

SMD Type ESD Diode 450W/30A

Parameter	Value	Unit
P_{Pk}	450	W
$I_{PP} (max)$	30	A
V_{ESD}	± 30	KV



SOD-323

Features

- 450W Peak pulse Power (8/20us)
- Peak Pulse current (8/20us) MAX : 30A
- IEC61000-4-2 (ESD) ± 30 kV (air), ± 30 kV (contact)
- Unidirectional configuration
- Low clamping voltage
- Working voltages: 3.3V/5V/7V/12V/15V/18V/24V/36V
- RoHS Compliant

Applications

- Industrial and Serve Robots
- Laptops and Desktops
- TV and Monitors
- Wearables
- Handheld-wireless Systems

Pin Configuration and Functions

Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	GND	Connect to GND		

Maximum Ratings (at $T_J=25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)@ 25°C	P_{Pk}	-	450	W
Peak pulse current ($t_p=8/20\mu\text{s}$)@ 25°C	I_{PP}	-	30	A
ESD (IEC61000-4-2 air discharge) @ 25°C	V_{ESD}	-	± 30	kV
ESD (IEC61000-4-2 contact discharge) @ 25°C	V_{ESD}	-	± 30	kV
Junction temperature	T_J	-	150	$^\circ\text{C}$
Operating temperature	TOP	-40	125	$^\circ\text{C}$
Storage temperature	TSTG	-55	150	$^\circ\text{C}$
Lead temperature	TL	-	260	$^\circ\text{C}$

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

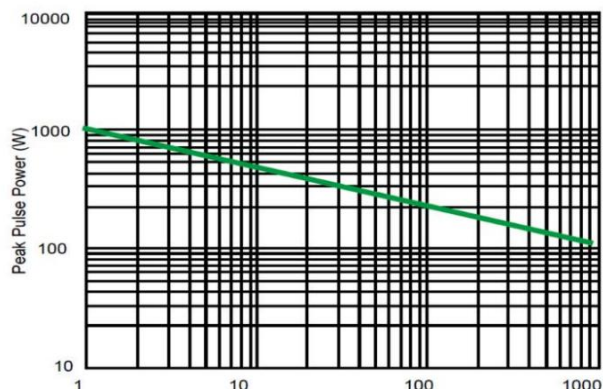
Symbol	Description
V_{RWM}	Rated reverse stand-off voltage
V_{BR}	Minimum breakdown voltage @ $I_T = 1\text{mA}$
V_{CL}	Clamping voltage
I_{PP}	Maximum peak pulse current
I_R	Reverse leakage current @ V_{RWM}
C_O	Typical line capacitance ($V_{IO}=0\text{V}$, $V_{P-P} = 30\text{mV}$, $f = 1\text{MHz}$)

At $T_A = 25^{\circ}\text{C}$ unless otherwise noted

Part Number	V_{RWM} (Max.) (V)	$V_{BR}(\text{Min.})$ (V)	$V_{CL}@I=1\text{A}$ (Typ.) (V)	I_{PP} (Max.) (A)	$V_{CL}@I=I_{PP}$ (Typ.) (V)	I_R (Max.) (μA)	$C_O(\text{Typ.})$ (pF)
ESD05T1GX100	5.0	6.5	9.0	30	13.0	1.0	200

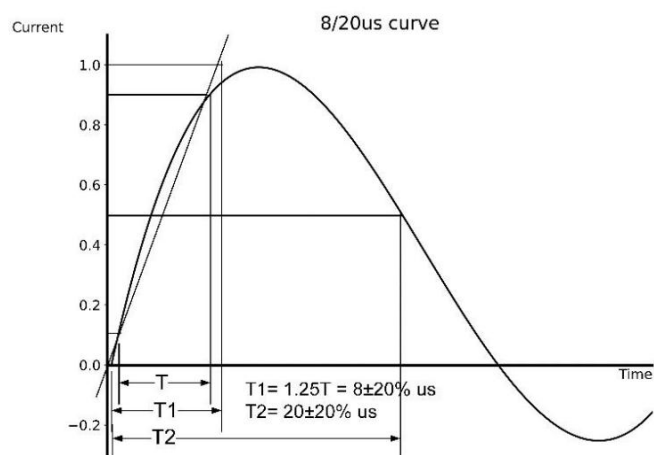
Characteristics diagrams

Fig1: Power rating derating curve

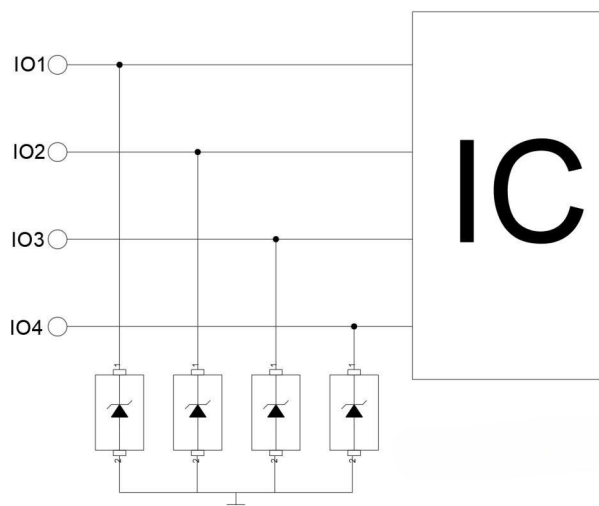


Non-repetitive peak pulse power vs. pulse time

Fig 2: Pulse Waveform

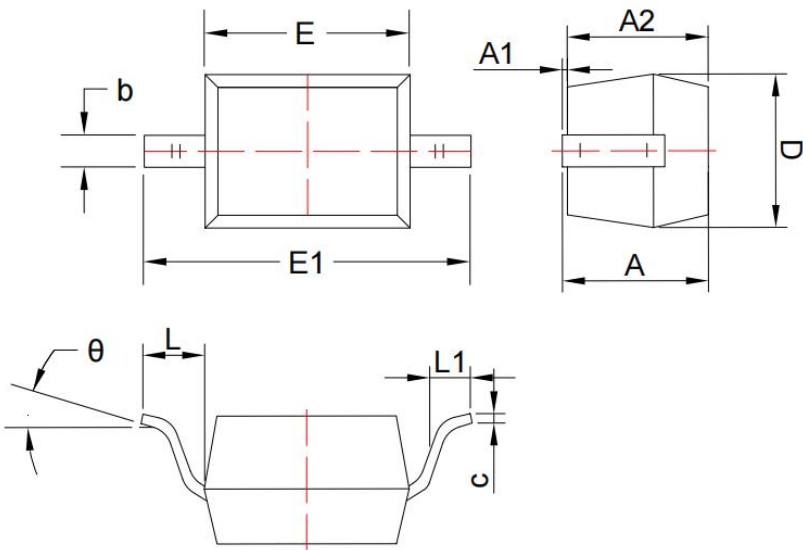


Typical Application



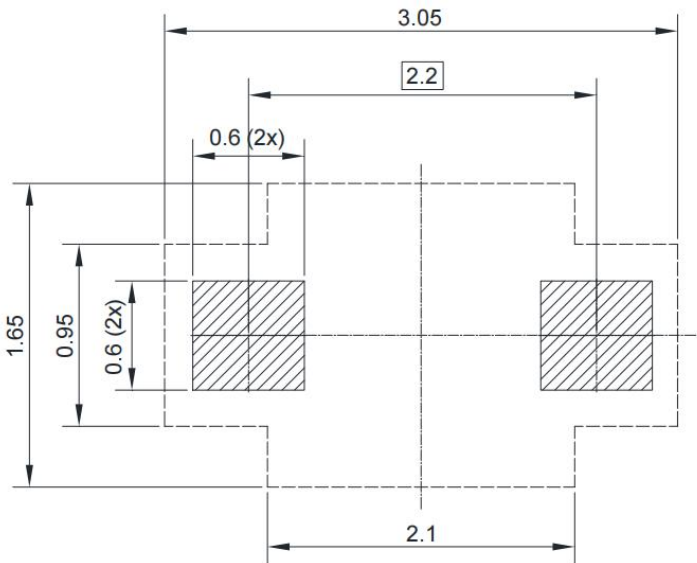
Typical Internet 1G Interface Application

Package Outlines



Symbol	Dimensions in Millimeters	
	Min.	Max.
A	0.80	1.00
A1	0.00	0.14
A2	0.66	0.97
b	0.25	0.35
c	0.08	0.18
D	1.20	1.40
E	1.55	1.80
E1	2.50	2.80
L	0.475REF	
L1	0.25	0.40
θ	0°	8°

Recommended Soldering Footprint



Dimensions: millimeters

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