155	0.20	34.6	32	37	24	HCGF5A2W562Y
	6800	90×157	0.20	40.5	28	33	24	HCGF5A2W682Y
	8200	90×157	0.20	44.6	25	30	24	HCGF5A2W822Y
	10000	90×196	0.20	53.9	20	25	24	HCGF5A2W103Y
	12000	90×236	0.20	63.8	16	22	24	HCGF5A2W123Y

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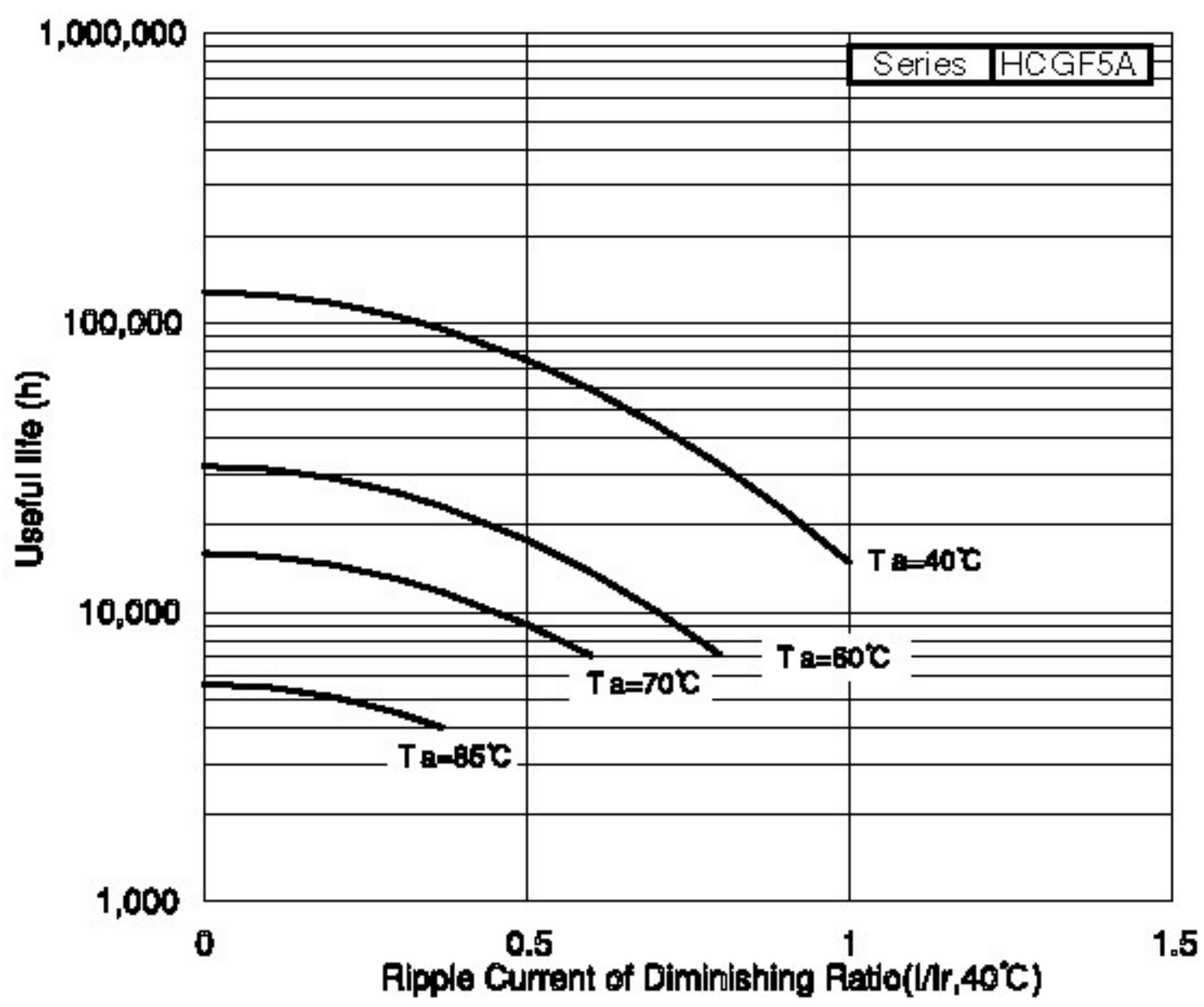
Life time graph

Useful life depending on ambient temperature Ta and ripple current operating conditions Ir versus rated ripple current at 40℃,120Hz