



## BIDIRECTIONAL ESD PROTECTION DIODES

### Features

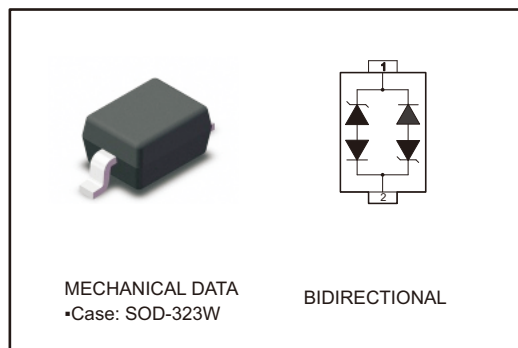
- Operating voltage : 15V
- 350 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Protects One Power or I/O Port
- Low Clamping Voltage
- Ultra Low Capacitance: 0.8 pF Typical
- Bidirectional Configuration

### Applications

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant(PDA)
- USB Interface

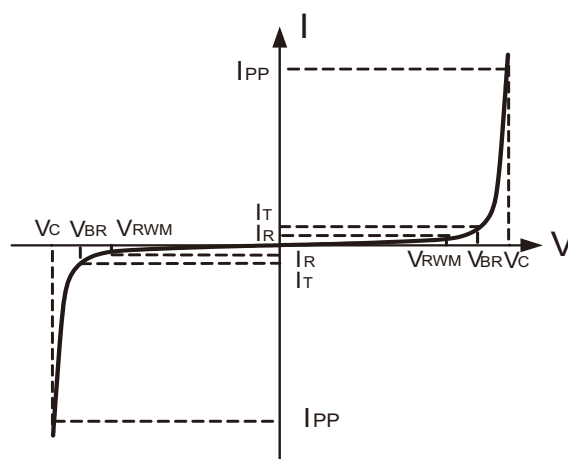
### Mechanical Characteristics

- SOD-323W package
- Packaging: Tape and Reel per EIA 481
- Marking : 15U
- RoHS Compliant



### Electrical Parameters (T=25 °C )

Symbol	Parameter
$I_{PP}$	Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Reverse Stand- Off Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current





**MAXIMUM RATINGS (Ta =25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu$ S)	Ppk	350	W
Peak Pulse Current	Ipp	10	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	KV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Junction Temperature	TJ	-55~ +150	°C
Storage Temperature Range	Tstg	-55~ +150	°C

**ELECTRICAL CHARACTERISTICS ( TA = 25°C unless otherwise noted )**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand-off voltage	VRWM				15.0	V
Breakdown Voltage	VBR	IT=1mA	16.7			V
Reverse Leakage Current	IR	V=VRWM , Ta=25°C			1	$\mu$ A
Clamping Voltage	VC	IPP=1A , tp=8/20us			24	V
		IPP=5A , tp=8/20us			29	V
		IPP= 10A , tp=8/20us			31.8	V
Junction Capacitance	Cj	VR=0V , f=1MHz		0.8		pF



Fig.1 Peak Pulse Power vs. Pulse Time

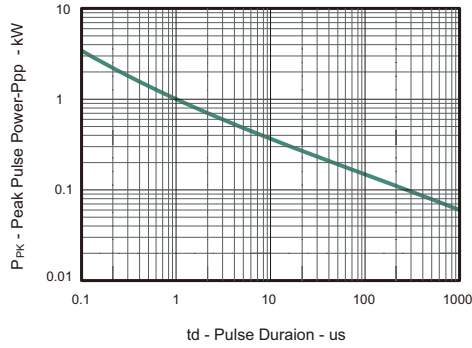


Fig.2 Forward Current Derating Curve

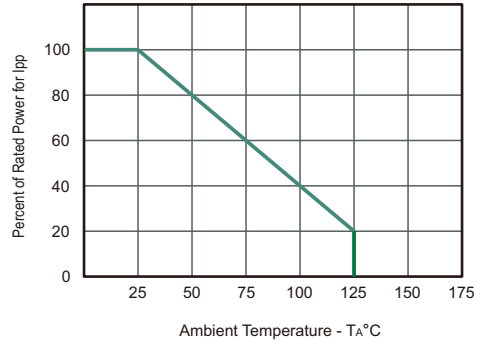


Fig.3 Clamping voltage vs I<sub>pp</sub>

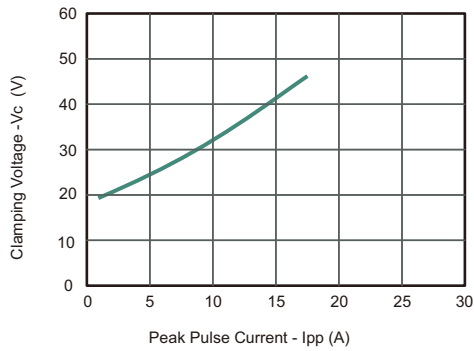
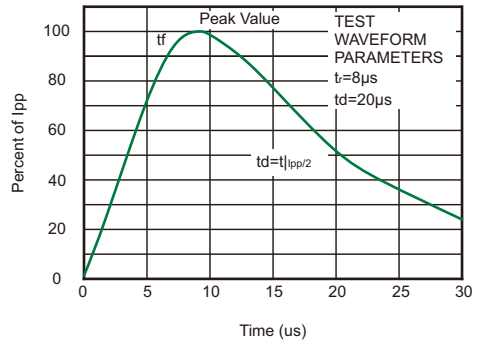


Fig.4 Pulse Waveform

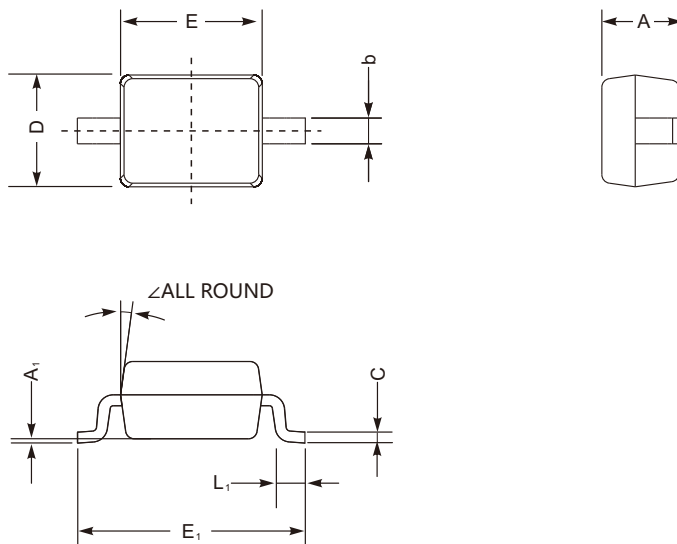




**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

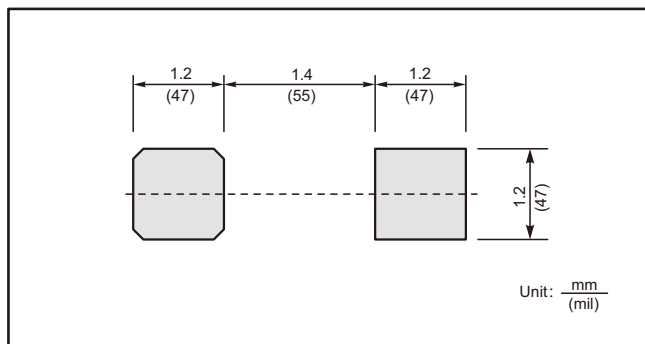
SOD-323W



SOD-323W mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

**The recommended mounting pad size**



**Marking**

Type number	Marking code
ESDBLC15V0D3	15U



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