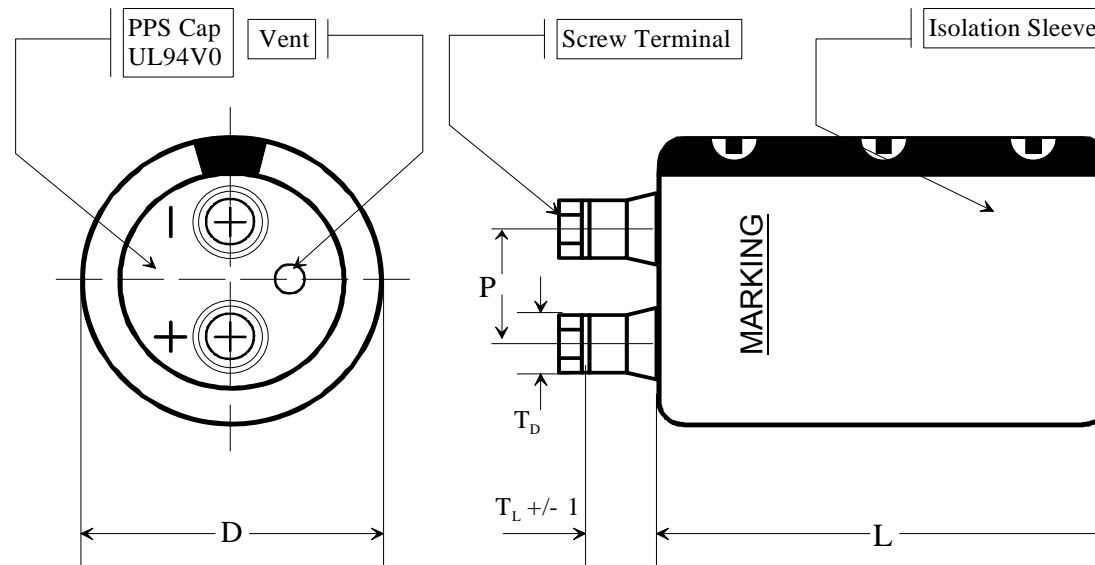


# HITACHI AIC

## ALUMINUM ELECTROLYTIC CAPACITOR SPECIFICATION

I.) Series: **FXR3**



II.) Dimensions:

Diameter	:	D = please refer to III. +/- 1 mm
Length	:	L = please refer to III. +/- 2 mm
Terminal; Pitch	:	M5, P = 28,6 mm (D = 64); M6, P = 32,0 mm (D = 77, 90)
Terminal Length	:	T <sub>L</sub> = 4,5 mm (D = 64); T <sub>L</sub> = 5,5 mm (D = 77); T <sub>L</sub> = 3,0 mm (D = 90)
Terminal Diameter	:	T <sub>D</sub> = 10mm (M5) +/- 0,5 mm (D = 64); T <sub>D</sub> = 16mm (M6) +/- 0,5 mm (D = 77, 90)
Mounting	:	Bracket mounting, Y-type, 3 stoppers; PBT-safety-holder; press ring or customized
	:	for Bolt mounting, M12 x 16mm, please ask for a separate drawing

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## ALUMINUM ELECTROLYTIC CAPACITOR SPECIFICATION

### III.) Specification:

Rated Voltage code (Surge Voltage)	Capacitance ( $\mu$ F)	Case Size DxL (mm)	Max. Ripple Current 40°C, 120Hz (Arms)	Max. Ripple Current Ir 85°C, 120Hz (Arms)	ESR (typ) 20°C, 100Hz (m $\Omega$ )	Z max 20°C, 10kHz (m $\Omega$ )	ESL (typ) (nH)	Product Code
400 2G (450)	3 900	64 x 95	37,4	17,8	26	28	22	FXR32G392 □ D095
	4 700	64 x 125	43,5	20,7	21	22	22	FXR32G472 □ D125
	5 600	64 x 150	49,6	23,6	18	19	22	FXR32G562 □ D150
		77 x 97	47,9	22,8	18	19	23	FXR32G562 □ E097
	6 800	64 x 167	56,9	27,1	15	16	22	FXR32G682 □ D167
		77 x 127	55,7	26,5	15	16	23	FXR32G682 □ E127
	8 200	77 x 152	63,4	30,2	12	12	23	FXR32G822 □ E152
		90 x 99	62,4	29,7	12	12	23	FXR32G822 □ F099
	10 000	77 x 169	73,1	34,8	10	10	23	FXR32G103 □ E169
		90 x 129	72,2	34,4	10	10	23	FXR32G103 □ F129
	12 000	90 x 154	81,9	39,0	8	10	23	FXR32G123 □ F154
	15 000	77 x 232	99,8	47,5	8	10	23	FXR32G153 □ E232
18 000	90 x 234	115,9	55,2	6	9	23	FXR32G183 □ F234	
22 000	90 x 234	128,1	61,0	6	8	23	FXR32G223 □ F234	

□ Fixing symbol code: **B**: Bolt M12; **N**: No double sleeve (PBT-safety-holder or press ring); **Y**: 3 Stoppers Bracket included

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# HITACHI AIC

## ALUMINUM ELECTROLYTIC CAPACITOR SPECIFICATION

Rated Voltage code (Surge Voltage)	Capacitance ( $\mu$ F)	Case Size D×L (mm)	Max. Ripple Current 40°C,120Hz (Arms)	Max. Ripple Current Ir 85°C,120Hz (Arms)	ESR (typ) 20°C, 100Hz (m $\Omega$ )	Z max 20°C, 10kHz (m $\Omega$ )	ESL (typ) (nH)	Product Code	
420 420V (470)	3 300	64 x 95	31,1	14,8	32	34	22	FXR3420V332 □ D095	
	3 900	64 x 109	33,8	16,1	26	28	22	FXR3420V392 □ D109	
	4 700	64 x 125	77 x 97	39,3	18,7	21	22	22	FXR3420V472 □ D125
			77 x 97	39,7	18,9	21	22	23	FXR3420V472 □ E097
	5 600	64 x 150	77 x 111	44,7	21,3	18	19	22	FXR3420V562 □ D150
			77 x 111	43,5	20,7	18	19	23	FXR3420V562 □ E111
	6 800	64 x 167	77 x 127	51,5	24,5	15	15	22	FXR3420V682 □ D167
			77 x 127	50,2	23,9	15	15	23	FXR3420V682 □ E127
			90 x 99	51,5	24,5	15	15	23	FXR3420V682 □ F099
	8 200	77 x 152	90 x 113	57,3	27,3	12	12	23	FXR3420V822 □ E152
			90 x 113	56,3	26,8	12	12	23	FXR3420V822 □ F113
	10 000	77 x 169	66,2	31,5	10	10	23	FXR3420V103 □ E169	
	12 000	77 x 232	90 x 154	80,6	38,4	8	10	23	FXR3420V123 □ E232
			90 x 154	74,1	35,3	8	10	23	FXR3420V123 □ F154
15 000	90 x 194	88,4	42,1	8	10	23	FXR3420V153 □ F194		
18 000	90 x 234	104,8	49,9	6	8	23	FXR3420V183 □ F234		

□ Fixing symbol code: **B**: Bolt M12; **N**: No double sleeve (PBT-safety-holder or press ring); **Y**: 3 Stoppers Bracket included

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# HITACHI AIC

## ALUMINUM ELECTROLYTIC CAPACITOR SPECIFICATION

Rated Voltage code (Surge Voltage)	Capacitance ( $\mu$ F)	Case Size D×L (mm)	Max. Ripple Current 40°C,120Hz (Arms)	Max. Ripple Current I <sub>r</sub> 85°C,120Hz (Arms)	ESR (typ) 20°C, 100Hz (m $\Omega$ )	Z max 20°C, 10kHz (m $\Omega$ )	ESL (typ) (nH)	Product Code
450 2W (500)	2 700	64 x 95	28,4	13,5	39	41	22	FXR32W272 □ D095
	3 300	64 x 109	31,5	15,0	32	34	22	FXR32W332 □ D109
	3 900	64 x 125	35,9	17,1	26	28	22	FXR32W392 □ D125
	4 700	64 x 150	41,2	19,6	21	22	22	FXR32W472 □ D150
	5 600	64 x 167	46,8	22,3	18	19	22	FXR32W562 □ D167
	6 800	64 x 190	53,3	25,4	15	15	22	FXR32W682 □ D190
	8 200	77 x 169	60,1	28,6	12	12	23	FXR32W822 □ E169
	10 000	77 x 192	68,5	32,6	10	10	23	FXR32W103 □ E192
		90 x 154	67,8	32,3	10	10	23	FXR32W103 □ F154
	12 000	90 x 194	79,4	37,8	8	10	23	FXR32W123 □ F194
15 000	90 x 234	96,2	45,8	8	10	23	FXR32W153 □ F234	

□ Fixing symbol code: **B**: Bolt M12; **N**: No double sleeve (PBT-safety-holder or press ring); **Y**: 3 Stoppers Bracket included

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# HITACHI AIC

## ALUMINUM ELECTROLYTIC CAPACITOR SPECIFICATION

### IV.) General Specification:

Item:	Value:	Condition:
Capacitance	: please refer to III.	+/- 20%
Rated Voltage RV	: please refer to III.	at 85°C
Surge Voltage	: please refer to III.	30sec / 6 Minutes
Temperature Range	: -40°C ~ +85°C	during operation
Dissipation Factor Tan $\delta$	: 0,20 max	at 120Hz / 20°C
Typ. Leakage Current	: 0,5 mA	after 5 Minutes at 20°C
Max. Leakage Current	: 3,0 mA	after 5 Minutes at 20°C
Life time	: 12 000 h	at 85°C, $I_R$ , RV
Life time	: 250 000 h	at 40°C, $I_R$ * 1,5; RV
Failure rate	: 0,5 FIT	during useful life (please refer to IX.)

### V.) Ripple Current Multiplier depending on Frequency :

Frequency (Hz):	50/60	120	300	1k	> 10k
Multiplier:	0,7	1,0	1,18	1,34	1,45

### VI.) Ripple Current Multiplier depending on Forced Cooling :

Wind speed (m/s):	$v < 1,0$	$v \geq 1,0$
Multiplier:	1,0	1,25

### VII.) Ripple Current Multiplier depending on Ambient Temperature $T_a$ :

$T_a$ (°C)	40	45	50	55	60	65	70	75	85
Multiplier:	2,1	2,0	1,9	1,8	1,7	1,6	1,5	1,3	1

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## ALUMINUM ELECTROLYTIC CAPACITOR SPECIFICATION

VIII.) Life Time Table (depending on ambient temperature and ripple current)

FXR3	Ripple Current Multiplier											
	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1
40 °C	250	250	250	250	250	250	246	192	148	112	84	62
45 °C	250	250	250	250	242	195	155	121	93	71	53	
50 °C	250	250	225	187	153	123	98	77	59	45		
55 °C	198	169	142	118	97	78	62	48	37			
60 °C	125	107	90	75	61	49	39	30				
65 °C	79	67	57	47	38	31	24					
70 °C	50	42	36	30	24	19						
75 °C	31	27	22	18								
80 °C	20	17	14									
85 °C	12											

\*1000 hrs

IX.) Useful Life Criteria:

Capacitance:	$\Delta C / C : < 20\%$ (C = initial value)
Dissipation Factor Tan $\delta$ :	< 200% of initial value
Leakage Current:	< than specified value

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