BIDIRECTIONAL ESD PROTECTION DIODES

Features

- 230Watts peak pulse power (t_p = 8/20μs)
- Tiny SOD-323W package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (C_j=1.4pF typ.)
- Protection one data/power line
- IEC 61000-4-2 ±30V contact ±30kV air

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

MECHANICAL DATA
▪Case: SOD-323W

APPLICATION

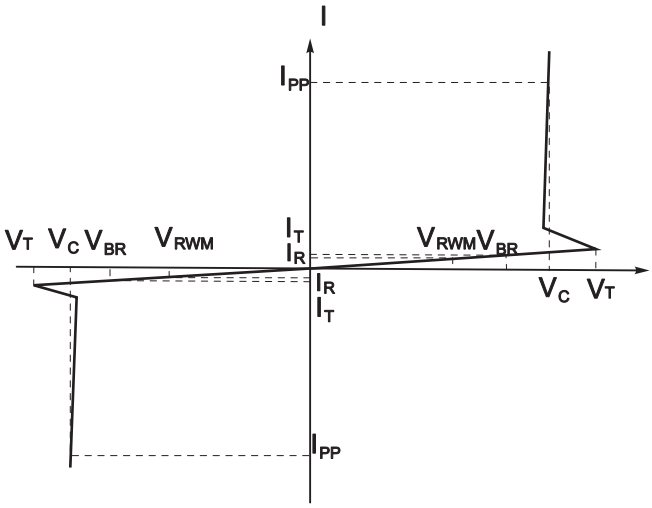
- 10/100/1000Ethernet
- Intergated Magnetics/RJ45Connectors
- LAN/WAN Equipment
- Notebooks, Desktops, and Servers
- Portable Instrumentation

APPLICATION

- SOD323W package
- Packaging: Tape and Reel

Electronics Parameter

Parameter	Symbol
Maximum Reverse Peak Pulse Current	I_{PP}
Clamping Voltage @ I_{PP}	V_C
Peak Reverse Working Voltage	V_{RWM}
Reverse Leakage Current @ V_{RWM}	I_R
Trigger Voltage @ I_T	V_T
Test Current	I_T



- Note: 8/20us pulsewaveform

Absolute Ratings

(Tamb=25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power(tp=8/20us)	P_{PPM}	230	W
Peak Pulse Current(tp=8/20us)	I_{PP}	14	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2(Contact)	V_{ESD}	30 30	KV
Operating Junction Temperature	T_J	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +125	℃

Electrical Characteristics

Ratings at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=5V,T_a=25℃			1.0	uA
Clamping Voltage	V_C	I_{PP}=7A,t_p=8/20us			13	V
Clamping Voltage	V_C	I_{PP}=14A,t_p=8/20us			17	V
Junction Capacitance	C_j	V_R=0V,f=1MHz		1.4		pF

Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

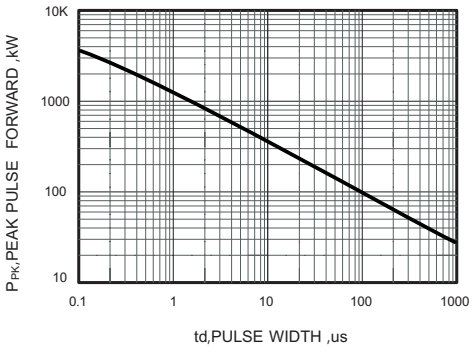


Fig.2 Power Derating Curve

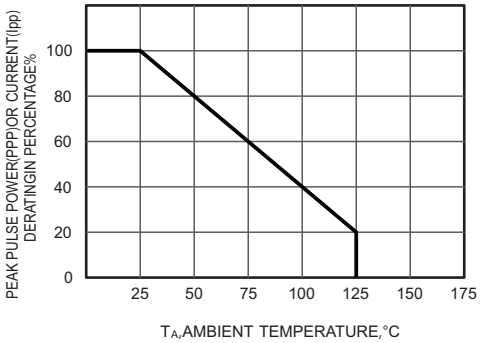


Fig.3 Clamping voltage vs Ipp

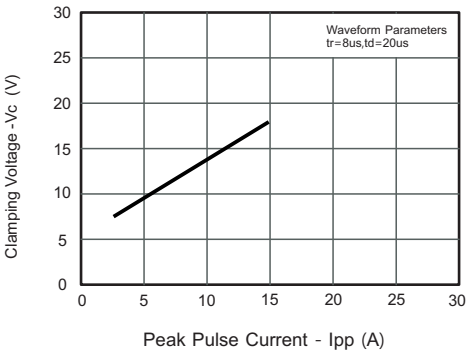
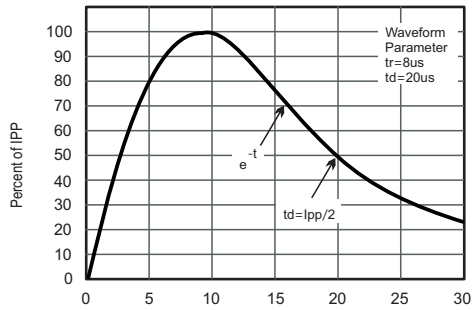


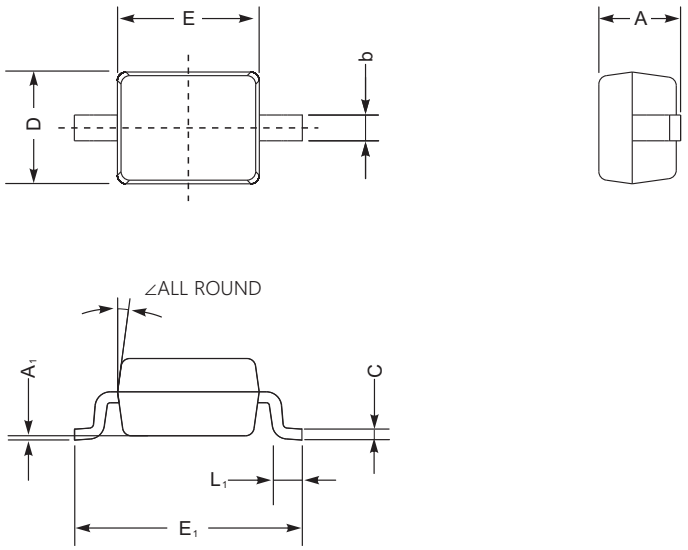
Fig.4 Pulse Waveform



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

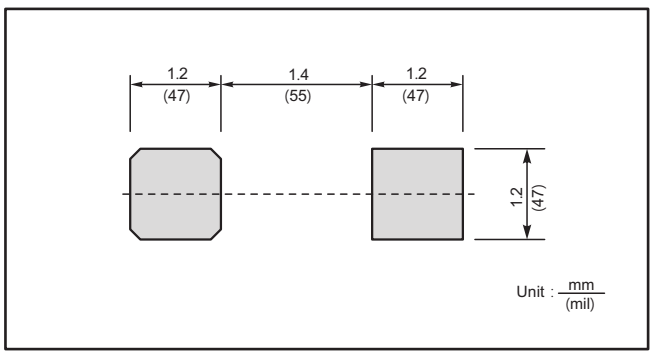
SOD-323W



SOD-323W mechanical data

UNIT		A	C	D	E	E_1	b	L_1	A_1	∠
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
ESDBLC5V0D3	5L

文件履历表

序号	制/修订日期	生效日期	版次	修订内容	变更原因	制/修订人	备注
01	2022.4.19	2022.4.19	Rev 1.1	初版制定	/	王政杰	