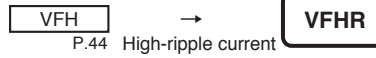


VFHR Series Useful of 20,000 hours at 85°C

- Conform RoHS

Features

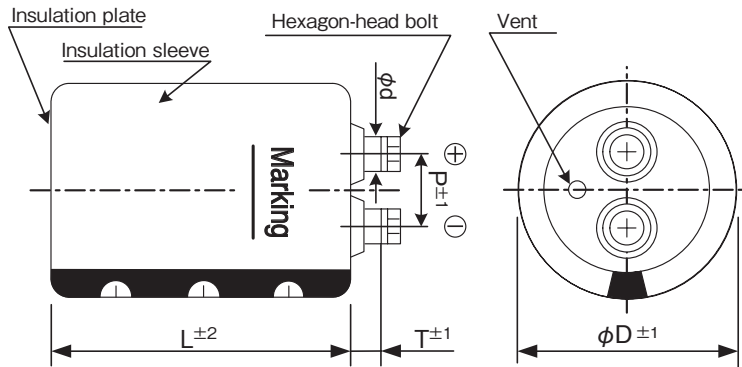
- High-reliability series with the warranty of 20,000 hours realized through improvement of the VFLR series into longer-life series.



Product Specifications

Items	Specifications
Temperature range	-40°C ~ +85°C
Rated voltage	350 ~ 500V.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 product table. (85°C, 120Hz)
Endurance	After the rated voltage with specified ripple current is applied at 85°C for 20,000 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 met 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)

φ D	P	T	φ d	Hexagon-head bolt	Cap material
64	28.6	8.0	11.0	M5×10	Phenol resin
77	31.5	9.0	12.0	M6×12	Phenol resin
90	31.5	8.0	12.0	M6×12	Phenol resin

Ripple current correction coefficient

Temperature (°C)	40	60	85	
Correction coefficient	350~450V.DC	1.90	1.75	1.00
	500V.DC	2.10	1.90	1.00
Frequency (Hz)	120	300	1k	≥10k
	Correction coefficient	1.0	1.1	1.3
Forced wind (m/s)	<0.5	0.5 ≤		
	Correction coefficient	1.0	1.1	

Terminal permissible currents : 60Arms for M5; 100Arms for M6. Please use this type of capacitor at a terminal current below the permissible.

Product code

(Example) VFHR type 400V 5,600 µF ±20%

VFHR 2G 562 Y F 110

- VFHR: Type of series
- 2G: Case height code
- 562: Case dia code
- Y: Type of bracket code
- F: Capacitance code
- 110: 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, 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

VFHR Series

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φD×L(mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 85°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Z max (mΩ) 20°C, 10kHz	ESL(typ.) (nH)	Product name
350	3,300	64×107	0.20	15.1	29	30	22	VFHR2V332YD107
	3,900	64×123	0.20	16.8	24	26	22	VFHR2V392YD123
	4,700	64×147	0.20	18.2	20	21	22	VFHR2V472YD147
		77×108	0.20	20.6	20	21	24	VFHR2V472YE108
	5,600	64×164	0.20	20.3	17	18	22	VFHR2V562YD164
		77×124	0.20	23.1	17	18	24	VFHR2V562YE124
	6,800	64×187	0.20	22.6	14	15	22	VFHR2V682YD187
		77×148	0.20	24.9	14	15	24	VFHR2V682YE148
		90×110	0.20	28.6	14	15	24	VFHR2V682YF110
	8,200	77×165	0.20	27.9	12	12	24	VFHR2V822YE165
		90×150	0.20	31.0	12	12	24	VFHR2V822YF150
	10,000	77×188	0.20	31.0	9	10	24	VFHR2V103YE188
		90×150	0.20	34.2	9	10	24	VFHR2V103YF150
	12,000	77×228	0.20	35.1	8	8	24	VFHR2V123YE228
90×167		0.20	36.8	8	8	24	VFHR2V123YF167	
15,000	90×190	0.20	41.5	6	7	24	VFHR2V153YF190	
18,000	90×230	0.20	44.3	5	6	24	VFHR2V183YF230	
400	2,700	64×107	0.20	13.6	35	37	22	VFHR2G272YD107
	3,300	64×123	0.20	15.5	29	30	22	VFHR2G332YD123
	3,900	64×147	0.20	16.5	24	26	22	VFHR2G392YD147
		77×108	0.20	18.8	24	26	24	VFHR2G392YE108
	4,700	64×164	0.20	18.6	20	21	22	VFHR2G472YD164
		77×124	0.20	21.2	20	21	24	VFHR2G472YE124
	5,600	64×187	0.20	20.5	17	18	22	VFHR2G562YD187
		77×148	0.20	22.6	17	18	24	VFHR2G562YE148
		90×110	0.20	26.0	17	18	24	VFHR2G562YF110
	6,800	77×165	0.20	25.4	14	15	24	VFHR2G682YE165
		90×150	0.20	28.2	14	15	24	VFHR2G682YF150
	8,200	77×188	0.20	28.1	12	12	24	VFHR2G822YE188
		90×150	0.20	31.0	12	12	24	VFHR2G822YF150
	10,000	77×228	0.20	32.0	9	10	24	VFHR2G103YE228
90×167		0.20	33.6	9	10	24	VFHR2G103YF167	
12,000	90×190	0.20	37.1	8	8	24	VFHR2G123YF190	
15,000	90×230	0.20	40.4	6	7	24	VFHR2G153YF230	
450	2,200	64×107	0.20	12.6	43	45	22	VFHR2W222YD107
	2,700	64×123	0.20	14.4	35	37	22	VFHR2W272YD123
		77×108	0.20	16.1	35	37	24	VFHR2W272YE108
	3,300	64×147	0.20	15.6	29	30	22	VFHR2W332YD147
		77×124	0.20	18.2	29	30	24	VFHR2W332YE124
	3,900	64×164	0.20	17.5	24	26	22	VFHR2W392YD164
		77×148	0.20	19.4	24	26	24	VFHR2W392YE148
		90×110	0.20	22.3	24	26	24	VFHR2W392YF110
	4,700	64×187	0.20	19.3	20	21	22	VFHR2W472YD187
		77×148	0.20	21.3	20	21	24	VFHR2W472YE148
		90×126	0.20	24.2	20	21	24	VFHR2W472YF126
	5,600	77×165	0.20	23.7	17	18	24	VFHR2W562YE165
		90×150	0.20	26.3	17	18	24	VFHR2W562YF150
	6,800	77×188	0.20	26.3	14	15	24	VFHR2W682YE188
90×167		0.20	28.5	14	15	24	VFHR2W682YF167	
8,200	77×228	0.20	29.8	12	12	24	VFHR2W822YE228	
	90×190	0.20	31.5	12	12	24	VFHR2W822YF190	
10,000	90×230	0.20	33.9	9	10	24	VFHR2W103YF230	
500	1,500	64×107	0.20	8.4	69	73	22	VFHR2H152YD107
	1,800	64×123	0.20	9.5	58	61	22	VFHR2H182YD123
	2,200	64×147	0.20	10.3	47	50	22	VFHR2H222YD147
		77×108	0.20	11.7	47	50	24	VFHR2H222YE108
	2,700	64×187	0.20	11.8	39	41	22	VFHR2H272YD187
		77×124	0.20	13.3	39	41	24	VFHR2H272YE124
	3,300	77×148	0.20	14.4	32	33	24	VFHR2H332YE148
		90×110	0.20	16.5	32	33	24	VFHR2H332YF110
	3,900	77×165	0.20	15.9	27	28	24	VFHR2H392YE165
		90×126	0.20	17.8	27	28	24	VFHR2H392YF126
	4,700	77×188	0.20	17.6	22	23	24	VFHR2H472YE188
		90×150	0.20	19.4	22	23	24	VFHR2H472YF150
	5,600	77×228	0.20	19.8	19	20	24	VFHR2H562YE228
		90×167	0.20	20.8	19	20	24	VFHR2H562YF167
6,800	90×190	0.20	23.1	15	16	24	VFHR2H682YF190	
8,200	90×230	0.20	24.7	13	13	24	VFHR2H822YF230	

ALUMINUM ELECTROLYTIC CAPACITORS

Life time graph

Useful life depending on ambient temperature T_a and ripple current operating condition I versus rated ripple current at 85°C, 120Hz

ALUMINUM ELECTROLYTIC CAPACITORS

