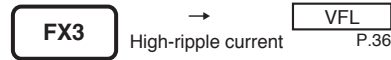


# FX3 Series Useful of 8,000 hours at 85°C

- Conform RoHS

## Features

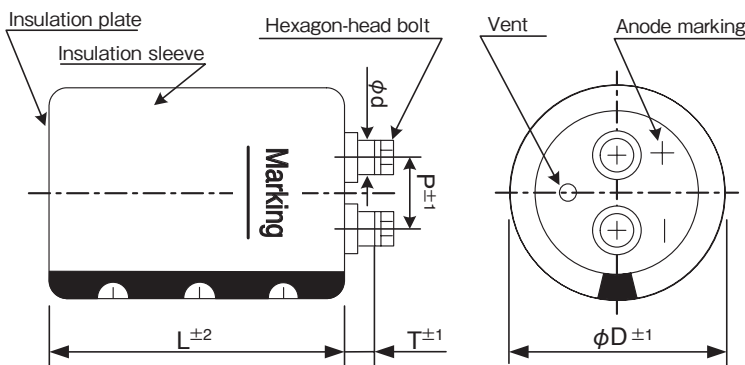
- FX3 series is the product developed for the purpose of the miniaturization as a capacitor for primary side filters of an inverter, DC servo, and a chopper control circuit.
- FX3 series has smaller case size (ave. 16%) compared with FX2 series.



## Product Specifications

Items	Specifications
Temperature range	-40°C ~ +85°C
Rated voltage	400 ~ 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 products table. (85°C, 120Hz)
Endurance	After the rated voltage with specified ripple current is applied at 85°C 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°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)

φD	P	T	φd	Hexagon-head bolt	Cap material
51	22.0	5.5	10.0	M5×10	Phenol resin
64	28.6	5.5	10.0	M5×10	Phenol resin
77	31.5	5.0	10.0	M5×10	Phenol resin
90	31.5	5.0	10.0	M5×10	Phenol resin

## Ripple current correction coefficient

Temperature (°C)	40	60	85		
Correction coefficient	1.89	1.67	1.00		
Frequency (Hz)	50/60	120	300	1K	≥10K
Correction coefficient	0.7	1.0	1.1	1.3	1.4

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

## Product code

(Example) FX3 Series 400V 8,200µF±20%

**FX3 2G 822 Y E 130**

- FX3: Type of series
- 2G: Case height code
- 822: Case dia code
- Y: Type of bracket code
- E: Capacitance code
- 130: 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.

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
400	2,200	51×96	0.20	8.4	46	48	21	FX32G222YC096
	2,700	51×115	0.20	10.0	38	40	21	FX32G272YC115
	3,300	51×130	0.20	11.6	30	32	21	FX32G332YC130
	3,900	64×96	0.20	12.3	26	28	22	FX32G392YD096
	4,700	64×115	0.20	14.5	21	22	22	FX32G472YD115
	5,600	64×130	0.20	16.6	18	19	22	FX32G562YD130
	6,800	64×155	0.20	19.7	15	15	22	FX32G682YD155
		77×115	0.20	18.5	15	15	24	FX32G682YE115
	8,200	77×130	0.20	21.2	12	15	24	FX32G822YE130
	10,000	77×155	0.20	25.1	10	15	24	FX32G103YE155
	12,000	77×195	0.20	30.3	8	13	24	FX32G123YE195
	15,000	90×171	0.20	34.0	8	10	24	FX32G153YF171
18,000	90×196	0.20	39.4	6	9	24	FX32G183YF196	
22,000	90×236	0.20	47.0	6	8	24	FX32G223YF236	
450	1,800	51×96	0.20	7.2	71	73	21	FX32W182YC096
	2,200	51×115	0.20	8.6	58	60	21	FX32W222YC115
	2,700	51×130	0.20	10.1	47	49	21	FX32W272YC130
	3,300	64×96	0.20	10.8	39	41	22	FX32W332YD096
	3,900	64×115	0.20	12.6	33	35	22	FX32W392YD115
	4,700	64×130	0.20	14.6	27	29	22	FX32W472YD130
	5,600	64×155	0.20	17.1	23	25	22	FX32W562YD155
		77×115	0.20	16.0	23	25	24	FX32W562YE115
	6,800	77×130	0.20	18.5	19	21	24	FX32W682YE130
	8,200	77×155	0.20	21.8	16	18	24	FX32W822YE155
		77×171	0.20	22.7	16	18	24	FX32W822YF171
	10,000	90×157	0.20	25.7	13	15	24	FX32W103YF157
	12,000	90×171	0.20	29.1	11	13	24	FX32W123YF171
	15,000	90×196	0.20	34.4	9	11	24	FX32W153YF196
18,000	90×236	0.20	40.7	8	10	24	FX32W183YF236	
500	1,200	51×96	0.20	6.3	92	100	21	FX32H122YC096
	1,500	51×115	0.20	7.6	74	80	21	FX32H152YC115
	1,800	51×130	0.20	8.7	53	50	21	FX32H182YC130
	2,200	64×96	0.20	9.4	40	35	22	FX32H222YD096
	2,700	64×130	0.20	11.7	37	33	22	FX32H272YD130
	3,300	64×155	0.20	13.9	36	32	22	FX32H332YD155
		77×115	0.20	13.1	36	32	24	FX32H332YE115
	3,900	77×130	0.20	14.9	27	29	24	FX32H392YE130
	4,700	77×155	0.20	17.5	25	25	24	FX32H472YE155
	5,600	77×171	0.20	19.9	23	21	24	FX32H562YE171
		90×131	0.20	19.1	23	21	24	FX32H562YF131
	6,800	77×195	0.20	23.2	20	18	24	FX32H682YE195
		90×157	0.20	22.5	20	18	24	FX32H682YF157
	8,200	90×171	0.20	25.6	17	16	24	FX32H822YF171
	10,000	90×196	0.20	29.9	15	14	24	FX32H103YF196
12,000	90×236	0.20	35.3	13	12	24	FX32H123YF236	

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 85°C, 120Hz

