

Metallized Polypropylene Film Capacitor (Radial Lead) Snubber Applications

FSA series

Overview

The FSA series is constructed of metallized polypropylene film and double sided metallized film, rectangular plastic box filled with resin and 2 or 4 tinned copper wires.



Typical Applications

- Widely used in high voltage, high frequency circuit.
- 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	850Vdc ~ 2000Vdc
Capacitance Range	0.033μF ~ 5.0μF
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	Solvent resistant plastic case UL94 V-0 Thermosetting resin sealing UL94 V-0 compliant
Installation	Any position
Leads	Tinned copper wires, standard lead wire length 5 ±1mm
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 (Δtgδ):≤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 (Δtgδ):≤20 X 10 ⁻⁴ at 1KHz Insulation resistance: ≥50% of initial limit
THB Test (Damp heat test with loading)	Test conditions & performance:
	Temperature: +85°C ±2°C Relative humidity(RH) :85% ±2%
	Loading Voltage: Rated voltage (DC)
	Test duration : 1000 hours Capacitance change : ≤±5%



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Vdc	Cap	Dimensions			P	P1	Irms 100KHz 70°C A	Peak Current A	ESR _{Typical}	ESL nH	dv/dt V/us	Lead Wire mm	Part Number
	Value	W	H	T					100KHz				
	µF	mm	mm	mm					mΩ				
850	0.15	32.0	20.0	11.0	27.5	\	8	195	14.5	24	1300	0.8	FSA2PK154G++2GL5
850	0.22	32.0	22.0	13.0	27.5	\	10	286	10.5	24	1300	0.8	FSA2PK224G++2GL5
850	0.33	32.0	28.0	14.0	27.5	\	13	429	7.6	26	1300	1.0	FSA2PK334G++2GL5
850	0.47	32.0	33.0	18.0	27.5	\	14	611	5.8	26	1300	1.0	FSA2PK474G++2GL5
850	0.68	32.0	37.0	22.0	27.5	\	16	884	4.6	28	1300	1.0	FSA2PK684G++2GL5
850	1.00	42.5	40.0	20.0	37.5	10.2	22	800	5.9	30	800	1.2	FSA2PK105K++4KB5
850	2.00	42.5	44.0	24.0	37.5	10.2	29	1600	3.9	30	800	1.2	FSA2PK205K++4KB5
850	3.00	57.5	45.0	30.0	52.5	20.3	29	1500	5.0	35	500	1.2	FSA2PK305K++4KD5
850	4.00	57.5	45.0	30.0	52.5	20.3	29	2000	4.2	35	500	1.2	FSA2PK405K++4KD5
850	5.00	57.5	50.0	35.0	52.5	20.3	29	2500	3.9	35	500	1.2	FSA2PK505K++4KD5
1000	0.15	32.0	20.0	11.0	27.5	\	8	210	14.0	24	1400	0.8	FSA3KK154G++2GL5
1000	0.22	32.0	22.0	13.0	27.5	\	9	308	9.9	24	1400	0.8	FSA3KK224G++2GL5
1000	0.33	32.0	28.0	14.0	27.5	\	10	462	7.2	26	1400	1.0	FSA3KK334G++2GL5
1000	0.47	32.0	33.0	18.0	27.5	\	12	658	5.6	26	1400	1.0	FSA3KK474G++2GL5
1000	0.68	32.0	37.0	22.0	27.5	\	14	612	4.4	28	1400	1.0	FSA3KK684G++2GL5
1000	1.00	42.5	40.0	20.0	37.5	10.2	16	900	5.5	30	900	1.2	FSA3KK105K++4KB5
1000	1.50	42.5	37.0	28.0	37.5	10.2	16	1350	4.2	30	900	1.2	FSA3KK155K++4KB5
1000	2.00	42.5	45.0	30.0	37.5	20.3	18	1800	3.7	30	900	1.2	FSA3KK205K++4KD5
1000	2.20	42.5	45.0	30.0	37.5	20.3	18	1980	3.6	30	900	1.2	FSA3KK225K++4KD5
1000	3.00	57.5	45.0	30.0	52.5	20.3	20	1650	4.7	35	550	1.2	FSA3KK305K++4KD5
1000	4.00	57.5	50.0	35.0	52.5	20.3	22	2200	4.2	35	550	1.2	FSA3KK405K++4KD5
1000	4.70	57.5	50.0	35.0	52.5	20.3	24	2585	3.9	35	550	1.2	FSA3KK475K++4KD5
1200	0.10	32.0	20.0	11.0	27.5	\	7	160	18.5	24	1600	0.8	FSA3BK104G++2GL5
1200	0.15	32.0	22.0	13.0	27.5	\	10	240	12.8	24	1600	0.8	FSA3BK154G++2GL5
1200	0.22	32.0	28.0	14.0	27.5	\	12	352	9.2	26	1600	1.0	FSA3BK224G++2GL5
1200	0.33	32.0	33.0	18.0	27.5	\	14	528	6.7	26	1600	1.0	FSA3BK334G++2GL5
1200	0.47	32.0	37.0	22.0	27.5	\	14	752	5.3	28	1600	1.0	FSA3BK474G++2GL5
1200	0.68	42.5	40.0	20.0	37.5	10.2	16	680	6.6	30	1000	1.2	FSA3BK684K++4KB5
1200	1.00	42.5	40.0	20.0	37.5	10.2	18	1000	5.1	30	1000	1.2	FSA3BK105K++4KB5
1200	1.20	42.5	37.0	28.0	37.5	10.2	18	1200	4.4	30	1000	1.2	FSA3BK125K++4KB5
1200	2.00	57.5	45.0	30.0	52.5	20.3	20	1200	5.5	35	600	1.2	FSA3BK205K++4KD5
1200	2.20	57.5	45.0	30.0	52.5	20.3	20	1320	5.2	35	600	1.2	FSA3BK225K++4KD5
1200	2.50	57.5	45.0	30.0	52.5	20.3	22	1500	4.8	35	600	1.2	FSA3BK255K++4KD5
1200	3.00	57.5	50.0	35.0	52.5	20.3	22	1800	4.5	35	600	1.2	FSA3BK305K++4KD5
1200	3.30	57.5	50.0	35.0	52.5	20.3	24	1980	4.1	35	600	1.2	FSA3BK335K++4KD5

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Vdc	Cap	Dimensions			P	P1	Irms	Peak	ESR _{Typical}	ESL	dv/dt	Lead Wire	Part Number
	Value	W	H	T			100KHz	Current	100KHz				
	μF	mm	mm	mm			70°C A	A	mΩ				
1600	0.10	32.0	22.0	13.0	27.5	\	8	190	13.5	24	1900	0.8	FSA3WK104G++2GL5
1600	0.15	32.0	24.5	13.0	27.5	\	9	285	10.5	24	1900	0.8	FSA3WK154G++2GL5
1600	0.18	32.0	28.0	14.0	27.5	\	10	342	9.5	26	1900	1.0	FSA3WK184G++2GL5
1600	0.22	32.0	33.0	18.0	27.5	\	12	418	8.0	26	1900	1.0	FSA3WK224G++2GL5
1600	0.27	32.0	33.0	18.0	27.5	\	14	513	7.0	26	1900	1.0	FSA3WK274G++2GL5
1600	0.33	32.0	37.0	22.0	27.5	\	15	627	6.8	28	1900	1.0	FSA3WK334G++2GL5
1600	0.39	32.0	37.0	22.0	27.5	\	15	741	6.5	28	1900	1.0	FSA3WK394G++2GL5
1600	0.47	42.5	32.0	19.0	37.5	\	16	588	6.0	30	1250	1.0	FSA3WK474G++2GL5
1600	0.68	42.5	40.0	20.0	37.5	10.2	18	850	5.0	30	1250	1.2	FSA3WK684K++4KB5
1600	0.82	42.5	44.0	24.0	37.5	10.2	18	1025	5.0	30	1250	1.2	FSA3WK824K++4KB5
1600	1.00	42.5	45.0	30.0	37.5	20.3	19	1250	4.8	30	1250	1.2	FSA3WK105K++4KD5
1600	1.20	42.5	45.0	30.0	37.5	20.3	19	1500	4.8	30	1250	1.2	FSA3WK125K++4KD5
1600	1.50	57.5	45.0	30.0	52.5	20.3	20	1125	4.5	35	750	1.2	FSA3WK155K++4KD5
1600	2.00	57.5	50.0	35.0	52.5	20.3	22	1500	4.2	35	750	1.2	FSA3WK205K++4KD5
2000	0.033	32.0	20.0	11.0	27.5	\	5	76	42.5	24	2300	0.8	FSA3DK333G++2GL5
2000	0.047	32.0	20.0	11.0	27.5	\	6	108	30.5	24	2300	0.8	FSA3DK473G++2GL5
2000	0.068	32.0	22.0	13.0	27.5	\	8	156	20.8	24	2300	0.8	FSA3DK683G++2GL5
2000	0.10	32.0	28.0	14.0	27.5	\	10	230	15.2	26	2300	1.0	FSA3DK104G++2GL5
2000	0.15	32.0	33.0	18.0	27.5	\	15	345	10.8	26	2300	1.0	FSA3DK154G++2GL5
2000	0.22	32.0	33.0	18.0	27.5	\	17	506	7.8	26	2300	1.0	FSA3DK224G++2GL5
2000	0.33	42.5	40.0	20.0	37.5	10.2	16	462	9.4	30	1400	1.2	FSA3DK334K++4KB5
2000	0.47	42.5	44.0	24.0	37.5	10.2	18	658	8.3	30	1400	1.2	FSA3DK474K++4KB5
2000	0.68	42.5	45.0	30.0	37.5	20.3	20	952	5.5	30	1400	1.2	FSA3DK684K++4KD5
2000	1.00	57.5	45.0	30.0	52.5	20.3	22	850	7.3	35	850	1.2	FSA3DK105K++4KD5
2000	1.50	57.5	50.0	35.0	52.5	20.3	24	1275	5.6	35	850	1.2	FSA3DK155K++4KD5

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