



DATA SHEET

SEMICONDUCTOR

P2SMSJ Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

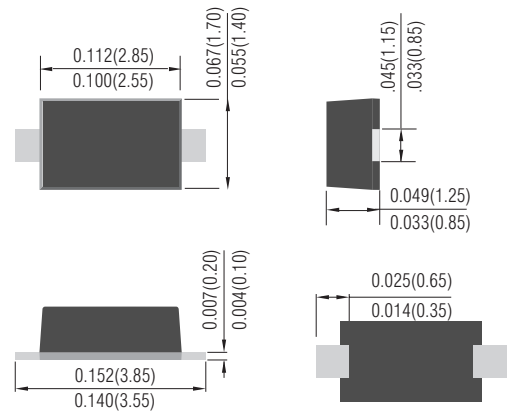


VOLTAGE - 5.0 to 170 Volts 200 Watt Peak Power Pulse

FEATURES

- Glass passivated chip
- Ultra fast switching for high efficiency
- For surface mounted applications
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0
- High temperature soldering : 260°C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

SOD-123S Unit:inch(mm)



MECHANICAL DATA

- Case : Molded plastic
- Polarity : Indicated by cathode band
- Weight : 0.01 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation (Notes 1,2,5, Fig1)	P_{PPM}	200	Watts
Peak Forward Surge Current (Note 3)	I_{FSM}	20	A
Peak Pulse Current on 10/1000us waveform (Notes 1, Fig2)	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Notes 4)	$P_{M(AV)}$	1.0	Watts
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-50 to +150	°C
Thermal resistance	R_{BJA}	180	°C

NOTES :

- Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2 .
- Mounted on 5.0mm² copper pads to each terminal.
- 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.
- lead temperature at 75°C = T_L .
- Peak pulse power waveform is 10/1000us .
- $V = 1.25 @ 200\text{mA}$

P2SMSJ Series

Part Number	V _{RWM}	V _{BR} @ I _T			I _R @ V _{RWM}	V _C @ I _{PP}		Marking Code
		Min.	Max.	I _T		V	A	
	V	V	V	mA	uA			
P2SMSJ5.0A	5.0	6.40	7.07	10	200	9.2	21.7	HE
P2SMSJ6.0A	6.0	6.67	7.37	10	200	10.3	19.4	HG
P2SMSJ6.5A	6.5	7.22	7.98	10	250	11.2	17.9	HK
P2SMSJ7.0A	7.0	7.78	8.60	10	100	12.0	16.7	HM
P2SMSJ7.5A	7.5	8.33	9.21	1.0	50	12.9	15.5	HP
P2SMSJ8.0A	8.0	8.89	9.83	1.0	25	13.6	14.7	HR
P2SMSJ8.5A	8.5	9.44	10.40	1.0	10	14.4	13.9	HT
P2SMSJ9.0A	9.0	10.00	11.10	1.0	5	15.4	13.0	HV
P2SMSJ10A	10.0	11.10	12.30	1.0	2.5	17.0	11.8	HX
P2SMSJ11A	11.0	12.20	13.50	1.0	2.5	18.2	11.0	HZ
P2SMSJ12A	12.0	13.30	14.70	1.0	2.5	19.9	10.1	IE
P2SMSJ13A	13.0	14.40	15.90	1.0	1	21.5	9.3	IG
P2SMSJ14A	14.0	15.60	17.20	1.0	1	23.2	8.6	IK
P2SMSJ15A	15.0	16.70	18.50	1.0	1	24.4	8.2	IM
P2SMSJ16A	16.0	17.80	19.70	1.0	1	26.0	7.7	IP
P2SMSJ17A	17.0	18.90	20.90	1.0	1	27.6	7.2	IR
P2SMSJ18A	18.0	20.00	22.10	1.0	1	29.2	6.8	IT
P2SMSJ20A	20.0	22.20	24.50	1.0	1	32.4	6.2	IV
P2SMSJ22A	22.0	24.40	26.90	1.0	1	35.5	5.6	IX
P2SMSJ24A	24.0	26.70	29.50	1.0	1	38.9	5.1	IZ
P2SMSJ26A	26.0	28.90	31.90	1.0	1	42.1	4.8	JE
P2SMSJ28A	28.0	31.10	34.40	1.0	1	45.4	4.4	JG
P2SMSJ30A	30.0	33.30	36.80	1.0	1	48.4	4.1	JK
P2SMSJ33A	33.0	36.70	40.60	1.0	1	53.3	3.8	JM
P2SMSJ36A	36.0	40.00	44.20	1.0	1	58.1	3.4	JP
P2SMSJ40A	40.0	44.40	49.10	1.0	1	64.5	3.1	JR
P2SMSJ43A	43.0	47.80	52.80	1.0	1	69.4	2.9	JT
P2SMSJ45A	45.0	50.00	55.30	1.0	1	72.7	2.8	JV
P2SMSJ48A	48.0	53.30	58.90	1.0	1	77.4	2.6	JX
P2SMSJ51A	51.0	56.70	62.70	1.0	1	82.4	2.4	JZ
P2SMSJ54A	54.0	60.00	66.30	1.0	1	87.1	2.3	RE
P2SMSJ58A	58.0	64.40	71.20	1.0	1	93.6	2.1	RG
P2SMSJ60A	60.0	66.70	73.70	1.0	1	96.8	1.8	RK
P2SMSJ64A	64.0	71.10	78.60	1.0	1	103.0	1.7	RM
P2SMSJ70A	70.0	77.80	86.00	1.0	1	113.0	1.5	RP
P2SMSJ75A	75.0	83.30	92.10	1.0	1	121.0	1.4	RR
P2SMSJ78A	78.0	86.70	95.80	1.0	1	126.0	1.4	RT
P2SMSJ85A	85.0	94.40	104.00	1.0	1	137.0	1.3	RV
P2SMSJ90A	90.0	100.00	111.00	1.0	1	146.0	1.2	RX
P2SMSJ100A	100.0	111.00	123.00	1.0	1	162.0	1.1	RZ
P2SMSJ110A	110.0	122.00	135.00	1.0	1	177.0	1.0	SE
P2SMSJ120A	120.0	133.00	147.00	1.0	1	193.0	0.9	SG
P2SMSJ130A	130.0	144.00	159.00	1.0	1	209.0	0.8	SK
P2SMSJ150A	150.0	167.00	185.00	1.0	1	243.0	0.7	SM
P2SMSJ160A	160.0	178.00	197.00	1.0	1	259.0	0.7	SP
P2SMSJ170A	170.0	189.00	209.00	1.0	1	275.0	0.6	SR

DEVICE CHARACTERISTICS

P2SMSJ Series

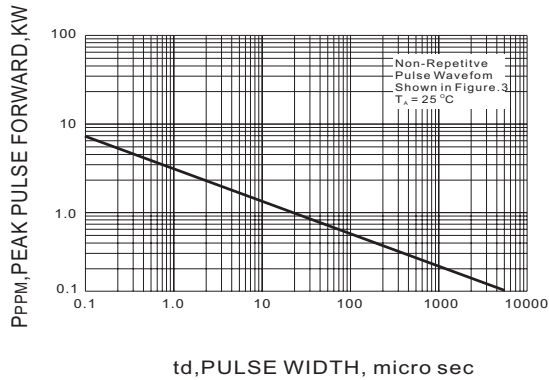


Fig.1 PEAK PULSE POWER RATING CURVE

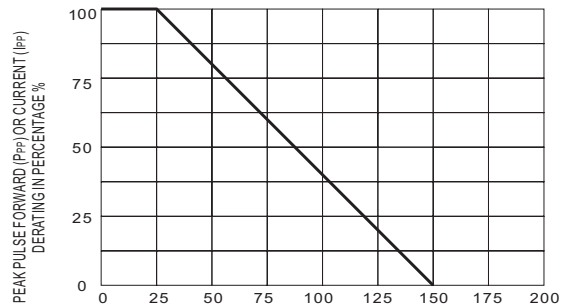


Fig.2 DERATING CURVE

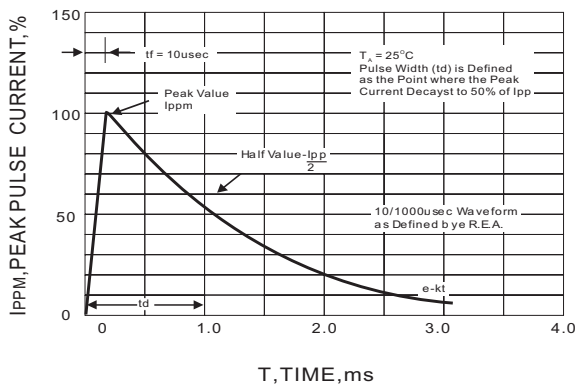


Fig.3 PULSE WAVEFORM

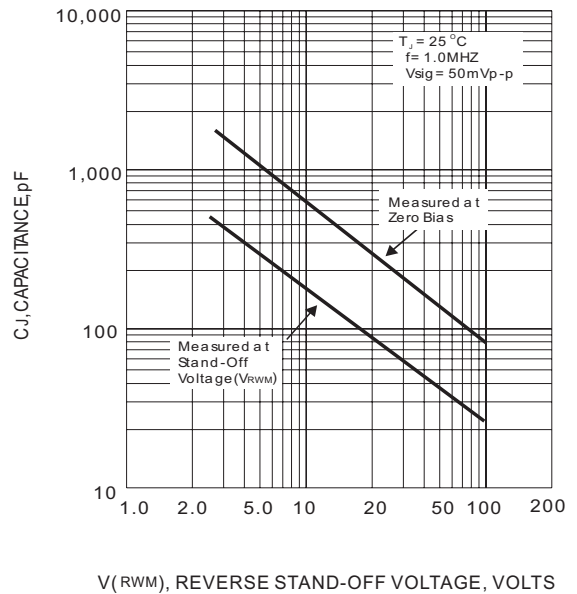


Fig.4 TYPICAL JUNCTION CAPACITANCE

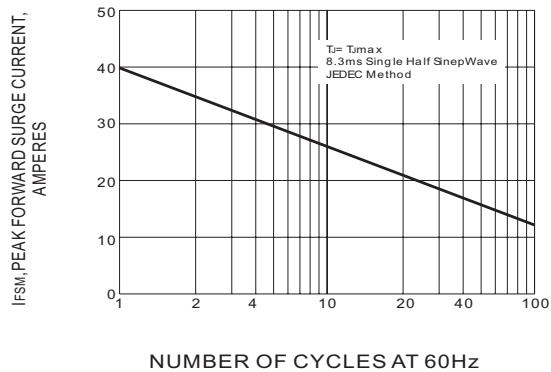


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

MOUNTING PAD LAYOUT

SOD-123S Unit: inch (mm)

