1- Line, Bi-directional, Ultra-low Capacitance Transient Voltage Suppressor

Features

- Stand-off voltage: 3.3V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 7A (8/20μs)
- Ultra-low capacitance: C_J = 1.35pF typ.
- Low leakage current: I_R <1nA typ.
- Low clamping voltage: V_{CL} = 12.0V typ. @ I_{PP} = 16A (TLP)
- Solid-state silicon technology

Mechanical Data

- Package: SOD323
- Terminals: Tin plated leads, solderable per

Maximum Ratings

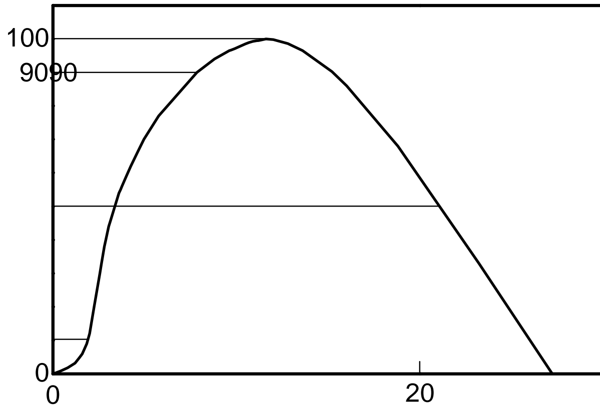
PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	77	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	7	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	
Junction temperature	T_J	125	°C
Operating temperature	T_{OP}	-40~85	°C
Storage temperature	T_{STG}	-55~150	°C

Electrical Characteristics Ta=25 Unless otherwise specified

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				3.3
Reverse leakage current	I_R	nA	V_{RWM} = 3.3V		<1	50
Reverse breakdown voltage	$V_{(BR)}$	V	I_{BR} = 1mA	6.0	8	
Clamping voltage 1)	V_{CL}	V	I_{PP} = 16A, t_p = 100ns		13	
Dynamic resistance 1)	R_{DYN}				0.55	
Clamping voltage 2)	V_{CL}	V	V_{ESD} = 8kV		13	
Clamping voltage 3)	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs		8.1	9
			I_{PP} = 7A, t_p = 8/20μs		9.7	11
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		0.8	1.0

Characteristics (Typical)

8/20µs waveform per IEC61000 4 5



Contact discharge current waveform per IEC61000 4 2

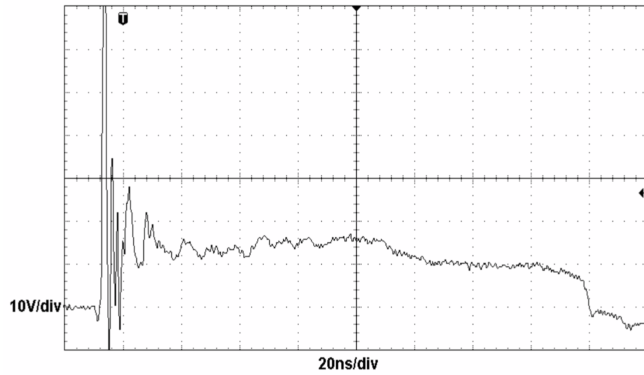
Clamping voltage vs. Peak pulse current

Capacitance vs. Reverse voltage

Non repetitive peak pulse power vs. Pulse time

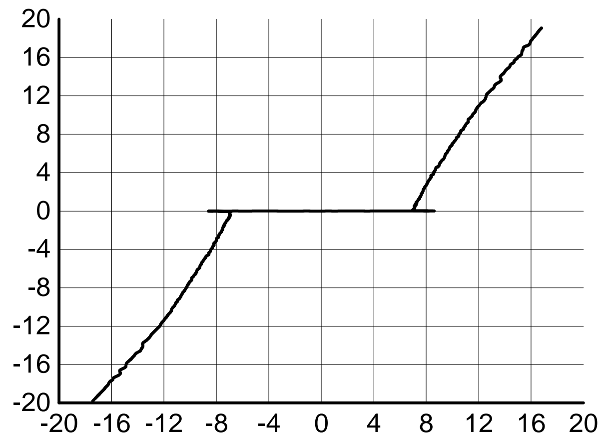
Power derating vs. Ambient temperature

ESD clamping
(+8kV contact discharge per IEC61000 4 2)

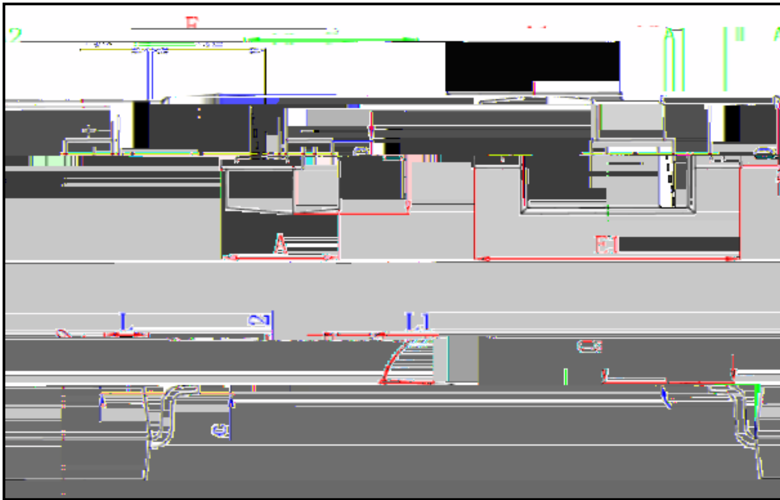


ESD clamping
(8kV contact discharge per IEC61000 4 2)

TLP Measurement

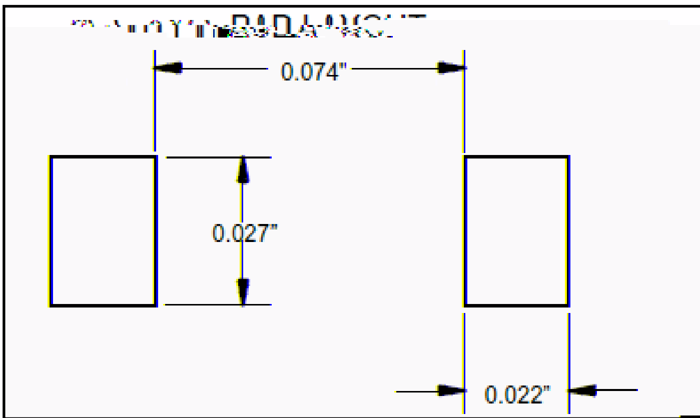


Outline Dimensions



Symbol	Min (mm)	Max (mm)
1.000	A	
0.100	A1	0.000
0.900	A2	0.800
0.400	b	0.250
0.150	[illegible]	0.080
D	1.200	1.400
E	[illegible]	[illegible]
E1	2.500	2.700
L	[illegible]	[illegible]
[illegible]	0.400	[illegible]
θ	0°	8°

Soldering Footprint



Unit inches