

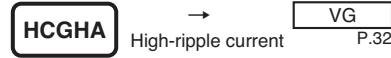
HCGHA Series

Useful of 4,000 hours at 105°C

- Conform RoHS

Features

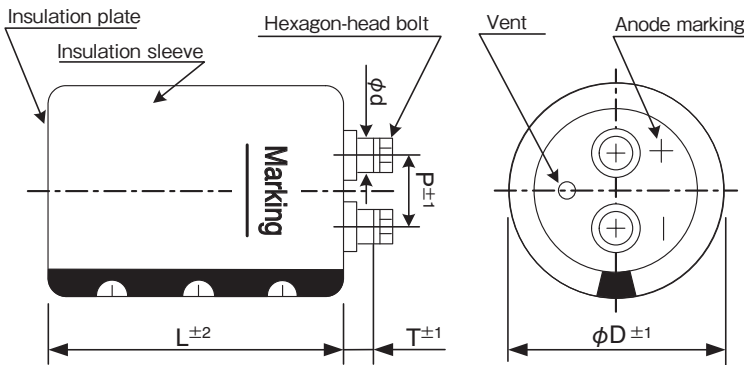
- Useful life of 4,000 hours at 105°C through improvement of electrolyte liquid



Product Specifications

Items	Specifications
Temperature range	-40°C ~ +105°C
Rated voltage	25 ~ 400V.DC
Capacitance tolerance	±20% (20°C, 120Hz)
Leakage current	0.01CV (µA) or 5 mA, 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. (105°C, 120Hz)
Endurance	After the rated voltage with specified ripple current is applied at 105°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 105°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)

φ D	P	T	φ d	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

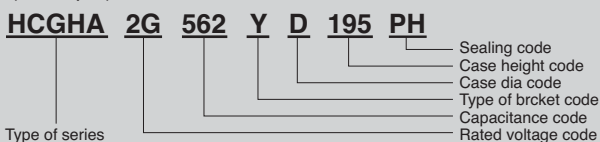
Ripple current correction coefficient

Temperature (°C)	40	55	70	85	105	
Correction coefficient	25 ~ 250V.DC	4.9	3.9	3.0	1.8	1.0
	400V.DC	3.8	3.3	2.5	2.0	1.0
Frequency (Hz)	50/60	120	300	1K	≥10K	
Correction coefficient	0.8	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) HCGHA series 400V 5,600µF±20%



Refer to page 21 for product code.

Bracket

- See page 22-23 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.

SCREW TERMINAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φD×L(mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 105°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Z max (mΩ) 20°C, 10kHz	ESL(typ.) (nH)	Product name
25	10,000	36×53	0.35	2.9	32	30	18	HCGHA1E103IA053PH
	15,000	36×83	0.35	4.2	27	27	18	HCGHA1E153IA083PH
	22,000	36×83	0.35	5.1	22	23	18	HCGHA1E223IA083PH
	33,000	36×100	0.40	6.3	15	16	18	HCGHA1E333IA100PH
	47,000	51×75	0.40	8.0	10	11	21	HCGHA1E473YC075PH
	68,000	51×115	0.50	10.0	7	8	21	HCGHA1E683YC115PH
	100,000	64×96	0.60	11.3	6	7	22	HCGHA1E104YD096PH
	150,000	64×115	0.80	12.9	6	7	22	HCGHA1E154YD115PH
35	6,800	36×53	0.30	2.6	42	37	18	HCGHA1V682IA053PH
	10,000	36×83	0.30	3.7	29	31	18	HCGHA1V103IA083PH
	15,000	36×83	0.30	4.5	19	20	18	HCGHA1V153IA083PH
	22,000	36×100	0.35	5.5	14	15	18	HCGHA1V223IA100PH
	33,000	51×75	0.40	6.7	12	13	21	HCGHA1V333YC075PH
	47,000	51×96	0.45	8.1	8	9	21	HCGHA1V473YC096PH
	68,000	51×115	0.50	10.0	7	8	21	HCGHA1V683YC115PH
	100,000	64×115	0.60	12.1	6	7	22	HCGHA1V104YD115PH
50	3,300	36×53	0.20	2.2	90	80	18	HCGHA1H332IA053PH
	4,700	36×53	0.25	3.3	64	58	18	HCGHA1H472IA053PH
	6,800	36×83	0.25	3.4	44	39	18	HCGHA1H682IA083PH
	10,000	36×83	0.25	4.1	30	28	18	HCGHA1H103IA083PH
	15,000	36×100	0.30	4.9	20	20	18	HCGHA1H153IA100PH
	22,000	51×75	0.35	5.9	14	15	21	HCGHA1H223YC075PH
	33,000	51×115	0.40	7.8	13	14	21	HCGHA1H333YC115PH
	47,000	64×96	0.40	9.5	11	12	22	HCGHA1H473YD096PH
63	68,000	64×115	0.45	11.6	8	9	22	HCGHA1H683YD115PH
	100,000	77×115	0.50	14.1	6	7	24	HCGHA1H104YE115PH
	150,000	90×131	0.50	18.9	5	7	24	HCGHA1H154YF131PH
	2,200	36×53	0.15	2.1	95	87	18	HCGHA1J222IA053PH
	3,300	36×53	0.20	2.2	63	58	18	HCGHA1J332IA053PH
	4,700	36×83	0.20	3.1	54	50	18	HCGHA1J472IA083PH
	6,800	36×83	0.20	3.7	38	35	18	HCGHA1J682IA083PH
	10,000	36×100	0.25	4.4	28	28	18	HCGHA1J103IA100PH
80	15,000	51×75	0.25	5.7	21	22	21	HCGHA1J153YC075PH
	22,000	51×96	0.30	6.8	13	14	21	HCGHA1J223YC096PH
	33,000	64×96	0.30	9.2	10	11	22	HCGHA1J333YD096PH
	47,000	64×115	0.35	10.9	8	9	22	HCGHA1J473YD115PH
	68,000	77×115	0.40	13.0	7	8	24	HCGHA1J683YE115PH
	100,000	90×131	0.40	17.2	7	8	24	HCGHA1J104YF131PH
	2,200	36×53	0.15	2.1	68	63	18	HCGHA1K222IA053PH
	3,300	36×83	0.15	3.0	45	42	18	HCGHA1K332IA083PH
100	4,700	36×83	0.15	3.6	32	30	18	HCGHA1K472IA083PH
	6,800	36×100	0.20	4.0	22	23	18	HCGHA1K682IA100PH
	10,000	51×75	0.20	5.2	15	16	21	HCGHA1K103YC075PH
	15,000	51×96	0.25	6.2	10	11	21	HCGHA1K153YC096PH
	22,000	64×96	0.25	8.2	9	10	22	HCGHA1K223YD096PH
	33,000	77×96	0.30	9.7	7	7	24	HCGHA1K333YE096PH
	47,000	77×115	0.30	12.5	6	7	24	HCGHA1K473YE115PH
	68,000	90×131	0.30	16.4	4	7	24	HCGHA1K683YF131PH
100	1,000	36×53	0.15	1.4	112	100	18	HCGHA2A102IA053PH
	1,500	36×53	0.15	1.7	75	67	18	HCGHA2A152IA053PH
	2,200	36×83	0.15	2.5	51	47	18	HCGHA2A222IA083PH
	3,300	36×83	0.15	3.0	34	32	18	HCGHA2A332IA083PH
	4,700	36×100	0.15	3.9	24	24	18	HCGHA2A472IA100PH
	6,800	51×75	0.15	5.0	19	20	21	HCGHA2A682YC075PH
	10,000	51×96	0.15	6.5	13	14	21	HCGHA2A103YC096PH
	15,000	64×96	0.20	7.6	11	12	22	HCGHA2A153YD096PH
	22,000	77×96	0.20	9.7	8	9	24	HCGHA2A223YE096PH
	33,000	77×130	0.25	11.8	6	7	24	HCGHA2A333YE130PH
47,000	90×131	0.25	15.0	5	7	24	HCGHA2A473YF131PH	

ALUMINUM ELECTROLYTIC CAPACITORS

SCREW TERMINAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μ F)	Case size ϕ D \times L (mm)	$\tan\delta$ 20°C, 120Hz	Ripple current (Arms) 105°C, 120Hz	ESR (typ.) (m Ω) 20°C, 100Hz	Z max (m Ω) 20°C, 10kHz	ESL (typ.) (nH)	Product name
160	470	36 \times 53	0.15	1.0	277	261	18	HCGHA2C471IA053PH
	680	36 \times 53	0.15	1.1	191	180	18	HCGHA2C681IA053PH
	1,000	36 \times 83	0.15	1.7	130	120	18	HCGHA2C102IA083PH
	1,500	36 \times 83	0.15	2.0	87	80	18	HCGHA2C152IA083PH
	2,200	36 \times 100	0.15	2.7	59	53	18	HCGHA2C222IA100PH
	3,300	51 \times 75	0.15	3.5	40	35	21	HCGHA2C332YC075PH
	4,700	51 \times 96	0.15	4.4	30	25	21	HCGHA2C472YC096PH
	6,800	64 \times 96	0.15	5.9	22	23	22	HCGHA2C682YD096PH
	10,000	77 \times 96	0.15	7.6	15	16	24	HCGHA2C103YE096PH
	15,000	77 \times 130	0.15	10.3	14	14	24	HCGHA2C153YE130PH
22,000	90 \times 131	0.15	13.2	10	10	24	HCGHA2C223YF131PH	
200	330	36 \times 53	0.15	0.8	395	372	18	HCGHA2D331IA053PH
	470	36 \times 53	0.15	1.0	277	261	18	HCGHA2D471IA053PH
	680	36 \times 53	0.15	1.1	191	180	18	HCGHA2D681IA053PH
	1,000	36 \times 83	0.15	1.7	120	100	18	HCGHA2D102IA083PH
	1,500	36 \times 100	0.15	2.2	100	85	18	HCGHA2D152IA100PH
	2,200	51 \times 75	0.15	2.8	68	60	21	HCGHA2D222YC075PH
	3,300	51 \times 96	0.15	3.7	45	35	21	HCGHA2D332YC096PH
	4,700	64 \times 96	0.15	4.9	31	27	22	HCGHA2D472YD096PH
	6,800	64 \times 115	0.15	6.3	21	20	22	HCGHA2D682YD115PH
	10,000	77 \times 115	0.15	8.1	14	14	24	HCGHA2D103YE115PH
15,000	90 \times 131	0.15	10.9	10	10	24	HCGHA2D153YF131PH	
250	330	36 \times 53	0.15	0.8	285	268	18	HCGHA2E331IA053PH
	470	36 \times 53	0.15	1.0	200	187	18	HCGHA2E471IA053PH
	680	36 \times 83	0.15	1.4	138	131	18	HCGHA2E681IA083PH
	1,000	36 \times 100	0.15	1.9	84	70	18	HCGHA2E102IA100PH
	1,500	51 \times 75	0.15	2.3	56	50	21	HCGHA2E152YC075PH
	2,200	51 \times 96	0.15	3.1	50	45	21	HCGHA2E222YC096PH
	3,300	64 \times 96	0.15	4.2	36	35	22	HCGHA2E332YD096PH
	4,700	64 \times 115	0.15	5.4	25	23	22	HCGHA2E472YD115PH
	6,800	77 \times 115	0.15	6.9	18	18	24	HCGHA2E682YE115PH
	10,000	77 \times 155	0.15	9.3	13	13	24	HCGHA2E103YE155PH
15,000	90 \times 157	0.15	12.2	9	9	24	HCGHA2E153YF157PH	
400	1,000	51 \times 75	0.15	2.5	102	105	21	HCGHA2G102YC075PH
	1,200	51 \times 96	0.15	3.0	85	88	21	HCGHA2G122YC096PH
	1,500	51 \times 115	0.15	3.6	68	70	21	HCGHA2G152YC115PH
	1,800	51 \times 130	0.15	4.1	57	58	21	HCGHA2G182YC130PH
	2,200	64 \times 96	0.15	4.5	46	48	22	HCGHA2G222YD096PH
	2,700	64 \times 115	0.15	5.3	38	40	22	HCGHA2G272YD115PH
	3,300	64 \times 130	0.15	6.2	30	32	22	HCGHA2G332YD130PH
	3,900	64 \times 155	0.15	7.2	26	28	22	HCGHA2G392YD155PH
		77 \times 115	0.15	6.8	26	28	24	HCGHA2G392YE115PH
	4,700	64 \times 195	0.15	8.7	21	22	22	HCGHA2G472YD195PH
		77 \times 130	0.15	7.8	21	22	24	HCGHA2G472YE130PH
	5,600	64 \times 195	0.15	9.6	18	19	22	HCGHA2G562YD195PH
		77 \times 155	0.15	9.2	18	19	24	HCGHA2G562YE155PH
	6,800	90 \times 157	0.15	10.7	15	15	24	HCGHA2G682YF157PH
8,200	90 \times 157	0.15	11.8	12	15	24	HCGHA2G822YF157PH	
10,000	90 \times 196	0.15	14.1	10	15	24	HCGHA2G103YF196PH	

Life time graph

Useful life depending on ambient temperature T_a and ripple current operating conditions I versus rated ripple current at 105°C, 120Hz

