Features

- 300 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 5 V
- Low Leakage Current

Mechanical Characteristics

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

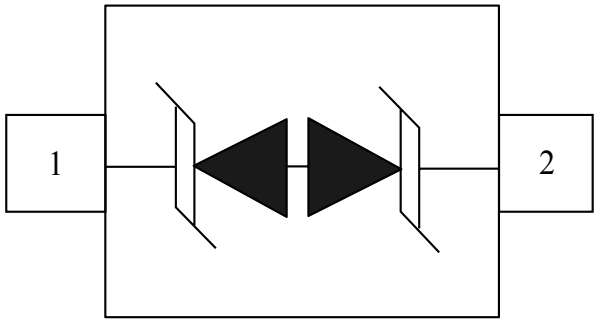
Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

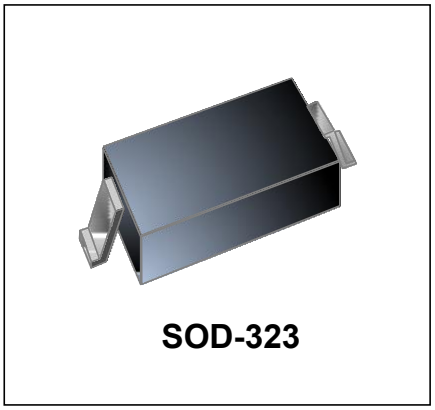
IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 20A (8/20 μ s)

Schematic & PIN Configuration



SOD-323 (Top View)



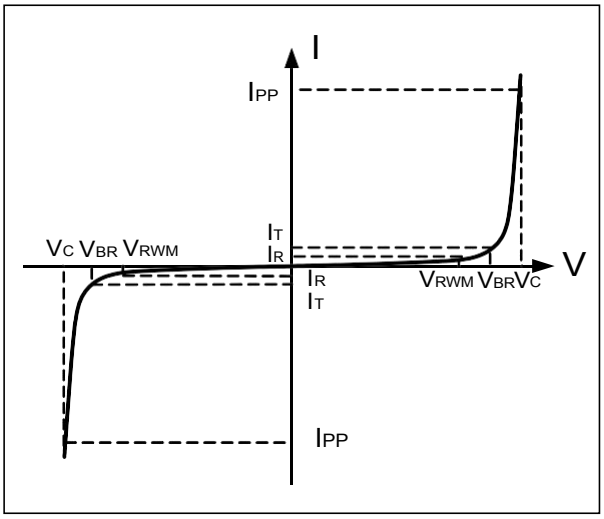
SOD-323

Absolute Maximum Ratings

Rating	Symbol	Value	Units
Peak Pulse Power（t_p =8/20μs）	PPP	300	Watts
Peak Pulse Current（t_p =8/20μs）	IPP	20	A
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25℃)

Symbol	Parameter
IPP	Reverse Peak Pulse Current
VC	Clamping Voltage @ IPP
VRWM	Reverse Stand-Off Voltage
IR	Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage @ IT
IT	Test Current



Electrical Characteristics

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	VRWM				5	V
Reverse Breakdown Voltage	VBR	IT=1mA	6		9	V
Reverse Leakage Current	IR	VRWM=5V,T=25°C			200	nA
Clamping Voltage	VC	IPP=20A, tp=8/20μs		12	15	V
Dynamic Resistance1,2	RDYN	TLP=0.2/100ns		0.15		Ω
ESD Clamping Voltage1	VC	IPP = 4A tp = 0.2/100ns		8.5		V
ESD Clamping Voltage1	VC	IPP = 16A tp = 0.2/100ns		10.5		V
Junction Capacitance	Cj	VR = 0V, f = 1MHz		40	50	pF

Note：1、TLP Setting：t_p=100ns, t_r=0.2ns, I_{TLP} and V_{TLP} sample window:t_1=70ns to t_2=90ns.
2、Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using 'Best Fit'

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

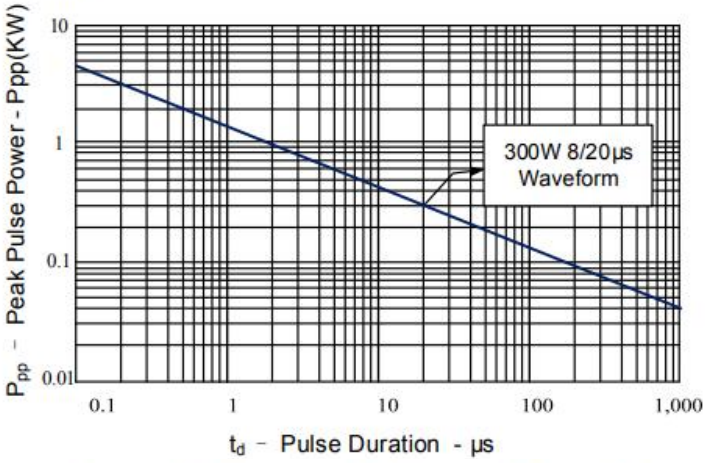


Figure 2: Power Derating Curve

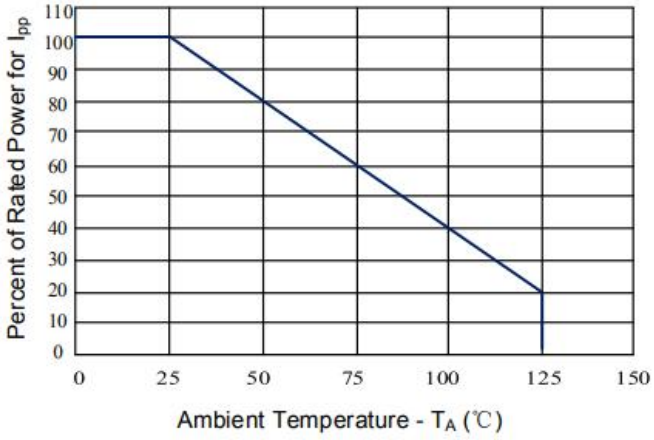


Figure 3: Clamping Voltage vs. Peak Pulse Current

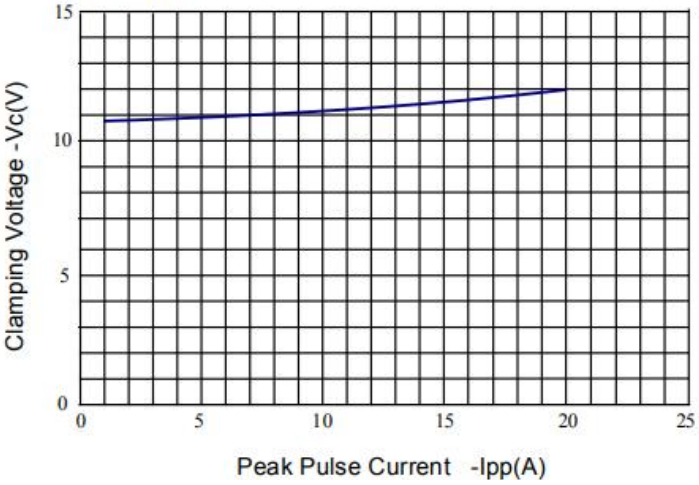


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

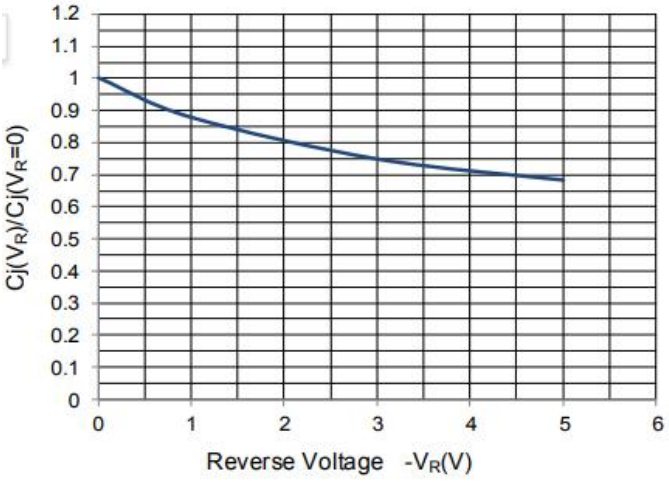


Figure 5: TLP Positive I-V Curve

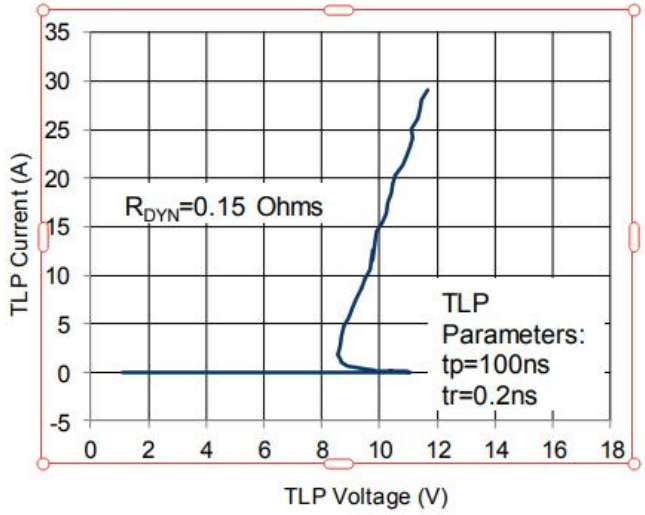
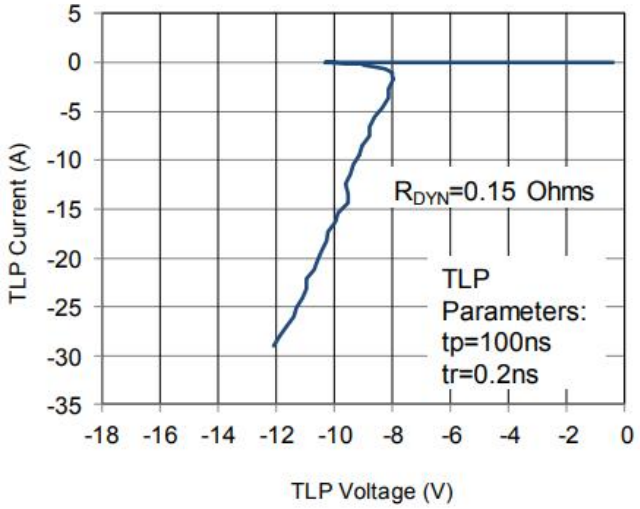


Figure 6: TLP Negative I-V Curve



Marking Codes

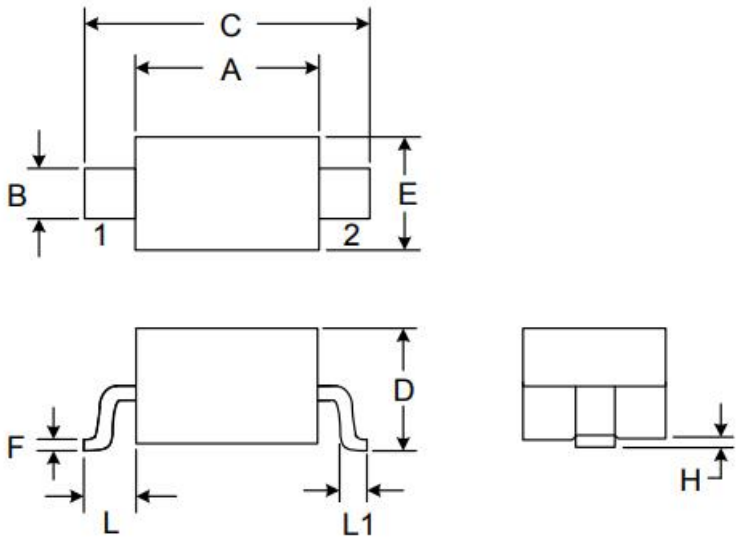
Part Number	Marking Code
CTSY5V0H1B2MB	

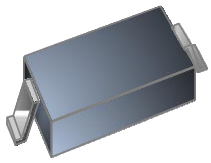
Package Information

Qty：3k/Reel

Outline Drawing - SOD-323

PACKAGE OUTLINE



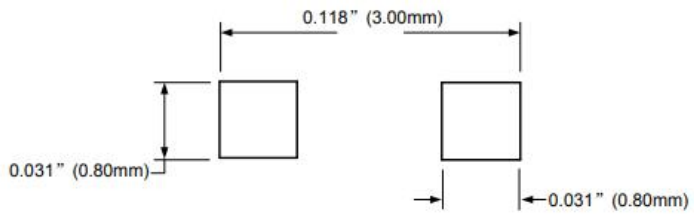


SOD-323

DIMENSIONS

SYMBOL	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.52	1.80	0.060	0.071
B	0.25	0.40	0.010	0.016
C	2.46	2.71	0.097	0.107
D	0.80	1.16	0.031	0.046
E	1.11	1.40	0.044	0.055
F	0.08	0.20	0.003	0.008
L	0.475 REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.000	0.004

MOUNTING PAD



Notes:
Controlling Dimension: Millimeter.