

## BIDIRECTIONAL ESD PROTECTION DIODES

### Features

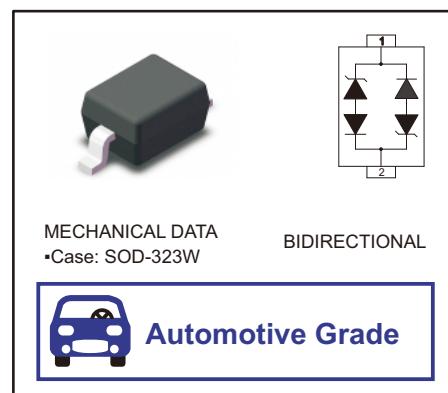
- 310 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 5V
- Bidirectional Configuration
- Qualified to AEC-Q101 Standards for High Reliability

### Applications

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

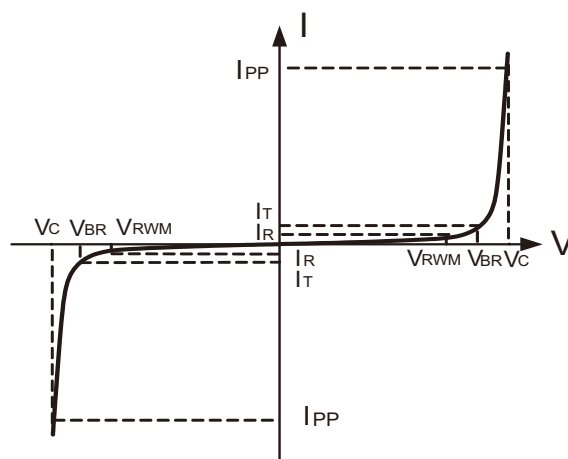
### Mechanical Characteristics

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



### 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 μS)	Ppk	310	W
Peak Pulse Current	Ipp	20	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	KV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55~ +125	°C
Storage Temperature Range	Tstg	-55~ +125	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand-offvoltage	VRWM				5.0	V
Breakdown Voltage	VBR	IT=1mA	6.0		9.0	V
Reverse Leakage Current	IR	V=VRWM , Ta=25°C			0.5	uA
Clamping Voltage	VC	IPP=17A , tp=8/20us			18.3	V
		IPP=20A , tp=8/20us			20	
Junction Capacitance	Cj	VR=0V , f=1HMz			1.35	pF



Fig.1 Peak Pulse Power vs. Pulse Time

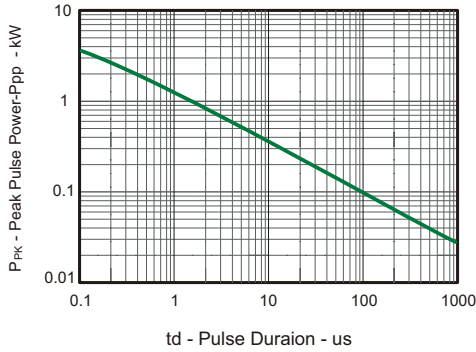


Fig.2 Power Derating Curve

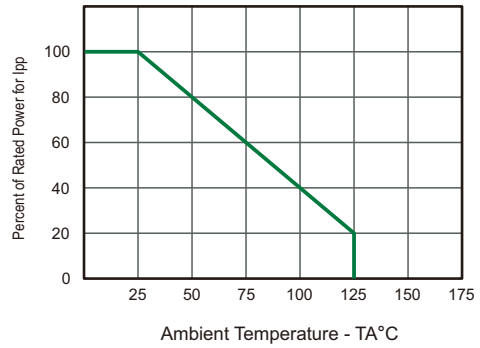


Fig.3 Clamping voltage vs Ipp

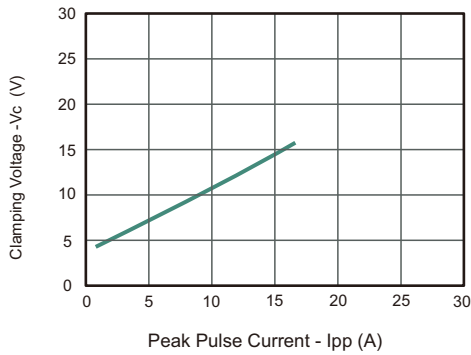


Fig.4 Normalized Junction Capacitance vs,Reverse Voltage

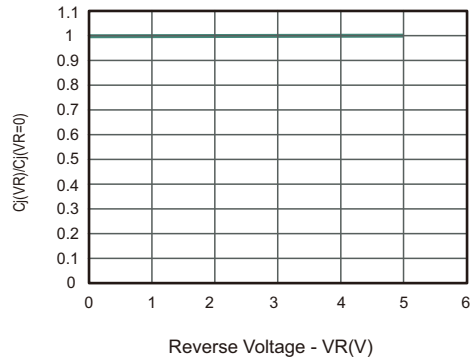


Figure 5: TLP Positive I - V Curve

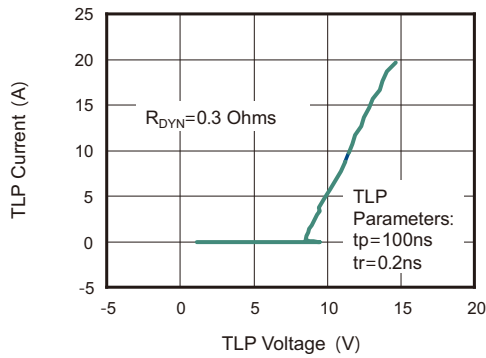
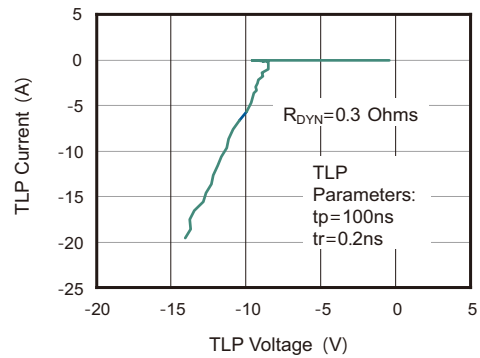


Figure 6: TLP Negative I - V Curve

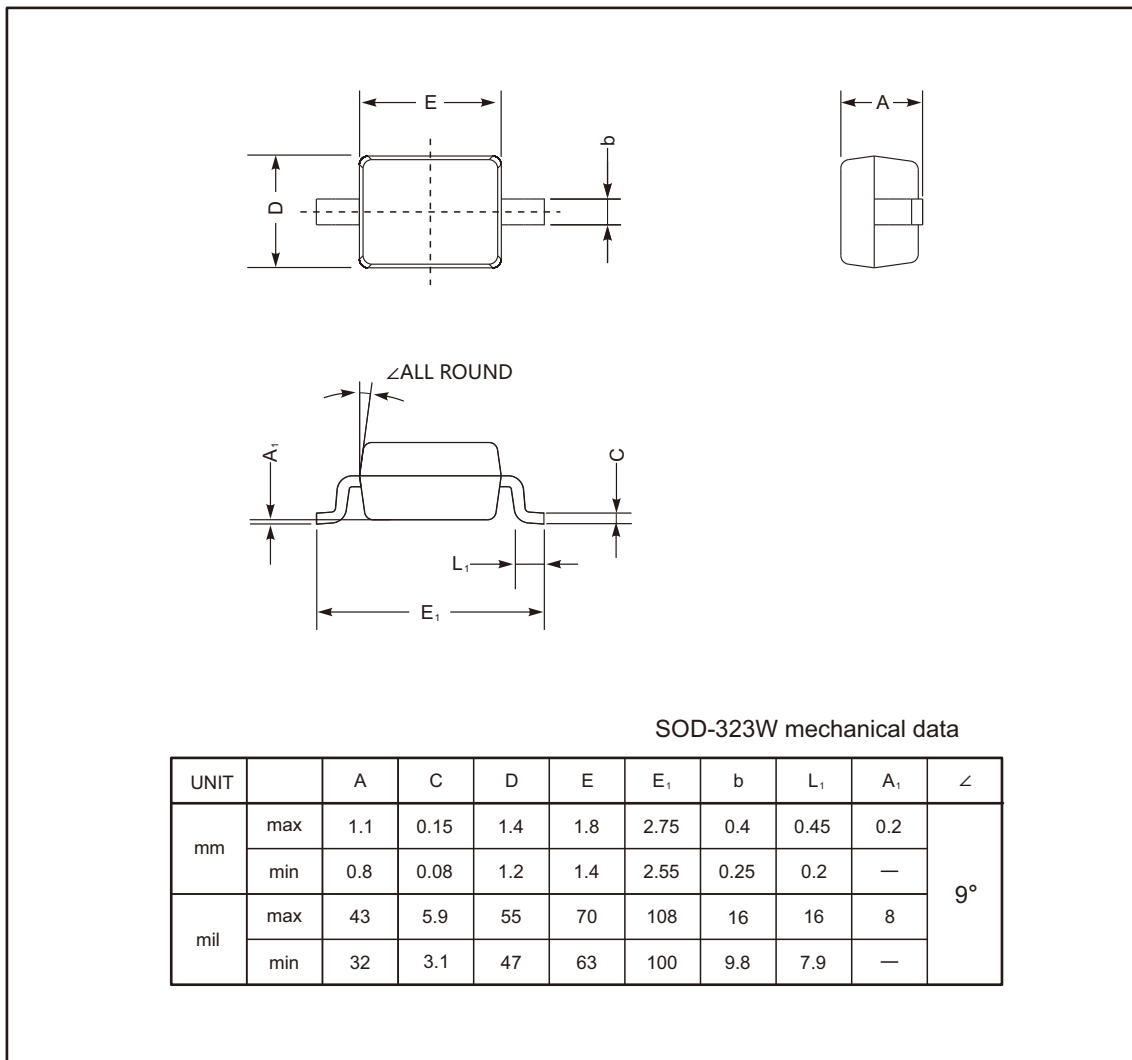




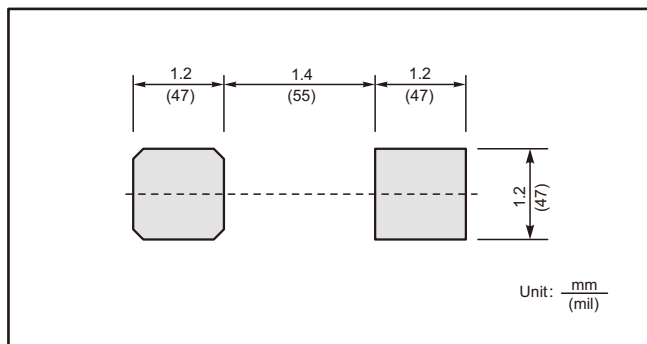
**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

SOD-323W



**The recommended mounting pad size**



**Marking**

Type number	Marking code
ESDBLC5V0D3P	5A