VFLR Series Useful of 8,000 hours at 85°C

• Conform RoHS

Features

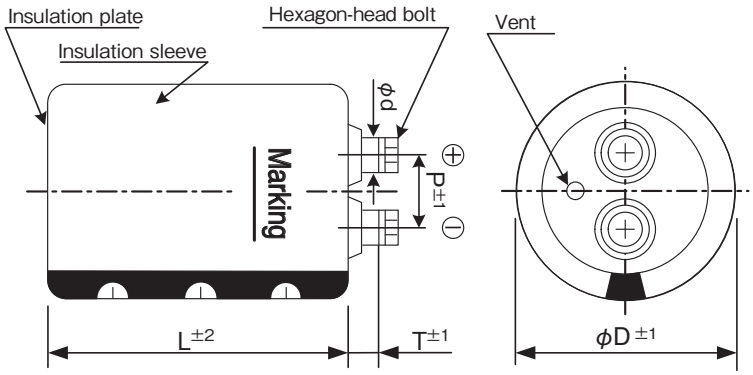
• The permissible ripple current is improved to FXR type by approx.10 ～ 20% using the new heat radiation, low ESR and the new anode foil.

FXR3 P.70 → High-ripple current VFLR

Product Specifications

Items	Specifications
Temperature range	−40℃～+85℃
Rated voltage	350 ～ 500V.DC
Capacitance tolerance	±20% (20℃, 120Hz)
Leakage current	0.01CV (μA) or 5mA, whichever is smaller or less (20℃, after 5 minutes) [C = nominal capacitance (μF), V = rated voltage (V)]
Dissipation factor	Less than the value specified in the standard products table. (20℃, 120Hz)
Permissible ripple current	As specified in the standard product table. (85℃, 120Hz)
Endurance	After the rated voltage with specified ripple current is applied at 85℃ for 5,000 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℃ after storage of 500 hours at 85℃ 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	9.0	12.0	M6×12	Phenol resin
90	31.5	8.0	12.0	M6×12	Phenol resin

M6 terminal is available upon request (φ 77 and φ 90).

Ripple current correction coefficient

Temperature correction coefficient

Temperature(℃)	40	60	85
Correction coefficient	1.89	1.67	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 permissble currents : 60Arms for M5 ; 100Arms for M6.
Please use this type of capacitor at a terminal current below the permissible.

Product code

(Example) VFLR Series 450V 15,000 μF±20%

VFLR 2W 153 Y F 230

- VFLR: Type of series
- 2W: Rated voltage code
- 153: Capacitance code
- Y: Type of bracket code
- F: Case dia code
- 230: Case height code

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.

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size ϕD×L(mm)	tanδ 20℃, 120Hz	Ripple current (Arms) 85℃, 120Hz	ESR(typ.) (mΩ) 20℃, 100Hz	Z max (mΩ) 20℃, 10kHz	ESL(typ.) (nH)	Product name
350	3,900	64×107	0.20	17.0	24	26	22	VFLR2V392YD107
	4,700	64×123	0.20	19.2	20	21	22	VFLR2V472YD123
	5,600	64×147	0.20	20.6	17	18	22	VFLR2V562YD147
		77×108	0.20	23.5	17	18	24	VFLR2V562YE108
	6,800	64×164	0.20	23.3	14	15	22	VFLR2V682YD164
		77×124	0.20	26.5	14	15	24	VFLR2V682YE124
	8,200	64×187	0.20	25.8	12	12	22	VFLR2V822YD187
		77×148	0.20	28.5	12	12	24	VFLR2V822YE148
		90×110	0.20	32.6	12	12	24	VFLR2V822YF110
	10,000	77×165	0.20	32.1	9	10	24	VFLR2V103YE165
		90×126	0.20	35.9	9	10	24	VFLR2V103YF126
	12,000	77×188	0.20	35.3	8	8	24	VFLR2V123YE188
		90×150	0.20	39.1	8	8	24	VFLR2V123YF150
	15,000	77×228	0.20	40.8	6	7	24	VFLR2V153YE228
		90×167	0.20	43.3	6	7	24	VFLR2V153YF167
	18,000	90×190	0.20	47.1	5	6	24	VFLR2V183YF190
	22,000	90×230	0.20	51.2	4	5	24	VFLR2V223YF230
400	3,300	64×107	0.20	15.7	29	30	22	VFLR2G332YD107
	3,900	64×123	0.20	17.5	24	26	22	VFLR2G392YD123
	4,700	64×147	0.20	18.9	20	21	22	VFLR2G472YD147
		77×108	0.20	21.5	20	21	24	VFLR2G472YE108
	5,600	64×164	0.20	21.2	17	18	22	VFLR2G562YD164
		77×124	0.20	24.0	17	18	24	VFLR2G562YE124
	6,800	64×187	0.20	23.5	14	15	22	VFLR2G682YD187
		77×148	0.20	26.0	14	15	24	VFLR2G682YE148
		90×110	0.20	29.7	14	15	24	VFLR2G682YF110
	8,200	77×165	0.20	29.1	12	12	24	VFLR2G822YE165
		90×126	0.20	32.5	12	12	24	VFLR2G822YF126
	10,000	77×188	0.20	32.2	9	10	24	VFLR2G103YE188
		90×150	0.20	35.7	9	10	24	VFLR2G103YF150
	12,000	77×228	0.20	36.5	8	8	24	VFLR2G123YE228
		90×167	0.20	38.7	8	8	24	VFLR2G123YF167
	15,000	90×190	0.20	43.0	6	7	24	VFLR2G153YF190
	18,000	90×230	0.20	46.3	5	6	24	VFLR2G183YF230
450	2,700	64×107	0.20	14.5	35	37	22	VFLR2W272YD107
	3,300	64×123	0.20	16.5	29	30	22	VFLR2W332YD123
	3,900	64×147	0.20	17.6	24	26	22	VFLR2W392YD147
		77×108	0.20	20.1	24	26	24	VFLR2W392YE108
	4,700	64×164	0.20	19.9	20	21	22	VFLR2W472YD164
		77×124	0.20	22.6	20	21	24	VFLR2W472YE124
	5,600	64×187	0.20	21.9	17	18	22	VFLR2W562YD187
		77×148	0.20	24.1	17	18	24	VFLR2W562YE148
		90×110	0.20	27.6	17	18	24	VFLR2W562YF110
	6,800	77×165	0.20	27.1	14	15	24	VFLR2W682YE165
		90×126	0.20	30.3	14	15	24	VFLR2W682YF126
	8,200	77×188	0.20	29.9	12	12	24	VFLR2W822YE188
		90×150	0.20	33.1	12	12	24	VFLR2W822YF150
	10,000	77×228	0.20	34.1	9	10	24	VFLR2W103YE228
		90×167	0.20	36.2	9	10	24	VFLR2W103YF167
	12,000	90×190	0.20	39.4	8	8	24	VFLR2W123YF190
	15,000	90×230	0.20	43.3	6	7	24	VFLR2W153YF230
500	1,800	64×107	0.20	11.3	58	61	22	VFLR2H182YD107
	2,200	64×123	0.20	12.8	47	50	22	VFLR2H222YD123
	2,700	64×147	0.20	13.9	39	41	22	VFLR2H272YD147
		77×108	0.20	15.9	39	41	24	VFLR2H272YE108
	3,300	64×164	0.20	15.8	32	33	22	VFLR2H332YD164
		77×124	0.20	18.0	32	33	24	VFLR2H332YE124
	3,900	64×187	0.20	17.3	27	28	22	VFLR2H392YD187
		77×148	0.20	19.1	27	28	24	VFLR2H392YE148
		90×110	0.20	21.9	27	28	24	VFLR2H392YF110
	4,700	77×165	0.20	21.4	22	23	24	VFLR2H472YE165
		90×126	0.20	24.0	22	23	24	VFLR2H472YF126
	5,600	77×188	0.20	23.5	19	20	24	VFLR2H562YE188
		90×150	0.20	26.0	19	20	24	VFLR2H562YF150
	6,800	77×228	0.20	26.7	15	16	24	VFLR2H682YE228
		90×167	0.20	28.4	15	16	24	VFLR2H682YF167
	8,200	90×190	0.20	31.0	13	13	24	VFLR2H822YF190
	10,000	90×230	0.20	33.6	10	11	24	VFLR2H103YF230

Life time graph

Useful life depending on ambient temperature Ta and ripple current operating conditions I versus rated ripple current at 85℃, 120Hz