

SOD-323 Plastic-Encapsulate ESD Protection Diodes

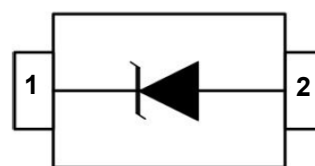
Features

- 350 Watts Peak Pulse Power per (8/20 μ s)
- IEC61000-4-2 (ESD) ± 30 kV (air), ± 30 kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Protects one I/O line (unidirectional)
- Low clamping voltage
- Low leakage current
- Working voltages : 3V, 5V, 8V, 12V, 15V, 18V, 20V, 24V, 36V
- Meets MSL 1 Requirements

Pin Configuration



Circuit Diagram



Mechanical Characteristics

- Package: SOD-323
- Flammability Rating: UL 94V-0
- Terminal: Matte tin plated.
- High temperature soldering guaranteed: 260 $^{\circ}$ C/10s
- Packaging: Tape and Reel



Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

Maximum Ratings $T_A = 25^{\circ}$ C unless otherwise specified

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	VESD	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Peak Pulse Power(tp=8/20us waveform)	PPP	350	W
Operating Temperature	T _{OPT}	-55 to +150	$^{\circ}$ C
Storage Temperature	T _{STG}	-55 to +150	$^{\circ}$ C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260(10 sec.)	$^{\circ}$ C

The above data are for reference only.

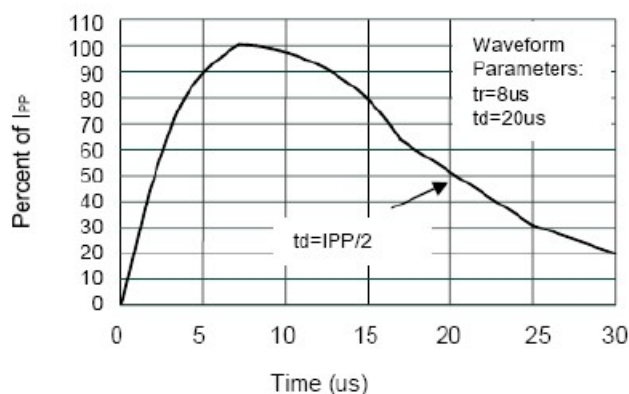


Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

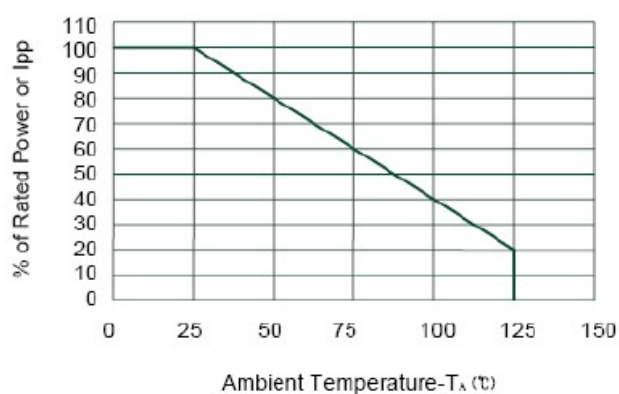
PART NUMBER	V _{RWM} (V) (max.)	V _B (V) (min.)	I _T (mA)	V _{C@1A} (V) (max.)	V _C (V) (max.) (@A)		I _R (μA) (max.)	C _T (pF) (max.)
SD03	3.3	4	1	6.5	14	20	40	450
SD05	5	6	1	9.8	18	17	10	300
SD08	8	8.5	1	10.5	24	15	1	240
SD12	12	13.3	1	19	32	11	1	130
SD15	15	16.7	1	24	38	10	1	120
SD18	18	20.0	1	29	45	9	1	100
SD20	20	22.3	1	35	50	8	1	90
SD24	24	26.7	1	43	52	7	1	80
SD36	36	40	1	60	75	5	1	60

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ELECTRICAL CHARACTERISTICS CURVE



Pulse Waveform

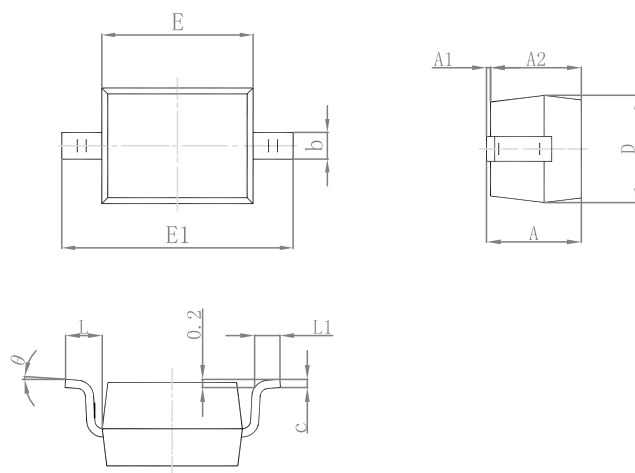


Power Derating Curve

The curve above is for reference only.

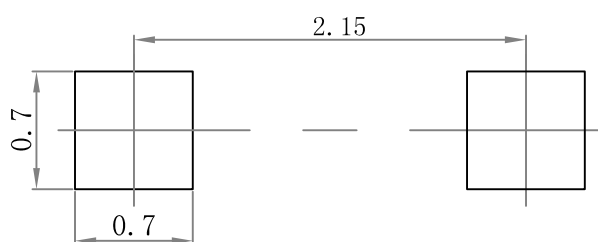
Outlitne Drawing

SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.032	0.043
A1	0.00	0.20	0.000	0.008
A2	0.70	1.05	0.028	0.042
b	0.20	0.40	0.007	0.016
C	0.05	0.20	0.0019	0.0079
D	1.10	1.45	0.043	0.057
E	1.40	1.80	0.063	0.070
E1	2.50	2.80	0.098	0.110
L	0.35	0.60	0.014	0.024
L1	0.15	0.45	0.006	0.016
θ	0°	9°	0°	9°

Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOD-323	7'	178	3000	183×188×80	45,000	386×265×215	180,000