ESD3Z5.0C

Transient Voltage Suppressors

General Description

The ESD3Z5.0C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

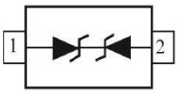
Package outline



Features

- IEC61000-4-2 Level 4 ESD protection
- IEC61000-4-4 Level 4 EFT Protection
- ESD Rating of Class 3(>16kV) per Human Body Model
- 200 Watts Peak Pulse Power per (tp=8/20us)
- Low clamping voltage
- Low leakage current
- Response Time is Typically <1ns

Pin Configuration



Mechanical Data

- SOD-323 Package
- Flammability Rating: UL 94V-0
- High temperature soldering guaranteed: 260℃/10s

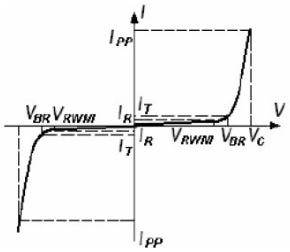
ABSOLUTE MACIMUM RATING

Parameters		Symbol	Value	Unit
ESD per IEC61000-4-2(Air) ESD per IEC61000-4-2(Contact)		V_{ESD}	±15 ±8	kV
Electrostatic Discharge	IEC 61000-4-4(EFT)		5	A
ESD Voltage	Per Human Body Model Per Machine Model		16 400	kV V
Total Power Dissipation on FR-5 Board (note 1)@Ta=25℃		P_{PP}	200	W
Maximum Junction temperature		T_J	150	℃
Operating Temperature		T_{OPT}	-40-+150	℃
Storage Temperature Range		T_{STG}	-55-+150	℃
Lead Soldering Temperature-Maximum (10 second Duration)		T_L	260(10 sec.)	℃

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ Ipp
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage@ I_T
I_T	Test Current



Electrical Characteristics (Ta= 25℃ unless otherwise noted, VF=0.9V Max.@ IF=10mA for all types).

DEVICE	MARKING	VRWM (V)	IR(uA) @VRWM	VBR(V) @IT(note2)		IT (mA)	Vc@IPP=5A (V)	Vc(V)(Note1) @Max IPP	IPP(A) (Note1)	Ppk (W)	C (pF)
		Max	Max	Min	Max		Typ.	Max	Max	Max	Typ
ESD5Z5.0C	3M	5.0	1.0	5.6	7.8	1.0	11.6	18.6	9.4	174	25

Note: 1. Surge current waveform per Figure 1.

2. VBR is measured with a pulse test current IT at an ambient temperature of 25℃

ELECTRICAL CHARACTERISTICS CURVES

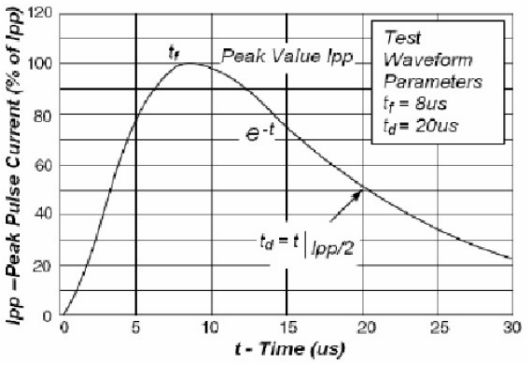


Fig1. Pulse Waveform

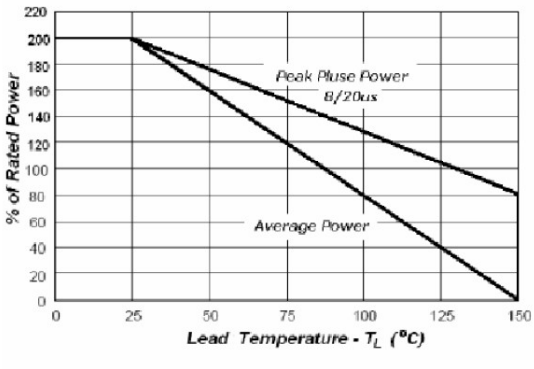
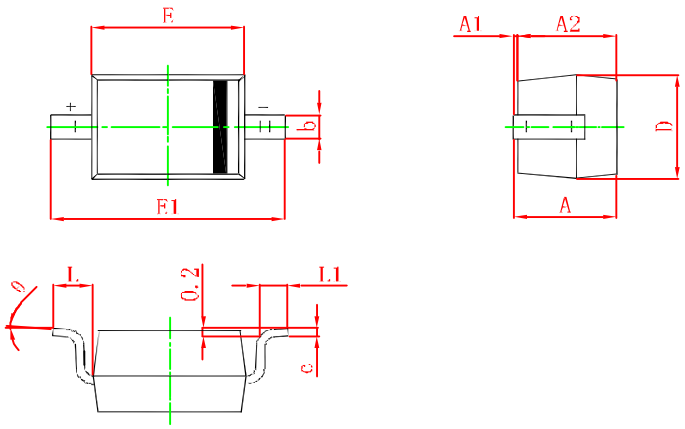


Fig2. Power Derating

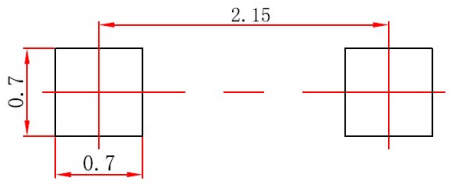
SOD-323 PACKAGE OUTLINE Plastic surface mounted package

SOD-323



Symbol	Min.(mm)	Max.(mm)
A		1.000
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
L	0.475REF	
L1	0.250	0.400
θ	0°	8°

SOD-323 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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