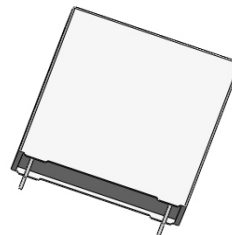


Metallized Polypropylene Film Capacitor (Plastic Case) Snubber Application (2 or 4 pins)

SLB

The SLB series is a polypropylene metallized film with plastic box type casing filled with resin and 2 or 4 tinned copper wires.



FEATURES

Low losses, high ripple current.

High capacitance density.

Self-healing property and high reliability.

Suitable for high frequency and snubber application.

APPLICATIONS

Energy conversion.

Power semiconductor circuits.

IGBT modules protection.

ELECTRICAL CHARACTERISTICS

Rated Voltage:	850Vdc ~ 2000Vdc
Capacitance range:	0.033 μ F - 5 μ F
Capacitance Tolerance:	$\pm 5\%$ (J), $\pm 10\%$ (K)
Dissipation Factor::	≤ 0.001 (0.1%) at 1kHz at 25°C
Test Voltage Between Terminal:	1.5 x rated voltage for 10s (terminal to terminal)
Test Voltage Terminals to Case:	3.0 KVac 50Hz/60Hz for 10s at 25 °C
Insulation Resistance:	IR x C $\geq 50,000$ s at 100Vdc 1 min at 25 °C
Life Expectancy:	100,000 hours at Un @ hot-spot temperature T=+85 °C
Damp Heat:	IEC 60068-2-78
Change of Temperature:	IEC 60068-2-14

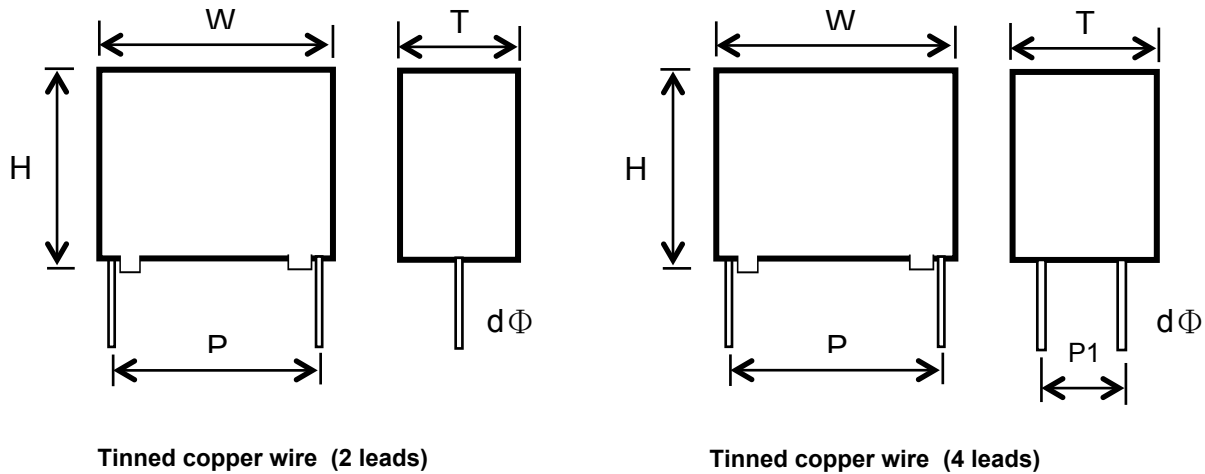
GENERAL TECHNICAL DATA

Application:	Snubber
Standard:	IEC 61071
Climatic Category:	40/85/21 IEC 60068-1
Maximum Operating Temperature:	+105°C
Upper Temperature T max:	+85°C
Lower Temperature T min:	-40°C
Protection:	Solvent resistant plastic case UL94 V-0, Thermo setting resin sealing UL 94 V-0 compliant
Leads:	Tinned copper wires, standard lead wire length 5 $\pm$ 1mm
Packaging:	Packed in cardboard boxes with protection for the terminals
RoHS Compliant:	Compliant with the restricted substance requirements of Directive 2002/95/EC

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■ DIMENSION



■ DIMENSION - Lead Wires

Number of Lead Wires	Lead Spacing ($P \pm 0.5$)mm	Lead Diameter ($d\Phi \pm 0.1$)
2 - pin	27.5	0.8
2 - pin	37.5	1.0
4 - pin	37.5	1.2
4 - pin	52.5	1.2

■ DIMENSION - Case (mm)

Case Code	W (± 1)	H (± 1)	T (± 1)	P (± 0.5)
R10	32	20	11	27.5
R20	32	22	13	27.5
R50	32	28	14	27.5
R80	32	33	18	27.5
R94	32	37	22	27.5
T10	42.5	45	30	37.5
T33	42.5	40	20	37.5
T61	42.5	44	24	37.5
T42	42.5	37	28	37.5
K10	57.5	45	30	52.5
K20	57.5	50	35	52.5

Metallized Polypropylene Film Capacitor (Plastic Case)

Snubber Application (2 or 4 pins)

SLB

DIMENSION (Part Number Reference)

Vdc	Cap	Dimensions			P	P1	Irms	Peak	ESR _{Typical}	ESL	dv/dt	Pkg	Part Number
	Value	W	H	T			100KHz	Current	100KHz			Qty	
	uF	mm	mm	mm			70°C A	A	mΩ			pcs	
850	0.15	32	20	11	27.5	\	8	195	14.5	24	1300	150	SLB-154K2TB27L5AR10
850	0.22	32	22	13	27.5	\	10	286	10.5	24	1300	125	SLB-224K2TB27L5AR20
850	0.33	32	28	14	27.5	\	13	429	7.6	26	1300	115	SLB-334K2TB27L5AR50
850	0.47	32	33	18	27.5	\	14	611	5.8	26	1300	90	SLB-474K2TB27L5AR80
850	0.68	32	37	22	27.5	\	16	884	4.6	28	1300	75	SLB-684K2TB27L5AR94
850	1	42.5	40	20	37.5	10.2	22	800	5.9	30	800	55	SLB-105K2T437B5AT33
850	2	42.5	44	24	37.5	10.2	29	1600	3.9	30	800	49	SLB-205K2T437B5AT61
850	3	57.5	45	30	52.5	20.3	29	1500	5.0	35	500	25	SLB-305K2T452D5AK10
850	4	57.5	45	30	52.5	20.3	29	2000	4.2	35	500	25	SLB-405K2T452D5AK10
850	5	57.5	50	35	52.5	20.3	29	2500	3.9	35	500	20	SLB-505K2T452D5AK20
1000	0.15	32	20	11	27.5	\	8	210	14.0	24	1400	150	SLB-154K3AB27L5AR10
1000	0.22	32	22	13	27.5	\	9	308	9.9	24	1400	125	SLB-224K3AB27L5AR20
1000	0.33	32	28	14	27.5	\	10	462	7.2	26	1400	115	SLB-334K3AB27L5AR50
1000	0.47	32	33	18	27.5	\	12	658	5.6	26	1400	90	SLB-474K3AB27L5AR80
1000	0.68	32	37	22	27.5	\	14	612	4.4	28	900	75	SLB-684K3AB27L5AR94
1000	1	42.5	40	20	37.5	10.2	22	900	5.5	30	900	55	SLB-105K3A437B5AT33
1000	1.5	42.5	37	28	37.5	10.2	29	1350	4.2	30	900	42	SLB-155K3A437B5AT42
1000	2	42.5	45	30	37.5	20.3	29	1800	3.7	30	900	35	SLB-205K3A437D5AT10
1000	2.2	42.5	45	30	37.5	20.3	29	1980	3.6	30	900	35	SLB-225K3A437D5AT10
1000	3	57.5	45	30	52.5	20.3	29	1650	4.7	35	550	25	SLB-305K3A452D5AK10
1000	4	57.5	50	35	52.5	20.3	29	2200	4.2	35	550	20	SLB-405K3A452D5AK20
1000	4.7	57.5	50	35	52.5	20.3	29	2585	3.9	35	550	20	SLB-475K3A452D5AK20
1200	0.1	32	20	11	27.5	\	7	160	18.5	24	1600	150	SLB-104K3MB27L5AR10
1200	0.15	32	22	13	27.5	\	10	240	12.8	24	1600	125	SLB-154K3MB27L5AR20
1200	0.22	32	28	14	27.5	\	12	352	9.2	26	1600	115	SLB-224K3MB27L5AR50
1200	0.33	32	33	18	27.5	\	14	528	6.7	26	1600	90	SLB-334K3MB27L5AR80
1200	0.47	32	37	22	27.5	\	16	752	5.3	28	1600	75	SLB-474K3MB27L5AR94
1200	0.68	42.5	40	20	37.5	10.2	20	680	6.6	30	1000	55	SLB-684K3M437B5AT33
1200	1	42.5	40	20	37.5	10.2	26	1000	5.1	30	1000	55	SLB-105K3M437B5AT33
1200	1.2	42.5	37	28	37.5	10.2	28	1200	4.4	30	1000	42	SLB-125K3M437B5AT42
1200	2	57.5	45	30	52.5	20.3	28	1200	5.5	35	600	25	SLB-205K3M452D5AK10
1200	2.2	57.5	45	30	52.5	20.3	29	1320	5.2	35	600	25	SLB-225K3M452D5AK10
1200	2.5	57.5	45	30	52.5	20.3	29	1500	4.8	35	600	25	SLB-255K3M452D5AK10
1200	3	57.5	50	35	52.5	20.3	29	1800	4.5	35	600	20	SLB-305K3M452D5AK20
1200	3.3	57.5	50	35	52.5	20.3	29	1980	4.1	35	600	20	SLB-335K3M452D5AK20
2000	0.033	32	20	11	27.5	\	5	76	42.5	24	2300	150	SLB-333K3DB27L5AR10
2000	0.047	32	20	11	27.5	\	6	108	30.5	24	2300	150	SLB-473K3DB27L5AR10
2000	0.068	32	22	13	27.5	\	8	156	20.8	24	2300	125	SLB-683K3DB27L5AR20
2000	0.1	32	28	14	27.5	\	10	230	15.2	26	2300	115	SLB-104K3DB27L5AR50
2000	0.15	32	33	18	27.5	\	15	345	10.8	26	2300	90	SLB-154K3DB27L5AR80
2000	0.22	32	33	18	27.5	\	17	506	7.8	26	2300	90	SLB-224K3DB27L5AR80
2000	0.33	42.5	40	20	37.5	10.2	16	462	9.4	30	1400	55	SLB-334K3D437B5AT33
2000	0.47	42.5	44	24	37.5	10.2	18	658	8.3	30	1400	49	SLB-474K3D437B5AT61
2000	0.68	42.5	45	30	37.5	20.3	25	952	5.5	30	1400	35	SLB-684K3D437D5AT10
2000	1	57.5	45	30	52.5	20.3	24	850	7.3	35	850	25	SLB-105K3D452D5AK10
2000	1.5	57.5	50	35	52.5	20.3	29	1275	5.6	35	850	20	SLB-155K3D452D5AK20

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PART NUMBERING SYSTEMS

■ EXPLANATION OF ARTICLE CODE

S L B -	3 0 5	K	3 A	4	5 2	D	5
①	②	③	④	⑤	⑥	⑦	⑧

① Capacitor Type

TYPE	SLB
CODE	SLB-

② Rated Capacitance (EIA Code)

The rated Capacitance value of the product is indicated with three digits. The first two digits indicate the two most significant digits of the capacitance value, and the third digit gives the number of following zeroes. This gives the capacitance value expressed in picofarads.

Examples:

105	=	1,000,000pF	=	1,000nF	=	1uF
106	=	10,000,000pF	=	10,000nF	=	10uF

③ Capacitance Tolerance

TOLERANCE	±5%	±10%	±20%
CODE	J	K	M

④ Rated Voltage

Code for DC Voltage: (expressed in one digit & one

Vdc	850V	900V	1000V	1200V	1600V	2000V
CODE	2T	2U	3A	3M	3C	3D

⑤ Lead Configuration

LEAD TYPE	2 Lead		4 Lead
	Long	Cut	Cut
CODE	L	B	4

⑥ Lead Pitch (P) mm

LEAD PITCH	22.5	27.5	32.5	37.5	42.5	47.5	52.5	57.5
CODE	22	27	32	37	42	47	52	57

⑦ Ipsilateral Lead Space (P1)

Lead Pitch (mm)	5.1	10.2	12.7	16.0	20.3
CODE	A	B	G	C	D

⑦ Terminal

⑧ Lead Length (mm)

TYPE	Long	Cut
LENGTH	15 (min)	5.0
CODE	L	5

Metallized Polypropylene Film Capacitor (Plastic Case) Snubber Application (2 or 4 pins)

SLB

PART NUMBERING SYSTEMS

■ PERFORMANCE NOTES

Rs: Equivalent series resistance - Ohmic resistances (Ohm)

Dielectric Dissipation Factor: $\tan\delta$ (Polypropylene: 0.0002)

Ta: Ambient temperature

Rth: Thermal resistance °C/W, indicates hot spot temperature rise due to power dissipation losses

Pj: Joule losses $P_j = R_s \cdot I_{rms}^2$

Pd: Dielectric losses

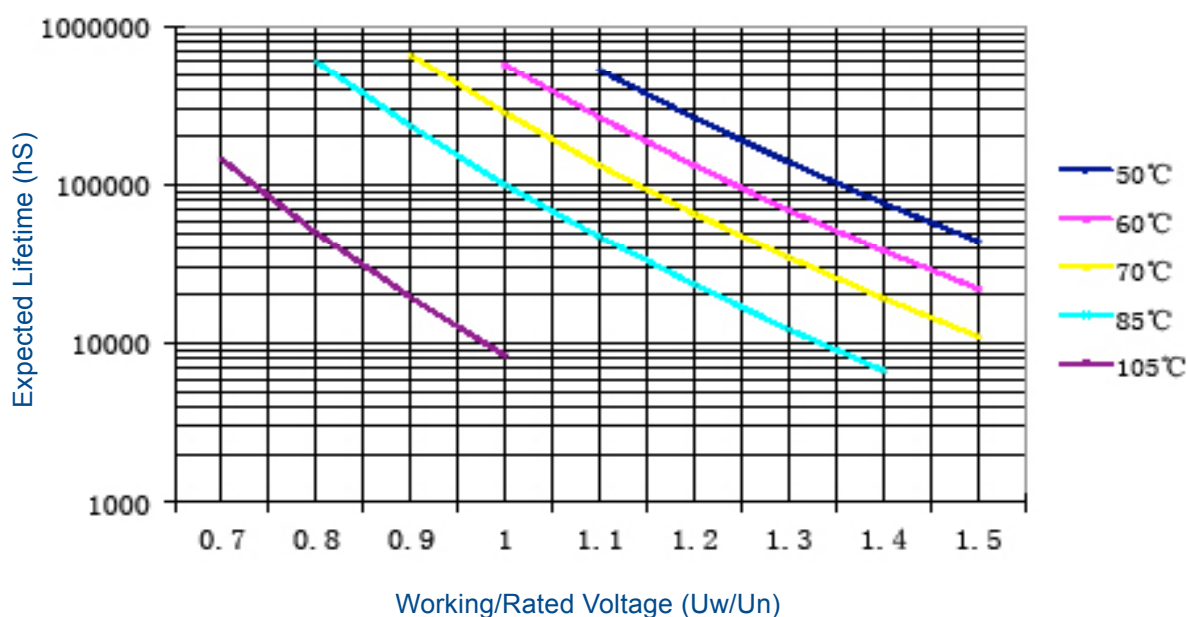
$$P_d = X_c \cdot I_{rms}^2 \cdot \tan\delta = I_{rms}^2 / (2 \cdot \pi \cdot f \cdot C) \cdot \tan\delta$$

Ths: Hot spot temperature within the capacitor

$$T_{hs} = T_a + (P_j + P_d) \cdot R_{th}$$

Design life: 100,000 hours at Un @ Hot-Spot temperature $\leq +85^\circ\text{C}$

Expected Life Curve



■ CAUTIONS AND WARNING

- Don't exceed the upper category temperature.
- For longtime storage, maximum relative humidity 80%, no dew allowed on the capacitor.
- Do not use or store capacitor in corrosive atmosphere, in the dusty environments regular maintenance and cleaning especially of the terminals is required to avoid conductive path between terminal / or terminal and ground.
- Don't apply any mechanical stress to the capacitor terminals, and avoid any compressive, tensile or flexural stresses.
- Don't move the capacitor after soldered to the PC board, and don't pick up the PC board by soldered capacitor.
- Don't place the capacitor on a PC board whose holes pitch differs from the specified space.
- Avoid overload of the capacitors
- Do not have unlimited service life expectancy, the max service life expectancy may vary depending on the application the capacitor is used in.