



PESD3V3U1UA ESD Protection Diode

Feature

- Protects one I/O line with uni-directional
- 550Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 3.3V
- Junction capacitance: 1.0pF (Typ)
- Low leakage current
- Low clamping voltage
- Solid-state Silicon-avalanche Technology
- IEC61000-4-2 (ESD): $\pm 30kV$ (contact) $\pm 30kV$ (air)
- IEC61000-4-4(EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 31A (8/20 μs)

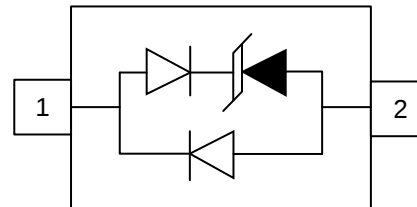
Application

- Ethernet-10/100/1000 Base T
- Handsets and Accessories
- Wireless Systems
- Personal Digital Assistants(PDA's)
- Notebooks,Desktops,and Servers
- USB Interface

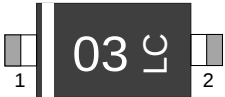
Mechanical Data

- Package: SOD-323
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
PESD3V3U1UA	SOD-323		3000 Tape & Reel	7 inches



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

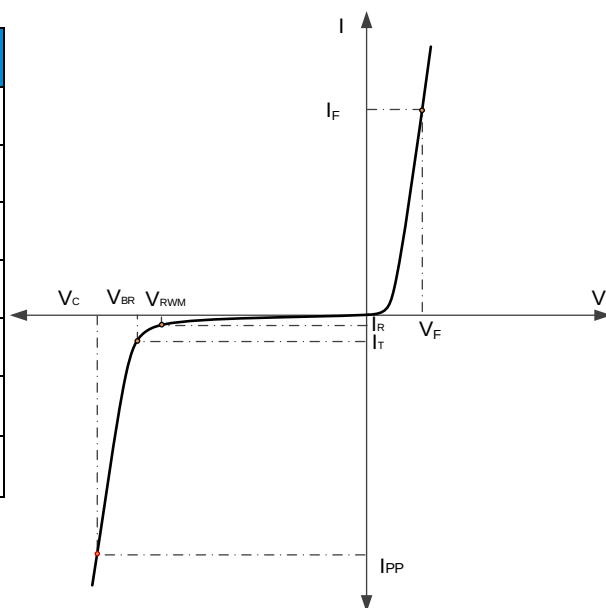
Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	550	Watts
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{pp}	31	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to + 125	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	4			V
Forward Voltage	V_F	$I_F=10\text{mA}$	0.6	0.8	1.2	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}, T=25^{\circ}\text{C}$			0.5	μA
Clamping Voltage	V_C	$I_{PP}=31\text{A}, t_p=8/20\mu\text{s}$			18	V
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}$		1.0	1.5	pF

Electrical Parameters

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}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
V_F	Forward Voltage





Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

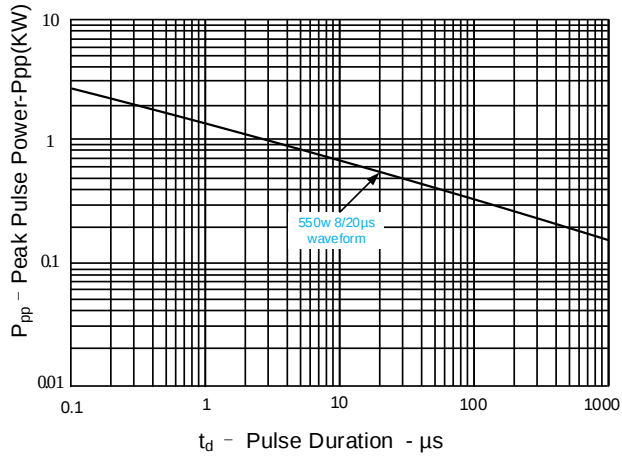


Figure 2: Power Derating Curve

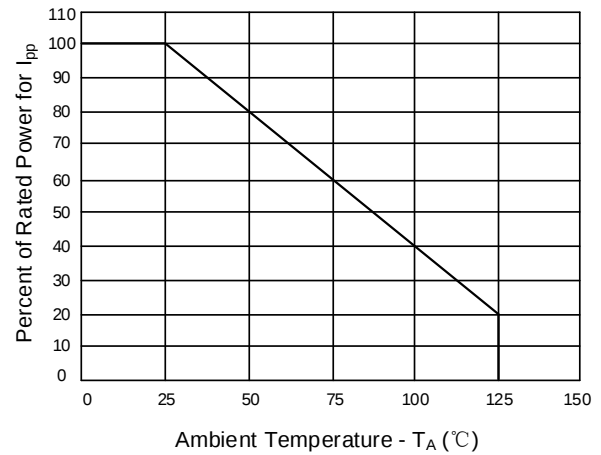


Figure3: Pulse Waveform

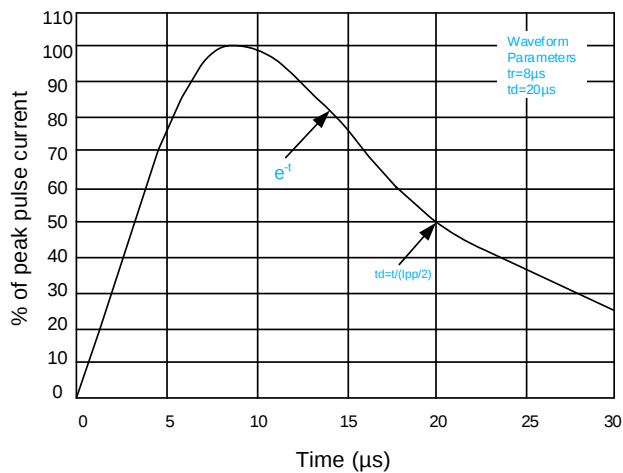
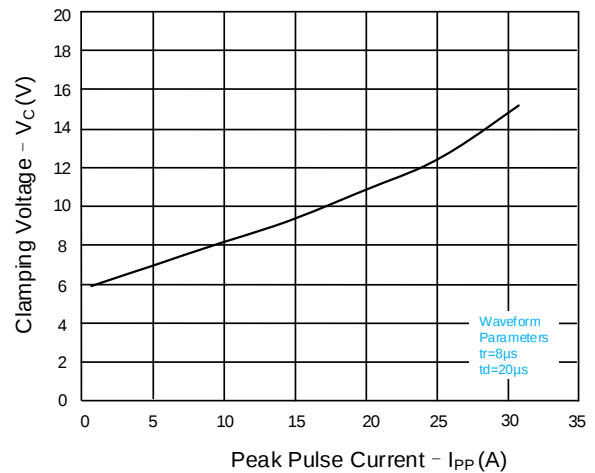
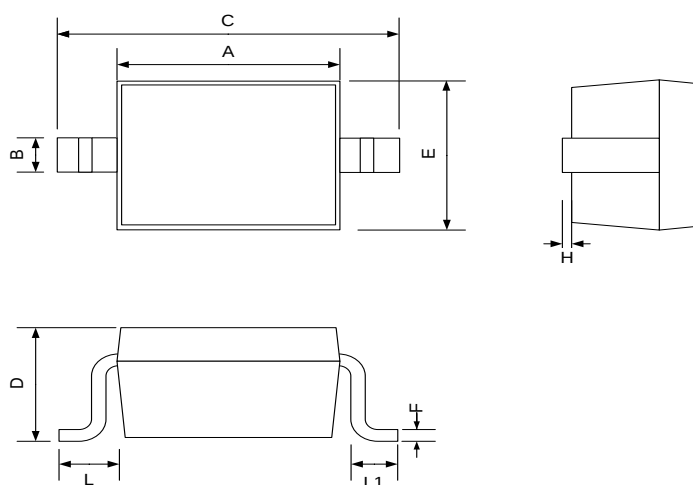


Figure 4: Clamping Voltage vs. Ipp



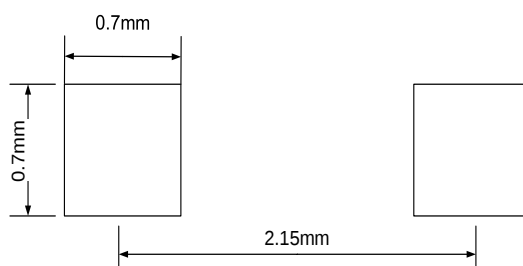


SOD-323 Outline Drawing



SYMBOL	COMMON DIMENSION			
	MILLIMETER		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D		1.000		0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004

Land Pattern *



* This land pattern is for reference purposes only