

Metallized Polypropylene Film Capacitor (Axial Lead) Snubber Applications

FSC series

Overview

The FSC series is constructed of metallized polypropylene film and double sided metallized film, with polyester tape wrapping filled with resin and tinned copper wires.



Typical Applications

- Widely use in high voltage, high frequency circuits.
- IGBT modules protection.

Features

- High ripple current
- Self-healing property
- Low losses
- High contact reliability
- Suitable for high frequency applications

Specifications

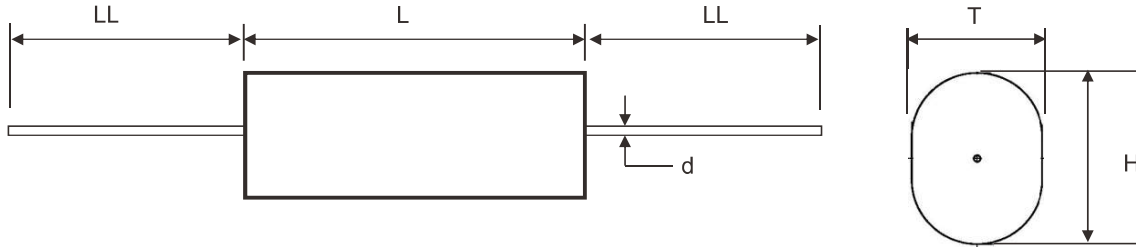
Items	Characteristics
Application	Snubber IGBT
Reference Standard	IEC 61071
Climatic Category	40/85/56 IEC 60068-1
Operating Temperature Range	-40 ~ +105°C(+85°C observing voltage must be de-rating at 1.35% per °C)
Rated Voltage	600Vdc ~ 3000Vdc
Capacitance Range	0.01μF ~ 4.7μF
Capacitance Tolerance	±5% or ±10% at +25°C
Dissipation Factor (DF)	≤ 0.001 (0.1%) at 1kHz at +25°C
Test Voltage Between Terminals	1.5 x rated voltage for 10s (terminal to terminal)
Test Voltage Terminal to Case	3.0kVac 50 Hz for 10s at +25°C
Insulation Resistance	IR x C ≥ 50,000 Seconds at 100VDC 1 minute at +25°C
Life Expectancy	100,000 hours at Un @ Hot-Spot temperature T=+85°C
Protection	Polyester wrapping with epoxy resin fill
Installation	Any position
Packaging	Packed in cardboard boxes with protection for the terminals
RoHS Compliant	Compliant with the restricted substance requirements of Directive 2011/65/EU
Storage Conditions	Storage time: ≤ 24 months from the date marked on the label package Temperature and relative humidity should be -10°C ~ +40°C and not more than 75%RH. RH ≤ 85% for 30 days randomly distributed throughout the year
Humidity Test	Test conditions & performance:
	Temperature: +40°C ±2°C Relative humidity(RH) :93% ±2%
	Test duration : 56 days
	Capacitance change : ≤±5% DF change (Δtg δ) : ≤20 X 10 ⁻⁴ at 1KHz Insulation resistance: ≥50% of initial limit
Endurance Test	Test conditions & performance:
	Temperature: +85°C ±2°C Voltage applied:1.3 X V _R (d.c.)
	Test duration : 1000 hours
	Capacitance change : ≤ ±5% DF change (Δtg δ) : ≤20X 10 ⁻⁴ at 1KHz Insulation resistance: ≥50% of initial limit

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■ Dimensions



■ Dimensions - Lead wires

T	L	d	LL
(mm) max	(mm) max	(mm) ± 0.1	(mm) min
11	22.0	0.8	35.0
9.5	28.0	0.8	35.0
10 ~ 13	34.0	0.8	35.0
13.5 ~ 20.5	34.0	1.0	35.0
18 ~ 22.5	44.0	1.0	35.0
23.5 ~ 33	44.0	1.2	35.0
15 ~ 27	48.0	1.0	35.0
28 ~ 35	58.0	1.2	35.0

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■ Technical data

Vdc	Cap	Dimensions			I _{rms}	Peak	ESR _{Typical}	ESL	dv/dt	Lead Wire	Part Number
	Value	L	H	T	100KHz	Current	100KHz				
	µF	mm max	mm max	mm max	70°C A	A	mΩ				
600	0.10	34.0	12.0	6.0	3.0	25.0	28.0	17	250	0.8	FSC2KK104034XLLN
600	0.15	34.0	13.0	7.0	4.5	37.5	13.0	18	250	0.8	FSC2KK154034XLLN
600	0.22	34.0	14.5	8.0	5.0	55.0	12.0	19	250	0.8	FSC2KK224034XLLN
600	0.33	34.0	16.0	10.0	6.0	82.5	9.0	19	250	0.8	FSC2KK334034XLLN
600	0.47	34.0	18.0	12.0	7.5	117.5	8.0	20	250	1.0	FSC2KK474034XLLN
600	0.68	34.0	20.5	14.5	9.0	170.0	6.0	21	250	1.0	FSC2KK684034XLLN
600	1.00	34.0	23.5	17.5	10.0	250.0	6.0	23	250	1.0	FSC2KK105034XLLN
600	1.50	34.0	27.5	21.5	12.0	375.0	5.0	24	250	1.2	FSC2KK155034XLLN
600	2.00	46.0	27.5	18.5	13.0	400.0	5.0	28	200	1.2	FSC2KK205046XLLN
600	3.30	54.0	32.0	22.5	17.5	495.0	4.0	34	150	1.2	FSC2KK335054XLLN
600	4.70	54.0	33.5	28.5	19.0	705.0	4.0	36	150	1.2	FSC2KK475054XLLN
850	0.15	34.0	16.0	10.0	6.5	112.5	8.0	19	750	0.8	FSC2PK154034XLLN
850	0.22	34.0	18.0	11.5	7.0	165.0	8.0	20	750	1.0	FSC2PK224034XLLN
850	0.33	34.0	20.5	14.5	8.5	247.5	7.0	21	750	1.0	FSC2PK334034XLLN
850	0.47	34.0	23.5	17.0	11.0	352.5	5.0	22	750	1.0	FSC2PK474034XLLN
850	0.68	34.0	27.0	21.0	13.5	510.0	4.0	24	750	1.2	FSC2PK684034XLLN
850	1.00	46.0	27.0	17.5	13.0	450.0	5.0	28	450	1.2	FSC2PK105046XLLN
850	1.50	46.0	31.0	21.5	16.0	675.0	4.0	30	450	1.2	FSC2PK155046XLLN
850	2.00	46.0	34.5	25.0	20.0	900.0	3.0	31	450	1.2	FSC2PK205046XLLN
850	2.20	46.0	36.0	26.5	20.5	990.0	3.0	32	450	1.2	FSC2PK225046XLLN
850	2.50	46.0	38.0	28.5	21.5	1125.0	3.0	33	450	1.2	FSC2PK255046XLLN
1000	0.15	34.0	17.5	11.5	7.5	127.5	7.0	20	850	1.0	FSC3KK154034XLLN
1000	0.22	34.0	20.0	13.5	8.0	187.0	7.0	21	850	1.0	FSC3KK224034XLLN
1000	0.33	34.0	23.0	17.0	10.0	280.5	6.0	22	850	1.0	FSC3KK334034XLLN
1000	0.47	34.0	26.5	20.0	12.0	399.5	5.0	24	850	1.2	FSC3KK474034XLLN
1000	0.68	34.0	30.5	24.5	13.0	578.0	5.0	26	850	1.2	FSC3KK684034XLLN
1000	1.00	46.0	30.0	20.5	14.0	500.0	5.0	24	500	1.2	FSC3KK105046XLLN
1000	1.50	46.0	35.0	25.5	17.5	750.0	4.0	31	500	1.2	FSC3KK155046XLLN
1000	2.00	46.0	39.0	30.0	22.0	1000.0	3.0	33	500	1.2	FSC3KK205046XLLN
1200	0.10	34.0	18.0	12.0	7.0	115.0	9.0	20	1150	1.0	FSC3BK104034XLLN
1200	0.15	34.0	21.0	14.5	8.5	172.5	7.0	21	1150	1.0	FSC3BK154034XLLN
1200	0.22	34.0	24.0	17.5	9.5	253.0	7.0	23	1150	1.0	FSC3BK224034XLLN
1200	0.33	46.0	24.0	14.5	10.0	214.5	7.0	21	650	1.0	FSC3BK334046XLLN
1200	0.47	46.0	27.0	18.0	11.0	305.5	7.0	28	650	1.2	FSC3BK474046XLLN
1200	0.68	46.0	31.0	22.0	13.0	442.0	6.0	30	650	1.2	FSC3BK684046XLLN
1200	1.00	46.0	36.0	27.0	16.0	650.0	5.0	32	650	1.2	FSC3BK105046XLLN
1200	1.50	54.0	40.5	27.5	20.0	780.0	4.0	36	520	1.2	FSC3BK155054XLLN
1600	0.10	34.0	20.5	14.5	8.5	145.0	7.0	21	1450	1.0	FSC3WK104034XLLN
1600	0.15	34.0	24.0	18.0	11.0	217.5	5.0	23	1450	1.0	FSC3WK154034XLLN
1600	0.22	34.0	28.0	21.5	10.5	319.0	7.0	24	1450	1.2	FSC3WK224034XLLN
1600	0.33	46.0	27.5	18.5	11.0	264.0	7.0	23	800	1.2	FSC3WK334046XLLN
1600	0.47	46.0	31.5	22.0	13.0	376.0	6.0	30	800	1.2	FSC3WK474046XLLN
1600	0.68	46.0	36.5	27.0	14.5	544.0	6.0	32	800	1.2	FSC3WK684046XLLN
1600	1.00	46.0	42.5	33.0	18.0	800.0	5.0	35	800	1.2	FSC3WK105046XLLN
1600	1.50	54.0	47.0	34.5	22.5	975.0	4.0	39	650	1.2	FSC3WK155054XLLN

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	Value	L	H	T	100KHz	Current	100KHz				
	μF	mm max	mm max	mm max	70°C A	A	mΩ				
2000	0.022	34	14.5	8.0	3.0	38.5	35.0	18	1750	0.8	FSC3DK223034XLLN
2000	0.033	34	16.0	10.0	4.0	57.8	20.0	19	1750	0.8	FSC3DK333034XLLN
2000	0.047	34	18.0	11.5	6.0	82.3	12.0	20	1750	1.0	FSC3DK473034XLLN
2000	0.068	34	20.5	14.0	8.0	119.0	8.0	21	1750	1.0	FSC3DK683034XLLN
2000	0.10	34	23.5	17.0	9.0	175.0	7.0	22	1750	1.0	FSC3DK104034XLLN
2000	0.15	46	23.5	14.0	10.0	144.0	7.0	21	960	1.0	FSC3DK154046XLLN
2000	0.22	46	27.0	17.5	10.5	211.2	8.0	28	960	1.0	FSC3DK224046XLLN
2000	0.33	46	31.5	22.0	11.5	316.8	8.0	30	960	1.2	FSC3DK334046XLLN
2000	0.47	46	36.0	26.5	14.5	451.2	6.0	32	960	1.2	FSC3DK474046XLLN
2000	0.56	54	36.5	24.0	14.0	425.6	7.0	31	760	1.2	FSC3DK564054XLLN
2000	0.68	54	39.5	27.0	16.0	516.8	6.0	35	760	1.2	FSC3DK684054XLLN
2000	1.00	54	45.5	33.0	19.5	760.0	5.0	38	760	1.2	FSC3DK105054XLLN
3000	0.01	34	14.0	8.0	2.5	26.0	60.0	18	2600	0.8	FSC3FK103034XLLN
3000	0.015	34	16.0	9.5	3.0	39.0	40.0	19	2600	0.8	FSC3FK153034XLLN
3000	0.022	34	18.0	11.5	4.0	57.2	25.0	20	2600	1.0	FSC3FK223034XLLN
3000	0.033	34	20.5	14.5	6.0	85.8	14.0	21	2600	1.0	FSC3FK333034XLLN
3000	0.047	46	21.0	11.5	6.5	70.5	14.0	20	1500	1.0	FSC3FK473046XLLN
3000	0.068	46	23.5	14.0	7.5	102.0	12.0	26	1500	1.0	FSC3FK683046XLLN
3000	0.10	46	26.5	17.0	9.0	150.0	10.0	28	1500	1.2	FSC3FK104046XLLN
3000	0.15	46	31.0	21.5	11.5	225.0	8.0	30	1500	1.2	FSC3FK154046XLLN

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