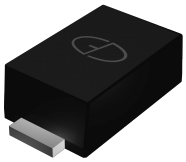
P2TVS10A thru P2TVS190A

Surface Mount Transient Voltage Suppressors
Peak Pulse Power 200W Stand-off Voltage 10V to 190V

Features

- Glass passivated junction
- Excellent clamping capability and fast response time
- 200W peak pulse power capability with a 10/1000us waveform
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10s
- Low profile, typical thickness 1.0mm



(SOD-123FL)

RoHS COMPLIANT

Applications

For use in sensitive electronics protection against voltage transients induced by lightning or inductive load switching. Key applications include protection of I/O interfaces, industrial and LED lighting applications, DC power buses, and other vulnerable circuits used in consumer electronics.

Maximum Ratings and Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	Value	UNIT
Peak power dissipation with a 10/1000us waveform	P_{PPM}	Minimum 200	W
Peak pulse current with a 10/1000us waveform	I_{PPM}	See Next Table	A
Steady state power dissipation on infinite heatsink	$P_{M(AV)}$	1	W
Peak forward surge current,8.3ms single half sine-wave	I_{FSM}	30.0	A
Maximum instantaneous forward voltage at 25A	V_F	3.5	V
Thermal resistance junction to ambient air	Rthja	90	°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175	°C

Note:1),The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 5×5mm copper pads,2 OZ,FR4 PCB

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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse
	VRWM	VBR @ IT		IT	IR @ VRWM	Vc @ IPP	IPP
		Min	Max				
	V	V	V	mA	μA	V	A
P2TVS10A	10	11.1	12.3	1	5	17	11.8
P2TVS11A	11	12.2	13.5	1	5	18.2	11
P2TVS12A	12	13.3	14.7	1	5	19.9	10.1
P2TVS13A	13	14.4	15.9	1	5	21.5	9.3
P2TVS14A	14	15.6	17.2	1	5	23.2	8.62
P2TVS15A	15	16.7	18.5	1	5	24.4	8.2
P2TVS16A	16	17.8	19.7	1	5	26	7.69
P2TVS17A	17	18.9	20.9	1	5	27.6	7.25
P2TVS18A	18	20	22.1	1	5	29.2	6.85
P2TVS19A	19	21.1	23.3	1	5	30.6	6.54
P2TVS20A	20	22.2	24.5	1	5	32.4	6.17
P2TVS22A	22	24.4	26.9	1	5	35.5	5.63
P2TVS24A	24	26.7	29.5	1	5	38.9	5.14
P2TVS26A	26	28.9	31.9	1	5	42.1	4.75
P2TVS28A	28	31.1	34.4	1	5	45.4	4.41
P2TVS30A	30	33.3	36.8	1	5	48.4	4.13
P2TVS33A	33	36.7	40.6	1	5	53.3	3.75
P2TVS36A	36	40	44.2	1	5	58.1	3.44
P2TVS40A	40	44.4	49.1	1	5	64.5	3.1
P2TVS43A	43	47.8	52.8	1	5	69.4	2.88
P2TVS45A	45	50	55.3	1	5	72.7	2.75
P2TVS48A	48	53.3	58.9	1	5	77.4	2.58
P2TVS51A	51	56.7	62.7	1	5	82.4	2.43
P2TVS54A	54	60	66.3	1	5	87.1	2.3
P2TVS58A	58	64.4	71.2	1	5	93.6	2.14
P2TVS60A	60	66.7	73.7	1	5	96.8	2.07
P2TVS64A	64	71.1	78.6	1	5	103	1.94
P2TVS70A	70	77.8	86	1	5	113	1.77
P2TVS75A	75	83.3	92.1	1	5	121	1.65

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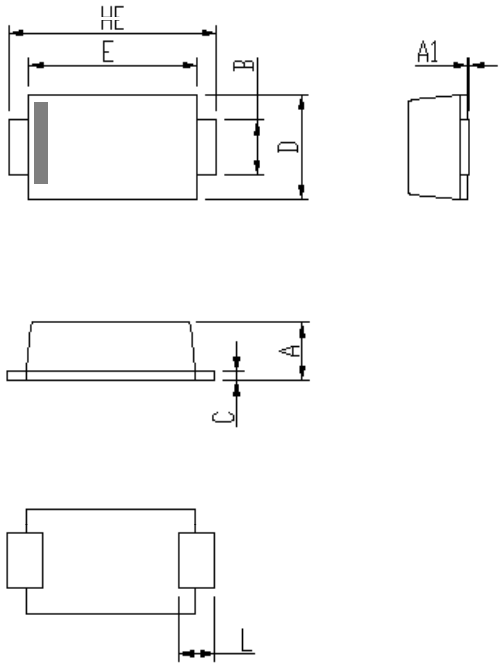
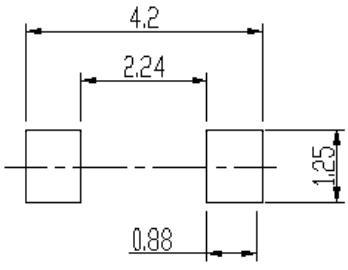
Part Number	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse
	VRWM	VBR @ IT		IT	IR @ VRWM	Vc @ IPP	IPP
		Min	Max				
	V	V	V	mA	μA	V	A
P2TVS78A	78	86.7	95.8	1	5	126	1.59
P2TVS80A	80	88.8	97.6	1	5	129	1.55
P2TVS85A	85	94.4	104	1	5	137	1.46
P2TVS90A	90	100	111	1	5	146	1.37
P2TVS100A	100	111	123	1	5	162	1.23
P2TVS110A	110	122	135	1	5	177	1.13
P2TVS120A	120	133	147	1	5	193	1.04
P2TVS130A	130	144	159	1	5	209	0.96
P2TVS140A	140	155	171	1	5	224	0.89
P2TVS150A	150	167	185	1	5	243	0.82
P2TVS160A	160	178	197	1	5	259	0.77
P2TVS170A	170	189	209	1	5	275	0.73
P2TVS180A	180	201	222	1	5	292	0.69
P2TVS190A	190	211	232	1	5	324	0.62

Package Outline Dimensions (in millimeters)

(SOD-123FL)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	0.85	1.05	0.033	0.041
C	0.1	0.25	0.004	0.010
D	1.7	2	0.067	0.079
E	2.9	3.1	0.114	0.122
L	0.43	0.83	0.017	0.033
HE	3.5	3.9	0.138	0.154

Soldering footprint