HCGHA Series (Warranty of 2,000 hours at 105°C)

Features

- Warranty life of 2000 hours at 105°C through improvement of electrolyte liquid



Product Specifications

Items	Specifications
Temperature range	–40°C ~ +105°C
Capacitance tolerance	±20% (20°C,120Hz)
Rated voltage	25 ~ 400V.DC
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. (105˚C,120Hz)
High-temperature load	After the rated voltage (specified ripple current convolution) is applied at 105°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	55	70	85	105
Correction coefficient	250WV under	4.9	3.9	3.0	1.8	1.0
	400WV	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

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

Attachment of legs

- See page 38 for shapes and dimensions.
- Product names in the Standard Units Rating Table correspond to the attachment legs for Type Y (Type I for ø36 only), but Type I attachment legs may be used (Shape Code = I).
- If attachment legs are not necessary, enter "N" for the attachment leg shape code.
- Attachment legs will be delivered separately.

Standard value and case size

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	Product name
25V(1E)	10000	36×53	A5	0.35	2.9	HCGHA1E103I
	15000	36×83	A8	0.35	4.2	HCGHA1E153I
	22000	36×83	A8	0.35	5.1	HCGHA1E223I
	33000	36×100	A10	0.40	6.3	HCGHA1E333I
	47000	51×75	C8R	0.40	8.0	HCGHA1E473Y
	68000	51×115	C12R	0.50	10.0	HCGHA1E683Y
	100000	64×96	D10R	0.60	11.3	HCGHA1E104Y
	150000	64×115	D12R	0.80	12.9	HCGHA1E154Y
	220000	77×115	E12R	1.00	14.8	HCGHA1E224Y
	330000	90×131	F13R	1.00	19.9	HCGHA1E334Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	Product name
35V(1V)	6800	36×53	A5	0.30	2.6	HCGHA1V682I
	10000	36×83	A8	0.30	3.7	HCGHA1V103I
	15000	36×83	A8	0.30	4.5	HCGHA1V153I
	22000	36×100	A10	0.35	5.5	HCGHA1V223I
	33000	51×75	C8R	0.40	6.7	HCGHA1V333Y
	47000	51×96	C10R	0.45	8.1	HCGHA1V473Y
	68000	51×115	C12R	050	10.0	HCGHA1V683Y
	100000	64×115	D12R	0.60	12.1	HCGHA1V104Y
	150000	77×115	E12R	0.70	13.8	HCGHA1V154Y
	220000	90×131	F13R	0.70	17.6	HCGHA1V224Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	Product name
50V(1H)	3300	36×53	A5	0.20	2.2	HCGHA1H332I
	4700	36×53	A5	0.25	3.3	HCGHA1H472I
	6800	36×83	A8	0.25	3.4	HCGHA1H682I
	10000	36×83	A8	0.25	4.1	HCGHA1H103I
	15000	36×100	A10	0.30	4.9	HCGHA1H153I
	22000	51×75	C8R	0.35	5.9	HCGHA1H223Y
	33000	51×115	C12R	0.40	7.8	HCGHA1H333Y
	47000	64×96	D10R	0.40	9.5	HCGHA1H473Y
	68000	64×115	D12R	0.45	11.6	HCGHA1H683Y
	100000	77×115	E12R	0.50	14.1	HCGHA1H104Y
	150000	90×131	F13R	0.50	18.9	HCGHA1H154Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	Product name
63V(1J)	2200	36×53	A5	0.15	2.1	HCGHA1J222I
	3300	36×53	A5	0.20	2.2	HCGHA1J332I
	4700	36×83	A8	0.20	3.1	HCGHA1J472I
	6800	36×83	A8	0.20	3.7	HCGHA1J682I
	10000	36×100	A10	0.25	4.4	HCGHA1J103I
	15000	51×75	C8R	0.25	5.7	HCGHA1J153Y
	22000	51×96	C10R	0.30	6.8	HCGHA1J223Y
	33000	64×96	D10R	0.30	9.2	HCGHA1J333Y
	47000	64×115	D12R	0.35	10.9	HCGHA1J473Y
	68000	77×115	E12R	0.40	13.0	HCGHA1J683Y
	100000	90×131	F13R	0.40	17.2	HCGHA1J104Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple carrent (Arms) 105°C,120Hz	Product name
80V(1K)	2200	36×53	A5	0.15	2.1	HCGHA1K222Ⅰ
	3300	36×83	A8	0.15	3.0	HCGHA1K332Ⅰ
	4700	36×83	A8	0.15	3.6	HCGHA1K472Ⅰ
	6800	36×100	A10	0.20	4.0	HCGHA1K682Ⅰ
	10000	51×75	C8R	0.20	5.2	HCGHA1K103Y
	15000	51×96	C10R	0.25	6.2	HCGHA1K153Y
	22000	64×96	D10R	0.25	8.2	HCGHA1K223Y
	33000	77×96	E10R	0.30	9.7	HCGHA1K333Y
	47000	77×115	E12R	0.30	12.5	HCGHA1K473Y
	68000	90×131	F13R	0.30	16.4	HCGHA1K683Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple carrent (Arms) 105°C,120Hz	Product name
100V(2A)	1000	36×53	A5	0.15	1.4	HCGHA2A102Ⅰ
	1500	36×53	A5	0.15	1.7	HCGHA2A152Ⅰ
	2200	36×83	A8	0.15	2.5	HCGHA2A222Ⅰ
	3300	36×83	A8	0.15	3.0	HCGHA2A332Ⅰ
	4700	36×100	A10	0.15	3.9	HCGHA2A472Ⅰ
	6800	51×75	C8R	0.15	5.0	HCGHA2A682Y
	10000	51×96	C10R	0.15	6.5	HCGHA2A103Y
	15000	64×96	D10R	0.20	7.6	HCGHA2A153Y
	22000	77×96	E10R	0.20	9.7	HCGHA2A223Y
	33000	77×130	E13R	0.25	11.8	HCGHA2A333Y
	47000	90×131	F13R	0.25	15.0	HCGHA2A473Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple carrent (Arms) 105°C,120Hz	Product name
160V(2C)	470	36×53	A5	0.15	1.0	HCGHA2C471Ⅰ
	680	36×53	A5	0.15	1.1	HCGHA2C681Ⅰ
	1000	36×83	A8	0.15	1.7	HCGHA2C102Ⅰ
	1500	36×83	A8	0.15	2.0	HCGHA2C152Ⅰ
	2200	36×100	A10	0.15	2.7	HCGHA2C222Ⅰ
	3300	51×75	C8R	0.15	3.5	HCGHA2C332Y
	4700	51×96	C10R	0.15	4.4	HCGHA2C472Y
	6800	64×96	D10R	0.15	5.9	HCGHA2C682Y
	10000	77×96	E10R	0.15	7.6	HCGHA2C103Y
	15000	77×130	E13R	0.15	10.3	HCGHA2C153Y
	22000	90×131	F13R	0.15	13.2	HCGHA2C223Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple carrent (Arms) 105°C,120Hz	Product name
200V(2D)	330	36×53	A5	0.15	0.8	HCGHA2D331Ⅰ
	470	36×53	A5	0.15	1.0	HCGHA2D471Ⅰ
	680	36×53	A5	0.15	1.1	HCGHA2D681Ⅰ
	1000	36×83	A8	0.15	1.7	HCGHA2D102Ⅰ
	1500	36×100	A10	0.15	2.2	HCGHA2D152Ⅰ
	2200	51×75	C8R	0.15	2.8	HCGHA2D222Y
	3300	51×96	C10R	0.15	3.7	HCGHA2D332Y
	4700	64×96	D10R	0.15	4.9	HCGHA2D472Y
	6800	64×115	D12R	0.15	6.3	HCGHA2D682Y
	10000	77×115	E12R	0.15	8.1	HCGHA2D103Y
	15000	90×131	F13R	0.15	10.9	HCGHA2D153Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple carrent (Arms) 105°C,120Hz	Product name
250V(2E)	330	36×53	A5	0.15	0.8	HCGHA2E331Ⅰ
	470	36×53	A5	0.15	1.0	HCGHA2E471Ⅰ
	680	36×83	A8	0.15	1.4	HCGHA2E681Ⅰ
	1000	36×100	A10	0.15	1.9	HCGHA2E102Ⅰ
	1500	51×75	C8R	0.15	2.3	HCGHA2E152Y
	2200	51×96	C10R	0.15	3.1	HCGHA2E222Y
	3300	64×96	D10R	0.15	4.2	HCGHA2E332Y
	4700	64×115	D12R	0.15	5.4	HCGHA2E472Y
	6800	77×115	E12R	0.15	6.9	HCGHA2E682Y
	10000	77×155	E16R	0.15	9.3	HCGHA2E103Y
	15000	90×157	F16R	0.15	12.2	HCGHA2E153Y

Rated Voltage V. DC	Capacitance (μF)	Case size øDXL(mm)	Case code	tanδ 20°C,120Hz	Ripple carrent (Arms) 105°C,120Hz	Product name
400V(2G)	1000	51×75	C8R	0.15	2.5	HCGHA2G102Y
	1200	51×96	C10R	0.15	3.0	HCGHA2G122Y
	1500	51×115	C12R	0.15	3.6	HCGHA2G152Y
	1800	51×130	C13R	0.15	4.1	HCGHA2G182Y
	2200	64×96	D10R	0.15	4.5	HCGHA2G222Y
	2700	64×115	D12R	0.15	5.3	HCGHA2G272Y
	3300	64×130	D13R	0.15	6.2	HCGHA2G332Y
	3900	64×155	D16R	0.15	7.2	HCGHA2G392YD
		77×115	E12R	0.15	6.8	HCGHA2G392YE
	4700	64×195	D20R	0.15	8.7	HCGHA2G472YD
		77×130	E13R	0.15	7.8	HCGHA2G472YE
	5600	64×195	D20R	0.15	9.6	HCGHA2G562YD
		77×155	E16R	0.15	9.2	HCGHA2G562YE
	6800	90×157	F16R	0.15	10.7	HCGHA2G682Y
	8200	90×157	F16R	0.15	11.8	HCGHA2G822Y
	10000	90×196	F20R	0.15	14.1	HCGHA2G103Y