

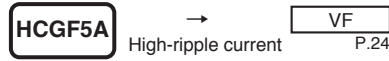
# HCGF5A Series

Useful of 4,000 hours at 85°C

- Conform RoHS

## Features

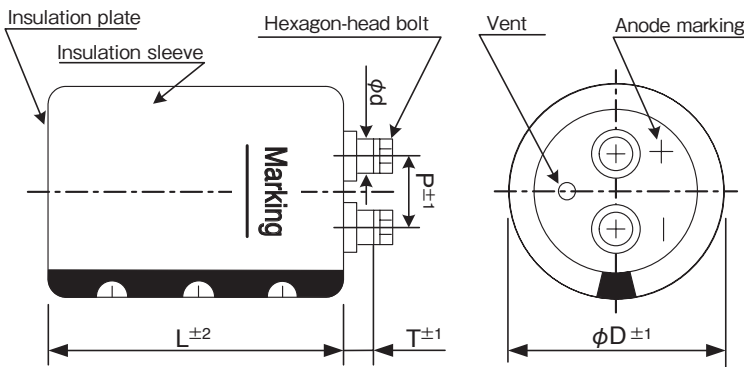
- Standard products.



## 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 (20°C, after 5 minutes) [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)
Endurance	After the rated voltage with specified ripple current is applied at 85°C for 2,000 hours : Capacitance change : Within ±15% of the initial value measured Dissipation factor : 175% or less than the initial value specified Leakage current : Less than or equal to the initial value specified
Shelf life	The following specification shall be meet when the capacitor are restored to 20°C after storage of 500 hours at 85°C with no voltage applied. Before the measurement, the capacitor shall be preconditioned by applying the voltage treatment according to Item 4.1 of JIS C 5101-4. Capacitance change : Within ±15% of the initial value measured Dissipation factor : 175% or less than the initial value specified Leakage current : Less than or equal to the initial value specified
Others	JIS C 5101-4

## Dimensions



(unit : mm)

φD	P	T	φd	Hexagon-head bolt	Cap material
36	12.7	6.5	8.0	M5×10	Phenol resin
51	22.0	5.5	10.0	M5×10	Phenol resin
64	28.6	5.5	10.0	M5×10	Phenol resin
77	31.5	5.0	10.0	M5×10	Phenol resin
90	31.5	5.0	10.0	M5×10	Phenol resin

## 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

Terminal permissible currents: 60Arms for M5.  
Please use this type of capacitor at a terminal current below the permissible.

## Product code

(Example) HCG5A Series 400V 10,000µF±20%

**HCGF5A 2G 103 Y F 157 PH**

- H: Type of series
- C: Sealing code
- G: Case height code
- 2: Case dia code
- 103: Type of brcket code
- Y: Capacitance code
- F: Rated voltage code
- 157: Rated voltage code
- PH: Rated voltage code

Refer to page 19 for product code.

## Bracket

- Refer to page 20-21 for shapes and dimensions.
- Product names in the Standard Products Table correspond to the bracket for Type Y (Type I for φ36 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.

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φD×L(mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 40°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Z max (mΩ) 20°C, 10kHz	ESL(typ.) (nH)	Product name
160	3,300	36×121	0.25	14.0	40	35	18	HCGF5A2C332IA121PH
	3,900	51×75	0.25	14.4	37	28	21	HCGF5A2C392YC075PH
	4,700	51×75	0.25	15.8	30	25	21	HCGF5A2C472YC075PH
	5,600	51×96	0.25	19.0	26	23	21	HCGF5A2C562YC096PH
	6,800	51×96	0.25	21.0	22	22	21	HCGF5A2C682YC096PH
	8,200	51×115	0.25	24.7	18	19	21	HCGF5A2C822YC115PH
	10,000	64×96	0.25	28.0	15	16	22	HCGF5A2C103YD096PH
	12,000	64×96	0.25	30.6	12	15	22	HCGF5A2C123YD096PH
	15,000	64×130	0.25	38.6	11	12	22	HCGF5A2C153YD130PH
	18,000	64×130	0.25	42.2	9	11	22	HCGF5A2C183YD130PH
	22,000	77×130	0.25	49.4	8	8	24	HCGF5A2C223YE130PH
	27,000	77×130	0.25	54.7	7	8	24	HCGF5A2C273YE130PH
	33,000	90×131	0.25	64.2	6	7	24	HCGF5A2C333YF131PH
39,000	90×157	0.25	75.3	5	7	24	HCGF5A2C393YF157PH	
200	2,200	36×100	0.25	10.6	68	60	18	HCGF5A2D222IA100PH
	2,700	36×121	0.25	12.7	48	39	18	HCGF5A2D272IA121PH
	3,300	51×75	0.25	13.3	45	35	21	HCGF5A2D332YC075PH
	3,900	51×75	0.25	14.4	37	30	21	HCGF5A2D392YC075PH
	4,700	51×96	0.25	17.4	30	27	21	HCGF5A2D472YC096PH
	5,600	51×115	0.25	20.4	26	25	21	HCGF5A2D562YC115PH
	6,800	51×130	0.25	23.7	21	20	21	HCGF5A2D682YC130PH
	8,200	64×96	0.25	25.4	17	18	22	HCGF5A2D822YD096PH
	10,000	64×96	0.25	28.0	14	14	22	HCGF5A2D103YD096PH
	12,000	77×96	0.25	32.6	12	14	24	HCGF5A2D123YE096PH
	15,000	77×96	0.25	39.0	10	13	24	HCGF5A2D153YE096PH
	18,000	77×130	0.25	44.6	8	12	24	HCGF5A2D183YE130PH
	22,000	77×155	0.25	53.0	7	7	24	HCGF5A2D223YE155PH
	27,000	90×131	0.25	58.2	6	7	24	HCGF5A2D273YF131PH
33,000	90×157	0.25	69.0	5	7	24	HCGF5A2D333YF157PH	
250	1,500	36×100	0.25	8.7	56	50	18	HCGF5A2E152IA100PH
	1,800	36×100	0.25	9.5	52	44	18	HCGF5A2E182IA100PH
	2,200	51×75	0.25	10.8	50	40	21	HCGF5A2E222YC075PH
	2,700	51×75	0.25	12.0	41	36	21	HCGF5A2E272YC075PH
	3,300	51×96	0.25	14.6	36	35	21	HCGF5A2E332YC096PH
	3,900	51×115	0.25	17.0	31	30	21	HCGF5A2E392YC115PH
	4,700	64×96	0.25	19.2	25	23	22	HCGF5A2E472YD096PH
	5,600	64×96	0.25	21.0	21	21	22	HCGF5A2E562YD096PH
	6,800	64×115	0.25	24.7	18	18	22	HCGF5A2E682YD115PH
	8,200	64×115	0.25	27.1	15	16	22	HCGF5A2E822YD115PH
	10,000	64×130	0.25	31.5	12	14	22	HCGF5A2E103YD130PH
	12,000	77×115	0.25	34.8	10	11	24	HCGF5A2E123YE115PH
	15,000	77×130	0.25	40.8	8	11	24	HCGF5A2E153YE130PH
	18,000	77×155	0.25	47.8	7	10	24	HCGF5A2E183YE155PH
22,000	90×157	0.25	56.5	6	8	24	HCGF5A2E223YF157PH	
350	390	36×53	0.20	4.5	287	296	18	HCGF5A2V391IA053PH
	470	36×83	0.20	5.8	238	245	18	HCGF5A2V471IA083PH
	560	36×83	0.20	6.4	216	222	18	HCGF5A2V561IA083PH
	680	36×83	0.20	7.0	192	197	18	HCGF5A2V681IA083PH
	820	36×100	0.20	8.3	170	174	18	HCGF5A2V821IA100PH
	1,000	36×100	0.20	9.2	131	135	18	HCGF5A2V102IA100PH
	1,200	51×75	0.20	10.3	117	120	21	HCGF5A2V122YC075PH
	1,500	51×75	0.20	11.5	93	100	21	HCGF5A2V152YC075PH
	1,800	51×96	0.20	13.9	78	80	21	HCGF5A2V182YC096PH
	2,200	51×96	0.20	15.4	64	70	21	HCGF5A2V222YC096PH
	2,700	51×130	0.20	19.3	53	58	21	HCGF5A2V272YC130PH
	3,300	51×130	0.20	21.4	48	51	21	HCGF5A2V332YC130PH
	3,900	64×115	0.20	24.2	43	47	22	HCGF5A2V392YD115PH
	4,700	64×130	0.20	27.9	36	40	22	HCGF5A2V472YD130PH
	5,600	77×115	0.20	30.7	34	35	24	HCGF5A2V562YE115PH
	6,800	77×130	0.20	35.4	28	29	24	HCGF5A2V682YE130PH
	8,200	77×155	0.20	41.7	23	25	24	HCGF5A2V822YE155PH
	10,000	90×157	0.20	49.0	19	23	24	HCGF5A2V103YF157PH
	12,000	90×157	0.20	54.1	16	21	24	HCGF5A2V123YF157PH
15,000	90×196	0.20	66.2	13	20	24	HCGF5A2V153YF196PH	
18,000	90×236	0.20	77.9	10	20	24	HCGF5A2V183YF236PH	

ALUMINUM ELECTROLYTIC CAPACITORS

# SCREW TERMINAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φ D×L(mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 40°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Z max (mΩ) 20°C, 10kHz	ESL(typ.) (nH)	Product name
400	330	36×53	0.20	4.1	428	440	18	HCGF5A2G331IA053PH
	390	36×83	0.20	5.3	362	372	18	HCGF5A2G391IA083PH
	470	36×83	0.20	5.8	301	310	18	HCGF5A2G471IA083PH
	560	36×83	0.20	6.4	253	260	18	HCGF5A2G561IA083PH
	680	36×100	0.20	7.6	209	214	18	HCGF5A2G681IA100PH
	820	36×100	0.20	8.3	173	177	18	HCGF5A2G821IA100PH
	1,000	51×75	0.20	9.4	140	150	21	HCGF5A2G102YC075PH
	1,200	51×75	0.20	10.3	117	125	21	HCGF5A2G122YC075PH
	1,500	51×96	0.20	12.7	100	108	21	HCGF5A2G152YC096PH
	1,800	51×96	0.20	13.9	88	90	21	HCGF5A2G182YC096PH
	2,200	51×130	0.20	17.4	68	75	21	HCGF5A2G222YC130PH
	2,700	64×96	0.20	18.8	59	66	22	HCGF5A2G272YD096PH
	3,300	64×115	0.20	22.2	48	53	22	HCGF5A2G332YD115PH
	3,900	64×130	0.20	25.4	43	48	22	HCGF5A2G392YD130PH
	4,700	77×115	0.20	28.2	36	41	24	HCGF5A2G472YE115PH
	5,600	77×130	0.20	32.2	32	37	24	HCGF5A2G562YE130PH
	6,800	77×155	0.20	38.0	26	30	24	HCGF5A2G682YF155PH
8,200	90×157	0.20	44.4	22	26	24	HCGF5A2G822YF157PH	
10,000	90×157	0.20	49.4	19	23	24	HCGF5A2G103YF157PH	
12,000	90×196	0.20	59.1	16	21	24	HCGF5A2G123YF196PH	
15,000	90×236	0.20	71.1	15	21	24	HCGF5A2G153YF236PH	
450	270	36×53	0.20	3.7	482	496	18	HCGF5A2W271IA053PH
	330	36×83	0.20	4.9	395	406	18	HCGF5A2W331IA083PH
	390	36×83	0.20	5.3	334	343	18	HCGF5A2W391IA083PH
	470	36×83	0.20	5.8	277	284	18	HCGF5A2W471IA083PH
	560	36×100	0.20	6.9	232	238	18	HCGF5A2W561IA100PH
	680	36×100	0.20	7.6	191	196	18	HCGF5A2W681IA100PH
	820	51×75	0.20	8.6	182	187	21	HCGF5A2W821YC075PH
	1,000	51×75	0.20	9.4	149	154	21	HCGF5A2W102YC075PH
	1,200	51×96	0.20	11.4	124	129	21	HCGF5A2W122YC096PH
	1,500	51×115	0.20	13.7	107	108	21	HCGF5A2W152YC115PH
	1,800	51×130	0.20	15.8	93	100	21	HCGF5A2W182YC130PH
	2,200	64×96	0.20	17.0	77	84	22	HCGF5A2W222YD096PH
	2,700	64×115	0.20	20.2	62	69	22	HCGF5A2W272YD115PH
	3,300	64×130	0.20	23.4	54	61	22	HCGF5A2W332YD130PH
	3,900	77×115	0.20	25.6	46	51	24	HCGF5A2W392YE115PH
	4,700	77×130	0.20	29.4	38	43	24	HCGF5A2W472YE130PH
	5,600	77×155	0.20	34.6	32	37	24	HCGF5A2W562YE155PH
6,800	90×157	0.20	40.5	28	33	24	HCGF5A2W682YF157PH	
8,200	90×157	0.20	44.6	25	30	24	HCGF5A2W822YF157PH	
10,000	90×196	0.20	53.9	20	25	24	HCGF5A2W103YF196PH	
12,000	90×236	0.20	63.8	16	22	24	HCGF5A2W123YF236PH	

Life time graph

Useful life depending on ambient temperature Ta and ripple current operating conditions I versus rated ripple current at 40°C, 120Hz

