UPGRADE!

VFL Series

Useful of 8,000 hours at 85°C

Standard

Long Life



- Conform RoHS

Features

- About 10% ripple current has improved to FX2 series by radiation structure.

FXA
FX2 → High-ripple current VFL
FX3

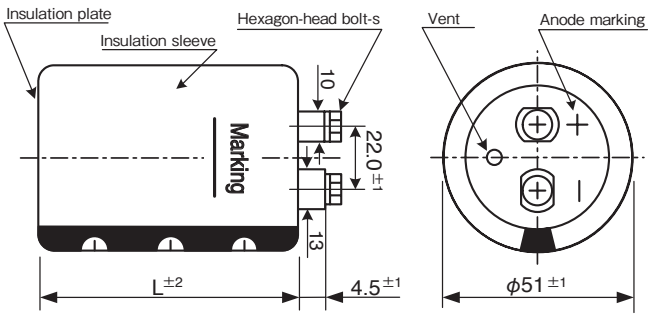
Obsoleted series

Product Specifications

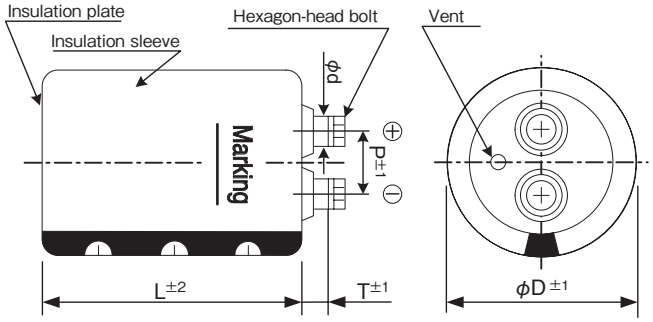
Items	Specifications
Temperature range	−40 ～ +85℃
Rated voltage	350 ～ 550V.DC
Capacitance tolerance	±20% (20℃, 120Hz)
Leakage current	0.01CV (μA) or 5mA, whichever is smaller or less (20℃, after 5 minutes) [C = nominal capacitance (μF), V = rated voltage (V)]
Dissipation factor	Less than the value specified 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

● φ51



● φ64 ～ 90



Ripple current correction coefficient

Temperature (℃)	60	85		
Correction coefficient	1.67	1.00		
Frequency (Hz)	120	300	1K	≧10K
Correction coefficient	1.0	1.1	1.3	1.4
Forced wind (m/s)	< 0.5	0.5 ≦		
Correction coefficient	1.0	1.1		

(unit : mm)

φD	P	T	φd	Hexagon-head bolt	Cap material
51	22.0	4.5	—	M5×10	Phenol resin
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

Terminal permissible current is limited to 60Arms. (Even if calculated the permissible ripple current with the correction coefficient exceeds 60Arms) Please consult us when the ripple voltage exceeds 50 Vp-p.

Product code

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

VFL 2G 153 Y F 167

- VFL — Type of series
- 2G — Rated voltage code
- 153 — Capacitance code
- Y — Type of bracket code
- F — Case dia code
- 167 — 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.

VFL Series

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	1,800	51×75	0.20	7.4	55	58	21	VFL2V182YC075
	2,200	51×96	0.20	8.5	45	47	21	VFL2V222YC096
	2,700	51×109	0.20	9.8	37	39	21	VFL2V272YC109
	3,300	51×125	0.20	11.2	30	32	21	VFL2V332YC125
	4,700	64×94	0.20	15.1	21	22	22	VFL2V472YD094
	5,600	64×107	0.20	16.9	18	19	22	VFL2V562YD107
	6,800	64×123	0.20	18.7	15	15	22	VFL2V682YD123
		77×95	0.20	20.9	15	15	24	VFL2V682YE095
	8,200	64×147	0.20	20.2	12	15	22	VFL2V822YD147
		77×108	0.20	22.9	12	15	24	VFL2V822YE108
	10,000	64×187	0.20	22.9	10	15	22	VFL2V103YD187
		77×124	0.20	25.9	10	15	24	VFL2V103YE124
		90×97	0.20	29.3	10	15	24	VFL2V103YF097
	12,000	77×148	0.20	27.8	8	13	24	VFL2V123YE148
		90×126	0.20	31.7	8	13	24	VFL2V123YF126
	15,000	77×188	0.20	31.9	7	10	24	VFL2V153YE188
		90×150	0.20	35.2	7	10	24	VFL2V153YF150
	18,000	90×167	0.20	37.9	7	10	24	VFL2V183YF167
	27,000	90×268	0.20	43.0	5	7	24	VFL2V273YF268
400	1,500	51×75	0.20	6.8	68	73	21	VFL2G152YC075
	1,800	51×96	0.20	7.9	57	61	21	VFL2G182YC096
	2,200	51×109	0.20	9.1	47	50	21	VFL2G222YC109
	2,700	51×125	0.20	10.2	38	41	21	VFL2G272YC125
	3,900	64×94	0.20	13.8	26	28	22	VFL2G392YD094
	4,700	64×107	0.20	15.5	21	22	22	VFL2G472YD107
	5,600	64×123	0.20	16.9	18	19	22	VFL2G562YD123
		77×95	0.20	19.0	18	19	24	VFL2G562YE095
	6,800	64×147	0.20	18.4	15	15	22	VFL2G682YD147
		77×108	0.20	20.8	15	15	24	VFL2G682YE108
	8,200	64×187	0.20	20.8	12	15	22	VFL2G822YD187
		77×124	0.20	23.5	12	15	24	VFL2G822YE124
		90×97	0.20	26.6	12	15	24	VFL2G822YF097
	10,000	77×148	0.20	25.4	10	15	24	VFL2G103YE148
		90×126	0.20	28.9	10	15	24	VFL2G103YF126
	12,000	77×188	0.20	28.5	8	13	24	VFL2G123YE188
		90×150	0.20	31.5	8	13	24	VFL2G123YF150
	15,000	90×167	0.20	34.6	8	10	24	VFL2G153YF167
	22,000	90×268	0.20	38.9	5	7	24	VFL2G223YF268
450	1,200	51×75	0.20	6.3	86	90	21	VFL2W122YC075
	1,500	51×96	0.20	7.5	69	72	21	VFL2W152YC096
	1,800	51×109	0.20	8.4	57	60	21	VFL2W182YC109
	2,200	51×125	0.20	9.4	47	50	21	VFL2W222YC125
	2,700	64×94	0.20	11.7	38	40	22	VFL2W272YD094
	3,300	64×107	0.20	13.3	30	35	22	VFL2W332YD107
	3,900	64×123	0.20	14.5	27	32	22	VFL2W392YD123
		77×95	0.20	16.2	27	32	24	VFL2W392YE095
	4,700	64×147	0.20	15.6	21	21	22	VFL2W472YD147
		77×108	0.20	17.8	21	21	24	VFL2W472YE108
	5,600	64×164	0.20	17.5	20	20	22	VFL2W562YD164
		77×124	0.20	19.9	20	20	24	VFL2W562YE124
		90×97	0.20	22.5	20	20	24	VFL2W562YF097
	6,800	64×187	0.20	19.4	15	18	22	VFL2W682YD187
		77×148	0.20	21.4	15	18	24	VFL2W682YE148
		90×110	0.20	24.6	15	18	24	VFL2W682YF110
	8,200	77×165	0.20	24.0	14	16	24	VFL2W822YE165
		90×126	0.20	26.8	14	16	24	VFL2W822YF126
	10,000	77×188	0.20	26.7	10	15	24	VFL2W103YE188
		90×150	0.20	29.4	10	15	24	VFL2W103YF150
	12,000	90×167	0.20	31.7	9	12	24	VFL2W123YF167
	18,000	90×268	0.20	36.0	6	8	24	VFL2W183YF268

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
500	820	51×75	0.20	4.7	117	110	21	VFL2H821YC075
	1,000	51×96	0.20	5.6	96	90	21	VFL2H102YC096
	1,200	51×109	0.20	6.3	80	75	21	VFL2H122YC109
	1,500	51×125	0.20	7.2	64	60	21	VFL2H152YC125
	1,800	64×94	0.20	9.1	53	50	22	VFL2H182YD094
	2,200	64×107	0.20	10.3	40	35	22	VFL2H222YD107
	2,700	64×123	0.20	11.5	37	33	22	VFL2H272YD123
		77×95	0.20	12.9	37	33	24	VFL2H272YE095
	3,300	64×147	0.20	12.5	36	32	22	VFL2H332YD147
		77×108	0.20	14.2	36	32	24	VFL2H332YE108
	3,900	64×164	0.20	13.9	27	29	22	VFL2H392YD164
		77×124	0.20	15.8	27	29	24	VFL2H392YE124
		90×97	0.20	17.9	27	29	24	VFL2H392YF097
	4,700	64×187	0.20	15.4	25	25	22	VFL2H472YD187
		77×148	0.20	17.0	25	25	24	VFL2H472YE148
		90×110	0.20	19.5	25	25	24	VFL2H472YF110
	5,600	77×165	0.20	18.9	23	21	24	VFL2H562YE165
		90×126	0.20	21.1	23	21	24	VFL2H562YF126
	6,800	77×188	0.20	20.9	20	18	24	VFL2H682YE188
		90×150	0.20	23.1	20	18	24	VFL2H682YF150
	8,200	90×167	0.20	25.0	17	16	24	VFL2H822YF167
	10,000	90×190	0.20	27.8	14	12	24	VFL2H103YF190
	15,000	90×268	0.20	31.4	10	8	24	VFL2H153YF268
550	680	51×75	0.20	4.2	165	177	21	VFL2L681YC075
	820	51×96	0.20	5.0	137	147	21	VFL2L821YC096
	1,000	51×109	0.20	5.6	112	120	21	VFL2L102YC109
	1,200	51×125	0.20	6.4	93	100	21	VFL2L122YC125
	1,500	64×94	0.20	8.1	74	80	22	VFL2L152YD094
	1,800	64×107	0.20	9.1	61	50	22	VFL2L182YD107
	2,200	64×123	0.20	10.1	53	50	22	VFL2L222YD123
		77×95	0.20	11.4	53	50	24	VFL2L222YE095
	2,700	64×147	0.20	11.0	40	35	22	VFL2L272YD147
		77×108	0.20	12.5	40	35	24	VFL2L272YE108
	3,300	64×164	0.20	12.5	38	32	22	VFL2L332YD164
		77×124	0.20	14.2	38	32	24	VFL2L332YE124
		90×97	0.20	16.1	38	32	24	VFL2L332YF097
	3,900	64×187	0.20	13.7	30	27	22	VFL2L392YD187
		77×148	0.20	15.1	30	27	24	VFL2L392YE148
		90×110	0.20	17.4	30	27	24	VFL2L392YF110
	4,700	77×165	0.20	16.9	25	20	24	VFL2L472YE165
		90×126	0.20	18.9	25	20	24	VFL2L472YF126
	5,600	77×188	0.20	18.6	20	17	24	VFL2L562YE188
		90×150	0.20	20.5	20	17	24	VFL2L562YF150
	6,800	90×167	0.20	22.2	17	15	24	VFL2L682YF167
	8,200	90×190	0.20	24.6	14	15	24	VFL2L822YF190
	12,000	90×268	0.20	27.4	10	10	24	VFL2L123YF268

Life time graph

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

