

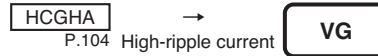
VG Series

Useful of 4,000 hours at 105°C

- Conform RoHS

Features

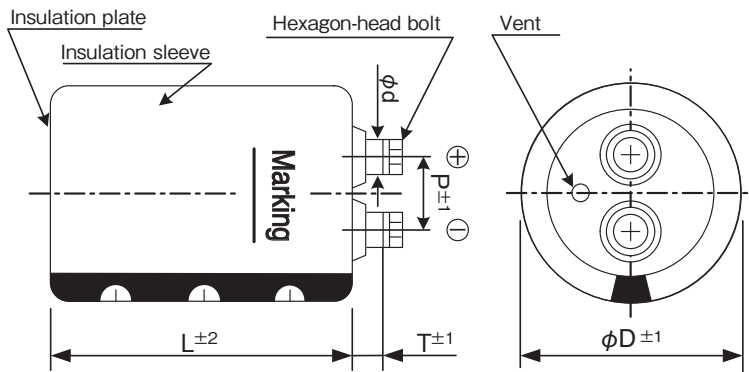
- Ripple current increased by 50% by new heat radiation construction with HCGHA series.



Product Specifications

Items	Specifications
Temperature range	-40°C ~ +105°C
Rated voltage	25 ~ 500V.DC
Capacitance tolerance	±20% (20°C, 120Hz)
Leakage current	0.01CV (μA) or 5mA, whichever is smaller or less (20°C, after 5minutes) [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 product 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
64	28.6	8.0	11.0	M5×10	Phenol resin
77	31.5	8.0	11.0	M5×10	Phenol resin
90	31.5	7.0	11.0	M5×10	Phenol resin

Ripple current correction coefficient

Temperature correction coefficient

Temperature(°C)		60	85	105
Correction coefficient	25 ~ 250V.DC	3.60	1.80	1.00
	350 ~ 500V.DC	2.16	2.00	1.00

Frequency correction coefficient

Frequency(Hz)	120	300	1K	≥ 10K
Correction coefficient	1.0	1.1	1.3	1.4

Forced wind correction coefficient

Forced wind(m/s)	< 0.5	0.5 ≤
Correction coefficient	1.0	1.1

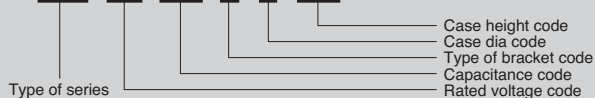
Terminal permissible currents : 60Arms for M5.

Please use this type of capacitor at a terminal current below the permissible.

Product code

(Example) VG Series 400V 15,000 μF ±20%

VG 2G 153 Y F 190



Refer to page 21 for product code.

Bracket

- Refer to page 22-23 for shapes and dimensions.
- Product names in the Standard Products Table correspond to the bracket for Type Y, 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 (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
25	150,000	64 \times 94	0.80	12.9	6	7	22	VG1E154YD094
	180,000	64 \times 107	0.90	14.1	5	6	22	VG1E184YD107
	220,000	64 \times 123	1.00	16.0	4	5	22	VG1E224YD123
		77 \times 95	1.00	14.9	4	5	24	VG1E224YE095
	270,000	77 \times 108	1.00	16.4	4	5	24	VG1E274YE108
		90 \times 97	1.00	18.2	4	5	24	VG1E274YF097
330,000	90 \times 110	1.00	20.0	4	5	24	VG1E334YF110	
35	100,000	64 \times 94	0.60	12.3	6	7	22	VG1V104YD094
	120,000	64 \times 107	0.70	13.4	6	7	22	VG1V124YD107
	150,000	64 \times 123	0.70	15.4	5	7	22	VG1V154YD123
		77 \times 95	0.70	14.0	5	7	24	VG1V154YE095
	180,000	77 \times 108	0.70	15.2	5	7	24	VG1V184YE108
		90 \times 97	0.70	16.3	5	7	24	VG1V184YF097
	220,000	77 \times 124	0.70	17.2	5	7	24	VG1V224YE124
		90 \times 110	0.70	17.9	5	7	24	VG1V224YF110
50	68,000	64 \times 94	0.45	11.2	8	9	22	VG1H683YD094
	82,000	64 \times 107	0.50	12.3	8	8	22	VG1H823YD107
	100,000	64 \times 123	0.50	13.9	6	7	22	VG1H104YD123
		77 \times 95	0.50	14.2	6	7	24	VG1H104YE095
	120,000	77 \times 108	0.50	15.5	5	7	24	VG1H124YE108
		77 \times 124	0.50	17.7	5	7	24	VG1H154YE124
	150,000	90 \times 97	0.50	19.2	5	7	24	VG1H154YF097
		90 \times 110	0.50	20.9	4	6	24	VG1H184YF110
63	47,000	64 \times 94	0.35	10.5	8	9	22	VG1J473YD094
	56,000	64 \times 107	0.40	11.5	8	9	22	VG1J563YD107
	68,000	64 \times 123	0.40	13.0	7	8	22	VG1J683YD123
		77 \times 95	0.40	12.9	7	8	24	VG1J683YE095
	82,000	77 \times 108	0.40	14.1	7	8	24	VG1J823YE108
		90 \times 97	0.40	15.5	7	8	24	VG1J823YF097
	100,000	77 \times 124	0.40	16.0	7	8	24	VG1J104YE124
		90 \times 110	0.40	17.0	7	8	24	VG1J104YF110
80	27,000	64 \times 94	0.30	8.6	8	9	22	VG1K273YD094
	33,000	64 \times 107	0.30	9.5	7	7	22	VG1K333YD107
	47,000	64 \times 123	0.30	11.7	6	7	22	VG1K473YD123
		77 \times 95	0.30	12.2	6	7	24	VG1K473YE095
	56,000	77 \times 108	0.30	13.2	5	7	24	VG1K563YE108
		90 \times 97	0.30	15.3	5	7	24	VG1K563YF097
	68,000	77 \times 124	0.30	14.9	4	7	24	VG1K683YE124
		90 \times 110	0.30	16.8	4	7	24	VG1K683YF110

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 δ 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
100	18,000	64 \times 94	0.20	8.6	9	10	22	VG2A183YD094
	22,000	64 \times 107	0.20	9.5	8	9	22	VG2A223YD107
	33,000	64 \times 123	0.25	12.0	6	7	22	VG2A333YD123
		77 \times 95	0.25	12.1	6	7	24	VG2A333YE095
	39,000	77 \times 108	0.25	13.1	5	7	24	VG2A393YE108
		77 \times 124	0.25	14.7	5	7	24	VG2A473YE124
	47,000	90 \times 97	0.25	15.2	5	7	24	VG2A473YF097
56,000	90 \times 110	0.25	16.5	4	6	24	VG2A563YF110	
160	8,200	64 \times 94	0.25	5.8	18	19	22	VG2C822YD094
	10,000	64 \times 107	0.25	6.4	15	16	22	VG2C103YD107
	15,000	64 \times 123	0.25	8.1	14	14	22	VG2C153YD123
		77 \times 95	0.25	9.1	14	14	24	VG2C153YE095
	18,000	64 \times 147	0.25	8.7	12	12	22	VG2C183YD147
		77 \times 108	0.25	9.9	12	12	24	VG2C183YE108
	22,000	77 \times 124	0.25	11.2	10	10	24	VG2C223YE124
		90 \times 97	0.25	12.7	10	10	24	VG2C223YF097
	27,000	77 \times 148	0.25	12.2	8	8	24	VG2C273YE148
		90 \times 110	0.25	14.0	8	8	24	VG2C273YF110
33,000	90 \times 126	0.25	15.3	7	7	24	VG2C333YF126	
200	6,800	64 \times 94	0.25	5.3	21	20	22	VG2D682YD094
	10,000	64 \times 107	0.25	6.4	14	14	22	VG2D103YD107
	12,000	64 \times 123	0.25	7.2	12	12	22	VG2D123YD123
		77 \times 95	0.25	8.1	12	12	24	VG2D123YE095
	15,000	64 \times 147	0.25	7.9	10	10	22	VG2D153YD147
		77 \times 108	0.25	9.1	10	10	24	VG2D153YE108
	18,000	90 \times 97	0.25	10.5	10	10	24	VG2D153YF097
		77 \times 124	0.25	10.2	8	8	24	VG2D183YE124
		90 \times 110	0.25	11.4	8	8	24	VG2D183YF110
250	4,700	64 \times 94	0.25	4.4	25	23	22	VG2E472YD094
	5,600	64 \times 107	0.25	4.8	21	20	22	VG2E562YD107
	8,200	64 \times 123	0.25	6.0	15	15	22	VG2E822YD123
		77 \times 95	0.25	6.7	15	15	24	VG2E822YE095
	10,000	64 \times 147	0.25	6.5	13	13	22	VG2E103YD147
		77 \times 108	0.25	7.4	13	13	24	VG2E103YE108
	12,000	77 \times 124	0.25	8.3	11	11	24	VG2E123YE124
		90 \times 97	0.25	9.4	11	11	24	VG2E123YF097
	15,000	77 \times 148	0.25	9.1	9	9	24	VG2E153YE148
		90 \times 126	0.25	10.3	9	9	24	VG2E153YF126

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
350	3,900	64 \times 94	0.20	10.5	27	32	22	VG2V392YD094
	4,700	64 \times 107	0.20	11.9	22	23	22	VG2V472YD107
	5,600	64 \times 123	0.20	13.0	20	21	22	VG2V562YD123
		77 \times 95	0.20	14.6	20	21	24	VG2V562YE095
	6,800	64 \times 147	0.20	14.1	18	18	22	VG2V682YD147
		77 \times 108	0.20	16.0	18	18	24	VG2V682YE108
		90 \times 97	0.20	18.5	18	18	24	VG2V682YF097
	8,200	64 \times 187	0.20	15.9	15	17	22	VG2V822YD187
		77 \times 124	0.20	18.0	15	17	24	VG2V822YE124
		90 \times 110	0.20	20.2	15	17	24	VG2V822YF110
	10,000	77 \times 148	0.20	19.5	12	15	24	VG2V103YE148
		90 \times 126	0.20	22.1	12	15	24	VG2V103YF126
	12,000	77 \times 188	0.20	21.8	10	13	24	VG2V123YE188
		90 \times 150	0.20	24.1	10	13	24	VG2V123YF150
15,000	77 \times 228	0.20	25.2	8	11	24	VG2V153YE228	
	90 \times 167	0.20	26.5	8	11	24	VG2V153YF167	
18,000	90 \times 190	0.20	29.3	6	9	24	VG2V183YF190	
22,000	90 \times 230	0.20	31.5	5	7	24	VG2V223YF230	
400	3,300	64 \times 94	0.20	9.7	30	35	22	VG2G332YD094
	3,900	64 \times 107	0.20	10.8	27	32	22	VG2G392YD107
	4,700	64 \times 123	0.20	11.9	22	23	22	VG2G472YD123
		77 \times 95	0.20	13.3	22	23	24	VG2G472YE095
	5,600	64 \times 147	0.20	12.8	20	21	22	VG2G562YD147
		77 \times 108	0.20	14.5	20	21	24	VG2G562YE108
		90 \times 97	0.20	16.8	20	21	24	VG2G562YF097
	6,800	64 \times 187	0.20	14.5	18	18	22	VG2G682YD187
		77 \times 124	0.20	16.4	18	18	24	VG2G682YE124
		90 \times 110	0.20	18.4	18	18	24	VG2G682YF110
	8,200	77 \times 165	0.20	18.0	15	17	24	VG2G822YE165
		90 \times 126	0.20	20.0	15	17	24	VG2G822YF126
	10,000	77 \times 188	0.20	19.9	12	15	24	VG2G103YE188
		90 \times 150	0.20	22.0	12	15	24	VG2G103YF150
	12,000	90 \times 167	0.20	23.7	10	13	24	VG2G123YF167
	15,000	90 \times 190	0.20	26.7	8	11	24	VG2G153YF190
18,000	90 \times 230	0.20	28.5	7	9	24	VG2G183YF230	

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 δ 20°C, 120Hz	Ripple current (Arms)		ESR(typ.) (m Ω) 20°C, 100Hz	Z max (m Ω) 20°C, 10kHz	ESL(typ.) (nH)	Product name
				105°C, 120Hz	20°C, 100Hz				
450	2,700	64 \times 94	0.20	9.0	42	42	22	VG2W272YD094	
	3,300	64 \times 107	0.20	10.2	35	40	22	VG2W332YD107	
		77 \times 95	0.20	11.4	35	40	24	VG2W332YE095	
	3,900	64 \times 147	0.20	10.9	27	32	22	VG2W392YD147	
		77 \times 108	0.20	12.4	27	32	24	VG2W392YE108	
	4,700	64 \times 164	0.20	12.2	24	27	22	VG2W472YD164	
		77 \times 124	0.20	13.9	24	27	24	VG2W472YE124	
		90 \times 97	0.20	15.8	24	27	24	VG2W472YF097	
	5,600	77 \times 148	0.20	14.9	24	23	24	VG2W562YE148	
		90 \times 110	0.20	17.1	24	23	24	VG2W562YF110	
	6,800	77 \times 165	0.20	16.8	20	20	24	VG2W682YE165	
		90 \times 126	0.20	18.7	20	20	24	VG2W682YF126	
	8,200	77 \times 188	0.20	18.5	18	18	24	VG2W822YE188	
		90 \times 150	0.20	20.4	18	18	24	VG2W822YF150	
	10,000	90 \times 167	0.20	22.2	15	15	24	VG2W103YF167	
12,000	90 \times 190	0.20	24.5	13	12	24	VG2W123YF190		
15,000	90 \times 230	0.20	26.6	10	10	24	VG2W153YF230		
500	1,500	64 \times 107	0.20	6.5	74	80	22	VG2H152YD107	
	1,800	64 \times 123	0.20	7.2	62	50	22	VG2H182YD123	
		77 \times 95	0.20	8.0	62	50	24	VG2H182YE095	
	2,200	64 \times 147	0.20	7.8	53	50	22	VG2H222YD147	
		77 \times 108	0.20	8.9	53	50	24	VG2H222YE108	
	2,700	64 \times 164	0.20	8.8	40	35	22	VG2H272YD164	
		90 \times 97	0.20	11.4	40	35	24	VG2H272YF097	
	3,300	64 \times 187	0.20	9.8	38	32	22	VG2H332YD187	
		77 \times 124	0.20	11.1	38	32	24	VG2H332YE124	
		90 \times 110	0.20	12.5	38	32	24	VG2H332YF110	
	3,900	77 \times 148	0.20	11.9	30	27	24	VG2H392YE148	
		90 \times 126	0.20	13.5	30	27	24	VG2H392YF126	
	4,700	77 \times 165	0.20	13.3	25	20	24	VG2H472YE165	
		90 \times 150	0.20	14.7	25	20	24	VG2H472YF150	
	5,600	77 \times 188	0.20	14.6	20	17	24	VG2H562YE188	
		90 \times 167	0.20	15.8	20	17	24	VG2H562YF167	
	6,800	90 \times 190	0.20	17.5	17	17	24	VG2H682YF190	
8,200	90 \times 230	0.20	18.8	14	14	24	VG2H822YF230		

ALUMINUM ELECTROLYTIC CAPACITORS

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

