

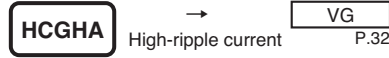
HCGHA Series

Useful of 4,000 hours at 105°C

- Conform RoHS

Features

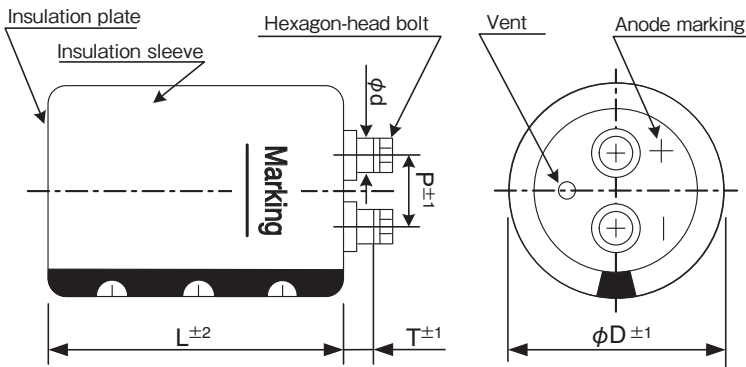
- Useful life of 4,000 hours at 105°C through improvement of electrolyte liquid



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 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. (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)

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	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%

HCGHA 2G 562 Y D 195 PH

- HCGHA: Type of series
- 2G: Sealing code
- 562: Case height code
- Y: Case dia code
- D: Type of bracket code
- 195: Capacitance code
- PH: Rated voltage code

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

HCGHA Series

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size $\phi D \times L$ (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
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
	220,000	77×115	1.00	14.8	4	5	24	HCGHA1E224YE115PH
330,000	90×131	1.00	19.9	4	5	24	HCGHA1E334YF131PH	
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
	150,000	77×115	0.70	13.8	5	7	24	HCGHA1V154YE115PH
220,000	90×131	0.70	17.6	5	7	24	HCGHA1V224YF131PH	
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
	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	
63	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
	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	
80	2,200	36×53	0.15	2.1	68	63	18	HCGHA1K222IA053PH
	3,300	36×83	0.15	3.0	45	42	18	HCGHA1K332IA083PH
	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

HCGHA Series

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

