TECH PUBLIC
台舟电子

TPCDSOD323-T05SC
Bl-directional TVS Diode

www.sot23.com.tw

Features

* 450W peak pulse power (8/20μs)
* Protects one data or power line
* Ultra low leakage: nA level
* Operating voltage: 5V
* Ultra low clamping voltage
* Complies with following standards:

– IEC 61000-4-2 (ESD) immunity test

Air discharge: ±30kV

Contact discharge: ±30kV

– IEC61000-4-4 (Lightning) 36A (8/20ns)

Mechanical Characteristics

* Package: SOD-323
* Lead Finish: Matte Tin
* Case Material: “Green” Molding Compound.
* UL Flammability Classification Rating 94V-0
* Moisture Sensitivity: Level 3 per J-STD-020
* Terminal Connections: See Diagram Below

Applications

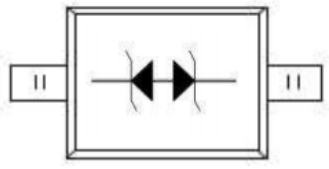
* Cellular Handsets and Accessories
* Personal Digital Assistants
* Notebooks and Handhelds
* Portable Instrumentation
* Peripherals
* Pagers Peripherals

Desktop and Servers

Ordering Information

Part Number	Qty per Reel	Reel Size
TPCDSOD323-T05SC	3000	7″

Dimensions and Pin Configuration



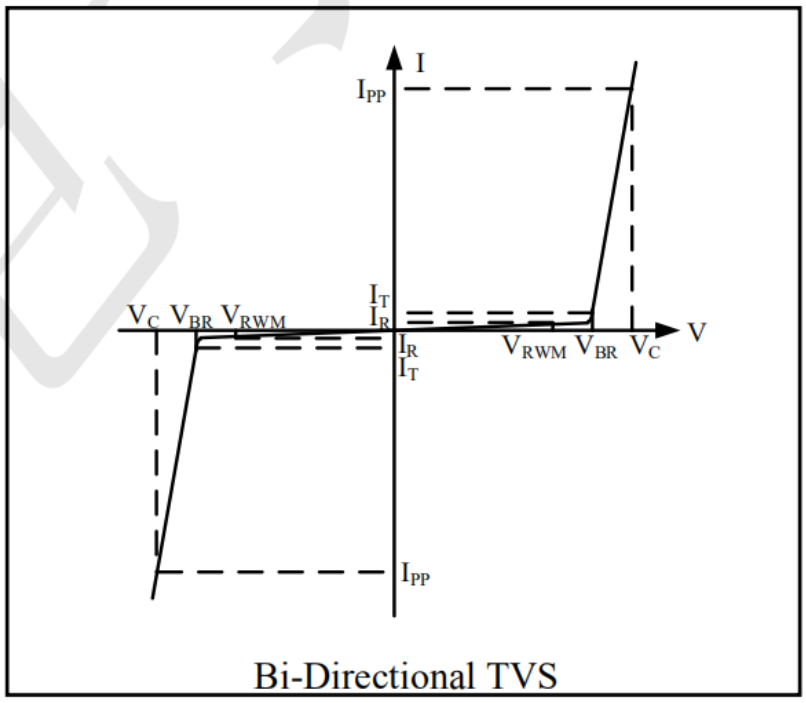
Marking: 05B

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	450	W
Peak Pulse Current (8/20μs)	IPP	36	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency



Bi-Directional TVS

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	VRWM				5	V
Breakdown Voltage	VBR	IT = 1mA(Pin1-Pin2)	6.0	7.0	8.0	V
Reverse Leakage Current	IR	VRWM = 5. 0V(Pin2-Pin1)			0.5	μA
Clamping Voltage	VC	IPP = 10A (8 x 20μs pulse) (Pin1-Pin2)		9.0	11.0	V
Clamping Voltage	VC	IPP = 30A (8 x 20μs pulse) (Pin1-Pin2)		12. 0	15.0	V
Junction Capacitance	CJ	VR = 0V, f = 1MHz (Pin1-Pin2)		60	100	pF

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

Fig1. 8/20μs Pulse Waveform

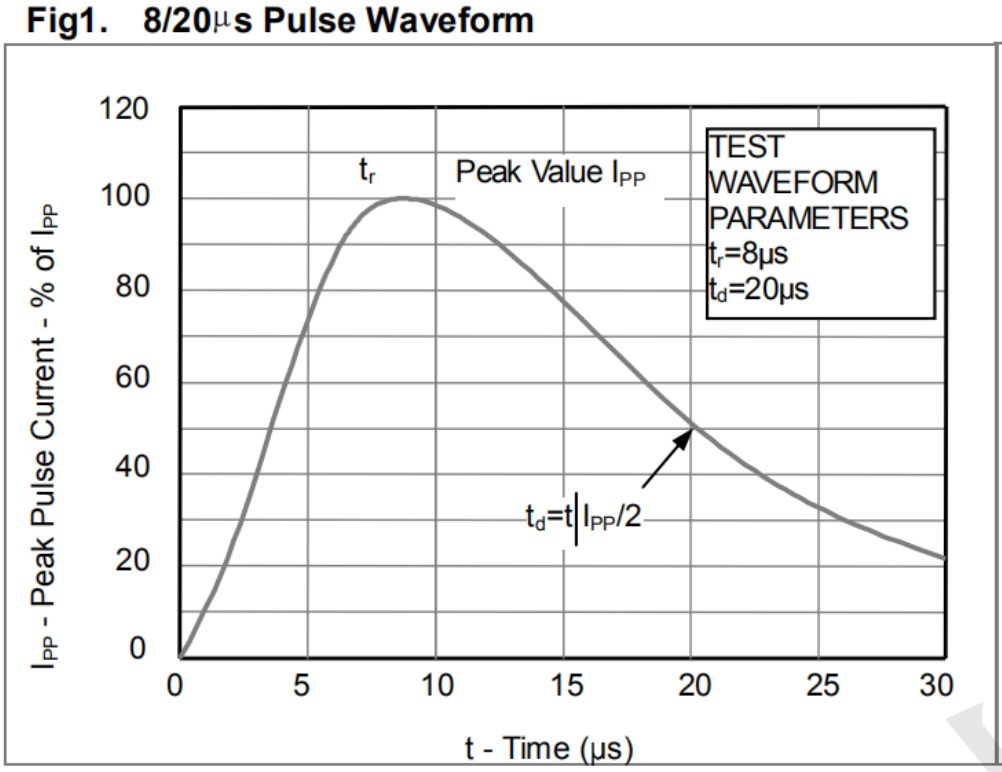


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

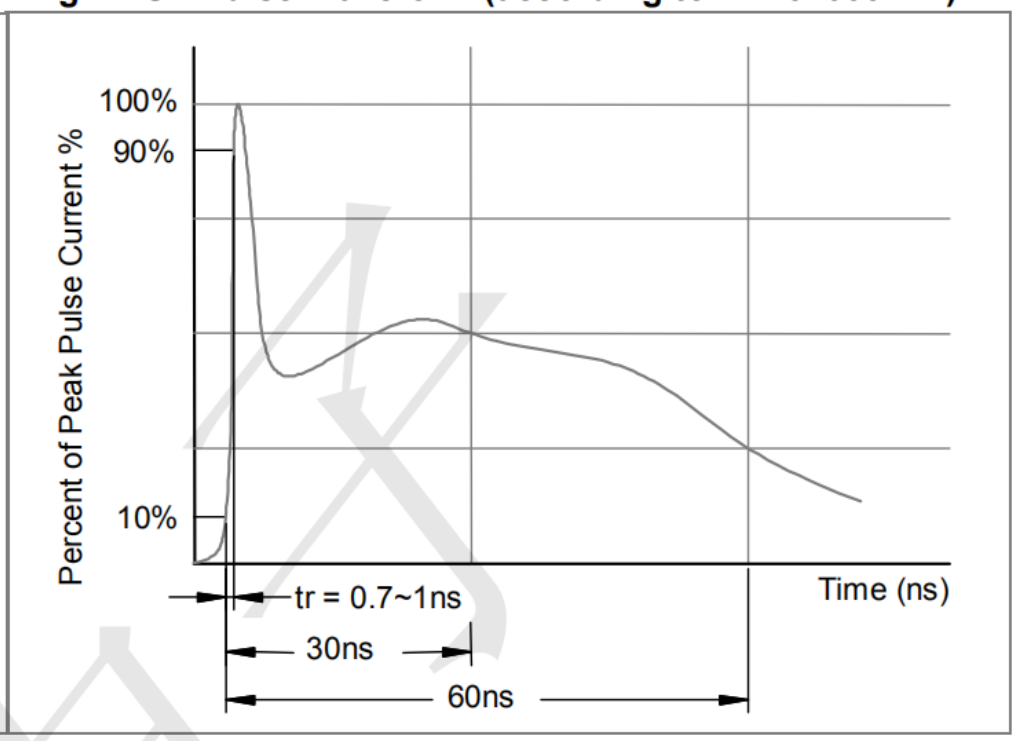
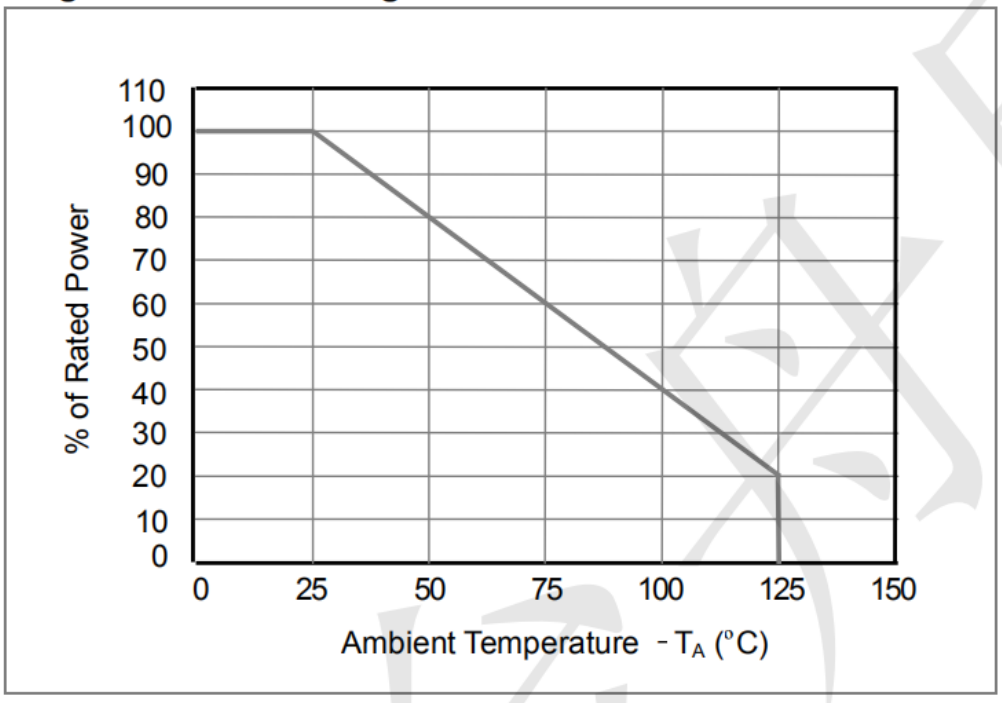
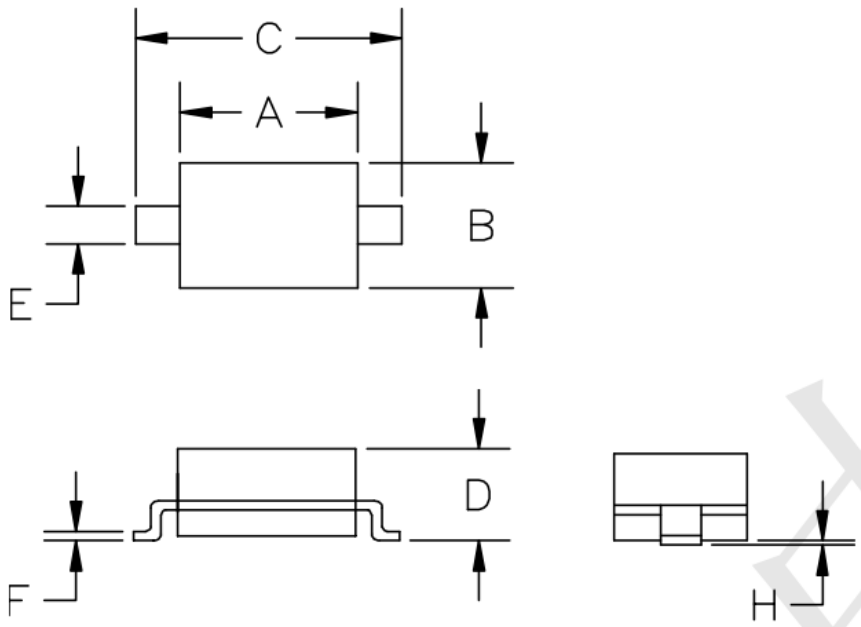


Fig3. Power Derating Curve

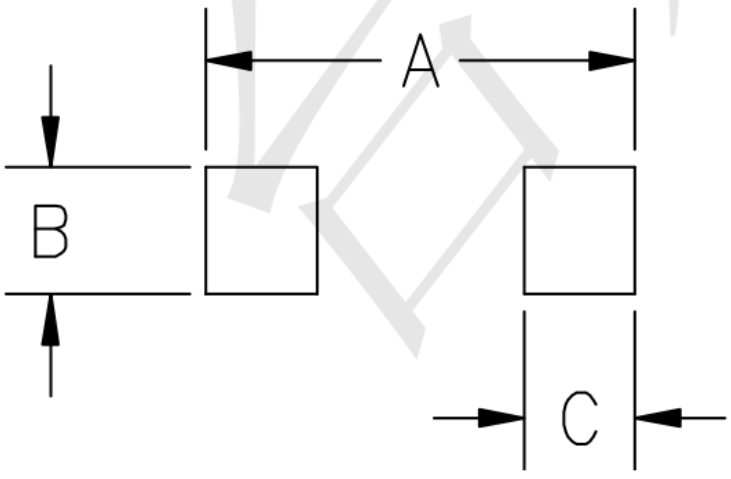


Outline Drawing - SOD-323



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004

Land Pattern - SOD-323



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031