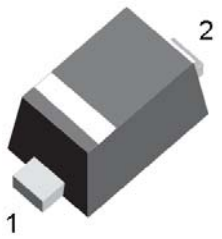
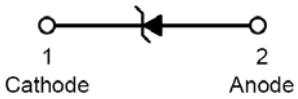
ESD5Z5V SERIES

STANDARD CAPACITANCE TVS

Features

- Small SOD-523 Package
- Unidirectional Configurations
- Peak Power Dissipation 240W @8 x 20 us Pulse
- Low Leakage
- Fast Response Time < 1 ns
- Protects One Power or I/O Port
- ESD Rating of Class 3 (>16KV) per Human Body Model
- ESD Protection to IEC 61000-4-2 Level 4
- ESD Protection to IEC 61000-4-2 Level 4
- RoHS Compliant in Lead-Free Versions





Applications

- Communication Systems & Cellular Phones
- Personal Digital Assistant (PDA)
- Digital Cameras
- Power Supplies

Absolute Maximum Ratings

Parameter		Symbol	Value	Units
Peak Power Dissipation (Note 1.) @T_L = 25°C		P_{PK}	240	W
IEC 61000-4-2 (ESD)	Air		±30	KV
	CONTACT		±30	KV
IEC 61000-4-4 (EFT)			40	A
ESD Voltage	Per Human Body Model		16	KV
	Per Machine Model		400	V
Storage Temperature Range		T_{STG}	-55 to 150	°C
Operating Junction Temperature Range		T_J	-55 to 150	°C

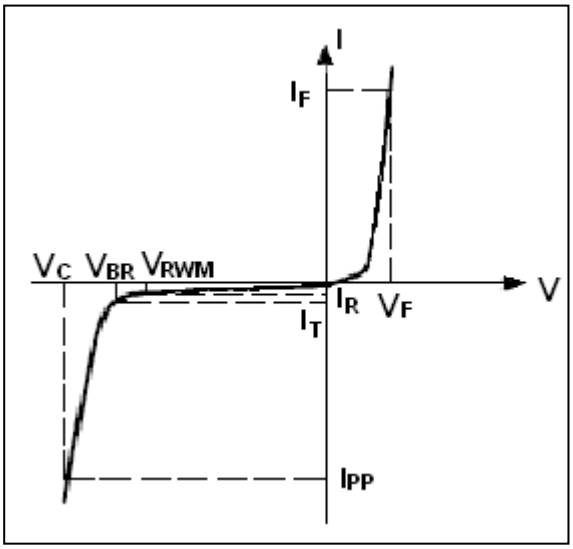
1. 8 X 20 us, non–repetitive

ESD5Z5V SERIES

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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



Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified

Device	V_{RWM} (V)	I_R(uA) @ V_{RWM}	V_{BR} (V)@ I_T (Note 1)	I_T	V_C (V) @ I_{PP}=5 A*	V_C (V) @ Max I_{PP}*	I_{PP} (A)*	P_{PK} (W)*	C (pF)
	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
ESD5Z3.3	3.3	0.05	5.0	1.0	8.4	14.1	11.2	158	105
ESD5Z5.0	5.0	0.05	6.2	1.0	11.6	18.6	9.4	174	80
ESD5Z6.0	6.0	0.01	6.8	1.0	12.4	20.5	8.8	181	70
ESD5Z7.0	7.0	0.01	7.5	1.0	13.5	22.7	8.8	200	65

*Surge current waveform per Figure 1.

1. V_{BR} is measured with a pluse test current I_T at an ambient temperature of 25℃.

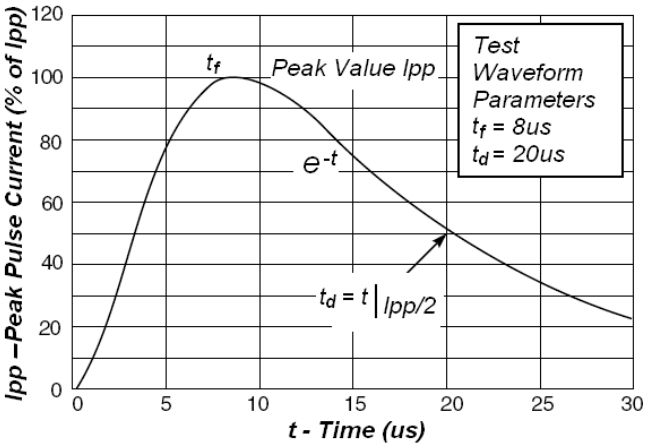


Fig1. Pulse Waveform

ESD5Z5V SERIES

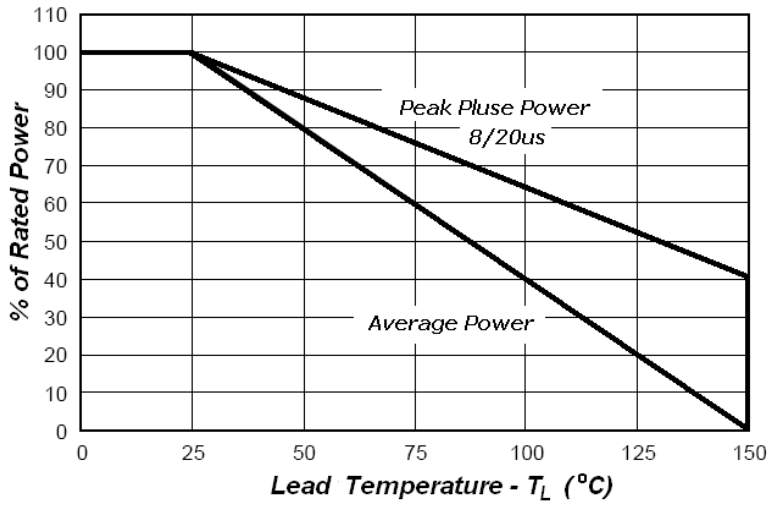
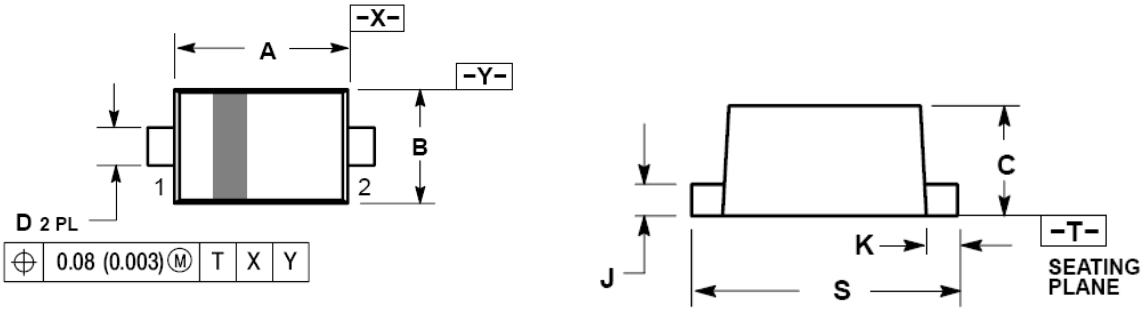


Fig2. Power Derating

Package Dimensions

SOD-523



Dim	*Millimeters*			*Inches*		
	MIN	*NOM*	*MAX*	*MIN*	*NOM*	*MAX*
A	**1.10**	**1.20**	**1.30**	**0.043**	**0.047**	**0.051**
B	**0.70**	**0.80**	**0.90**	**0.028**	**0.032**	**0.035**
C	**0.50**	**0.60**	**0.70**	**0.020**	**0.024**	**0.028**
D	**0.25**	**0.30**	**0.35**	**0.010**	**0.012**	**0.014**
J	**0.07**	**0.14**	**0.20**	**0.0028**	**0.0055**	**0.0079**
K	**0.15**	**0.20**	**0.25**	**0.006**	**0.008**	**0.010**
S	**1.50**	**1.60**	**1.70**	**0.059**	**0.063**	**0.067**