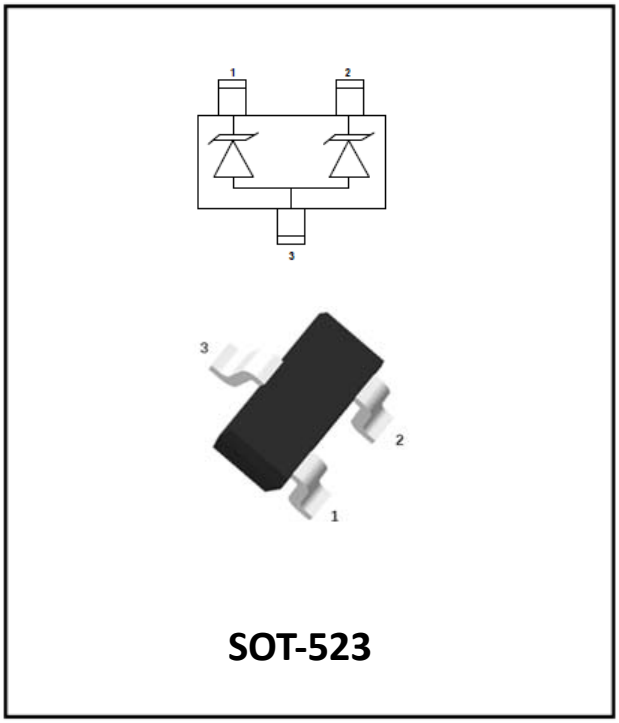
2-Line, Uni-directional, Transient Voltage Suppressor



Features

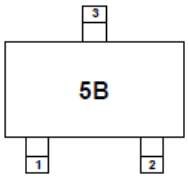
- Stand-off voltage: 5V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): 20kV (contact)
  IEC61000-4-5(surge): 5A (8/20μs)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

Applications

- Mobile Display Digital Interface (MDDI)
- USB 2.0
- Portable Instrumentation
- HBT Power Amplifier Protection
- Infiniband Transceiver Protection
- Firewire Ports

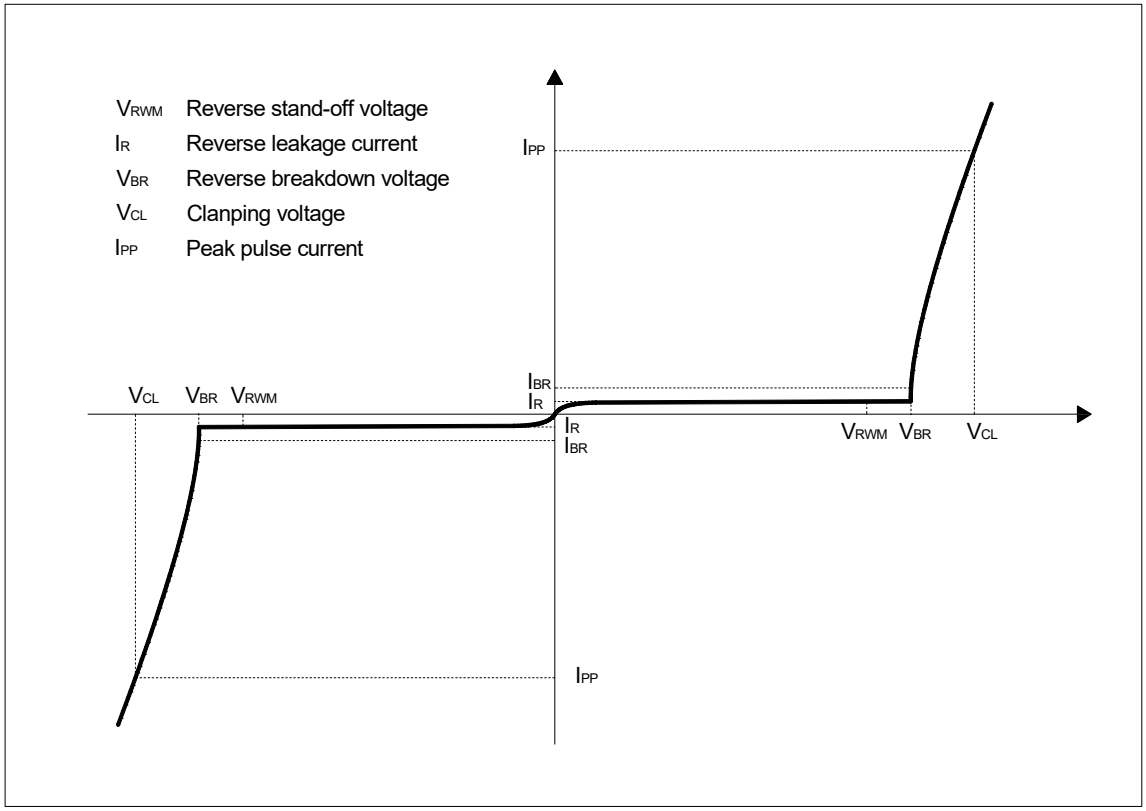
Mechanical Data

- Package: SOT-523
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Marking Information: See Below



5B = Device Marking Code

■Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	80	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±25	KV
ESD according to IEC61000-4-2 contact discharge		±20	
Junction temperature	T_J	-55~150	ºC
Storage temperature	T_{STG}	-55~150	ºC

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V	pin1 or pin2 to pin3 and between pin1 and pin 2			5
Reverse leakage current	I_R	μA	VRWM = 5V,pin1 or pin2 to pin 3 and between pin 1 and pin 2			0.5
Reverse breakdown voltage	V_{BR}	V	IT = 1mA,pin 1 or pin 2 to pin 3	6		
Clamping voltage [1)]	V_{CL}	V	IPP = 1A, tp = 8/20μs, pin 1 pin 2			9
		V	IPP = 5A, tp = 8/20μs, pin 1 or pin 2 to pin 3			16
Junction capacitance	C_J	pF	VR = 0V, f = 1MHz, pin 1 to pin 2		0.3	
Junction capacitance	C_J	pF	VR = 0V, f = 1MHz, pin 1 or pin 2 to pin 3		0.6	0.8

Notes:
(1). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSLC0502S5	F1	Approximate 2.7	3000	30000	120000	7” reel

■ Characteristics (Typical)

Fig.1 8/20μs waveform per IEC61000-4-5

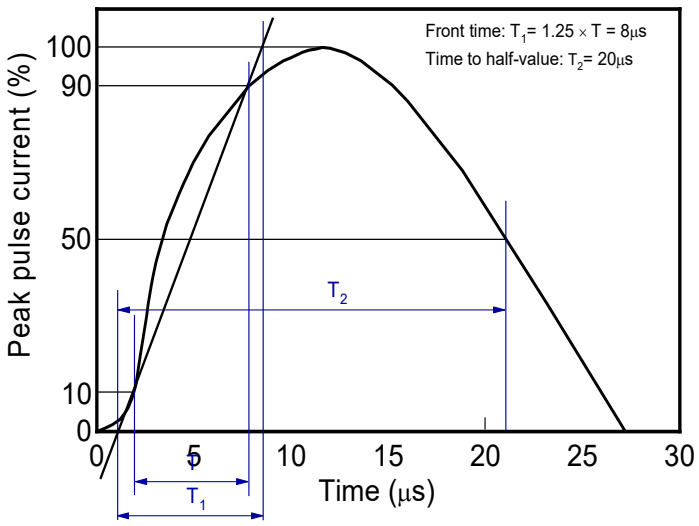


Fig.2 Contact discharge current waveform per IEC61000-4-2

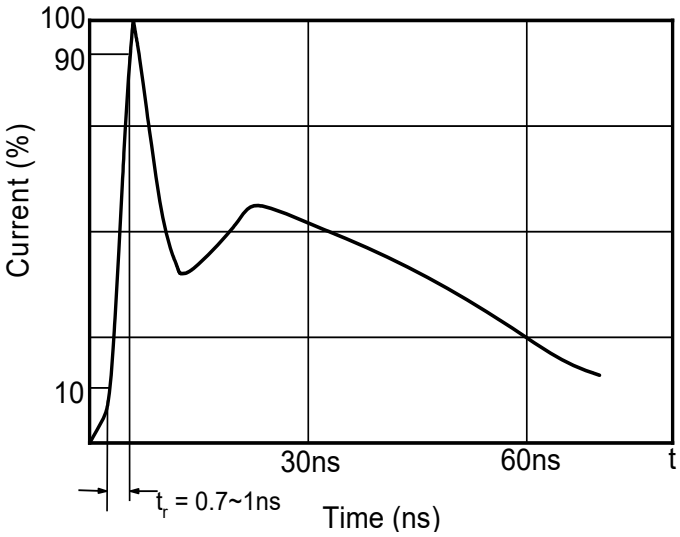


Fig.3 Clamping voltage vs. Peak pulse current

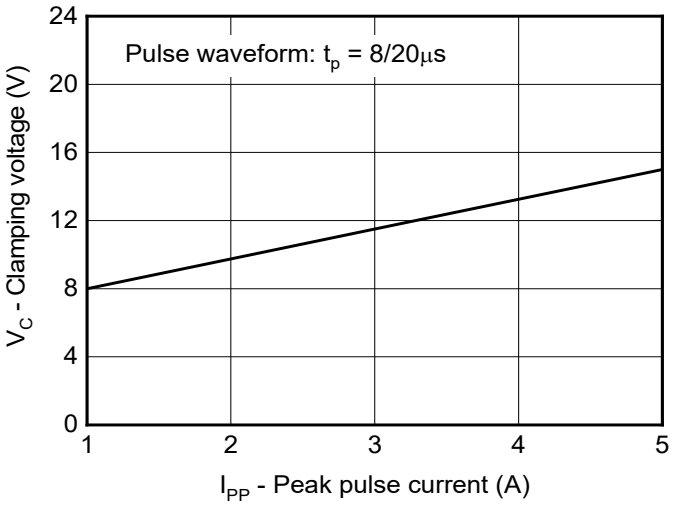


Fig.4 Capacitance vs. Reverse voltage

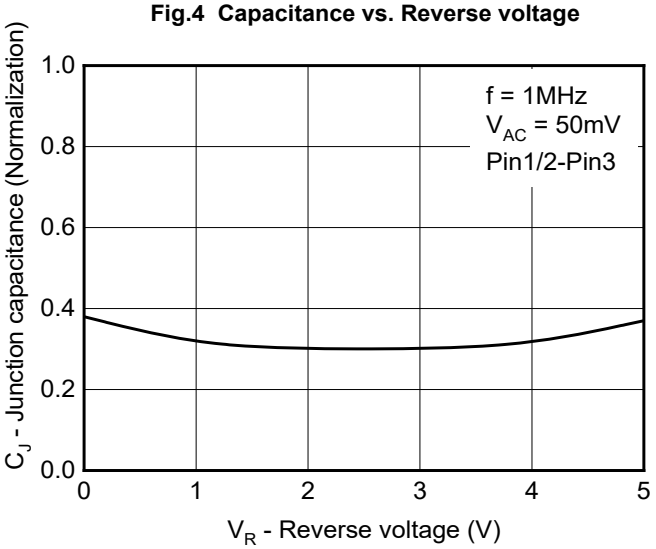


Fig.5 Non-repetitive peak pulse power vs. Pulse time

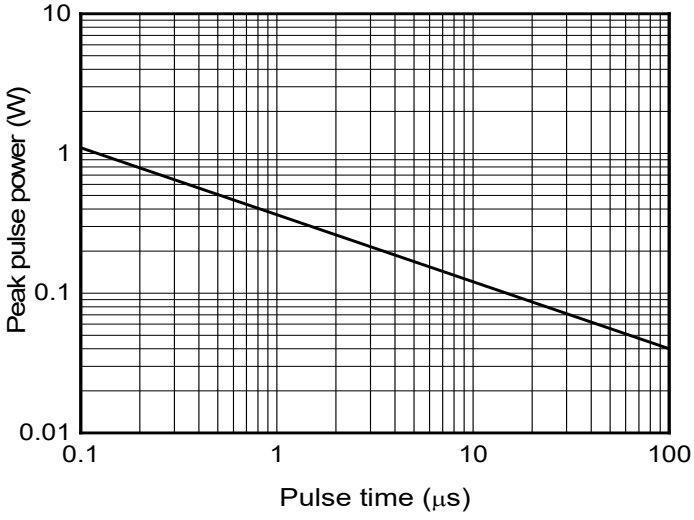


Fig.6 Power derating vs. Ambient temperature

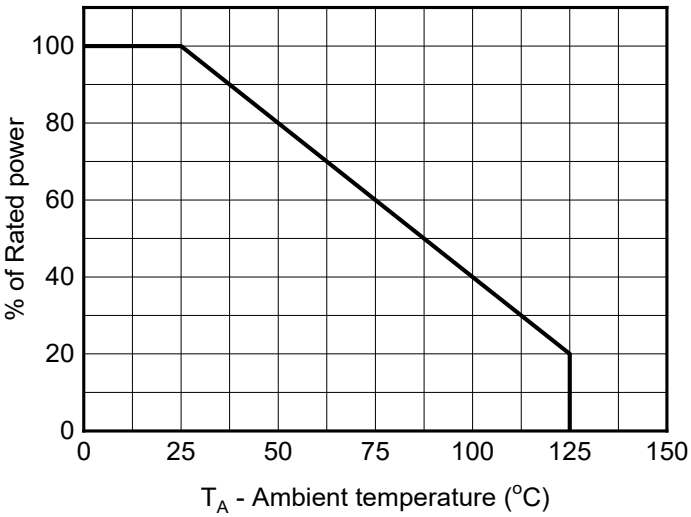


Fig.7 ESD clamping - I/O to GND
(+8kV contact discharge per IEC61000-4-2

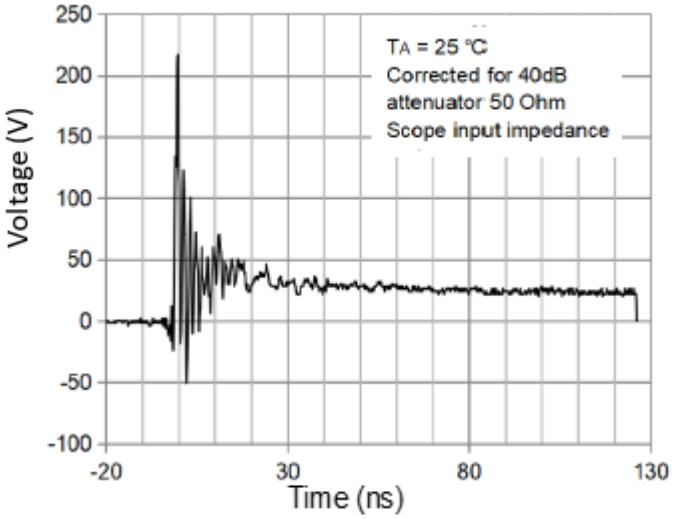
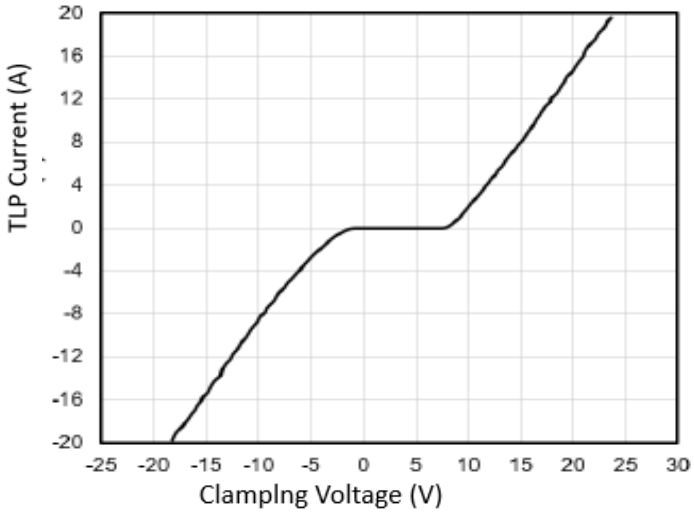
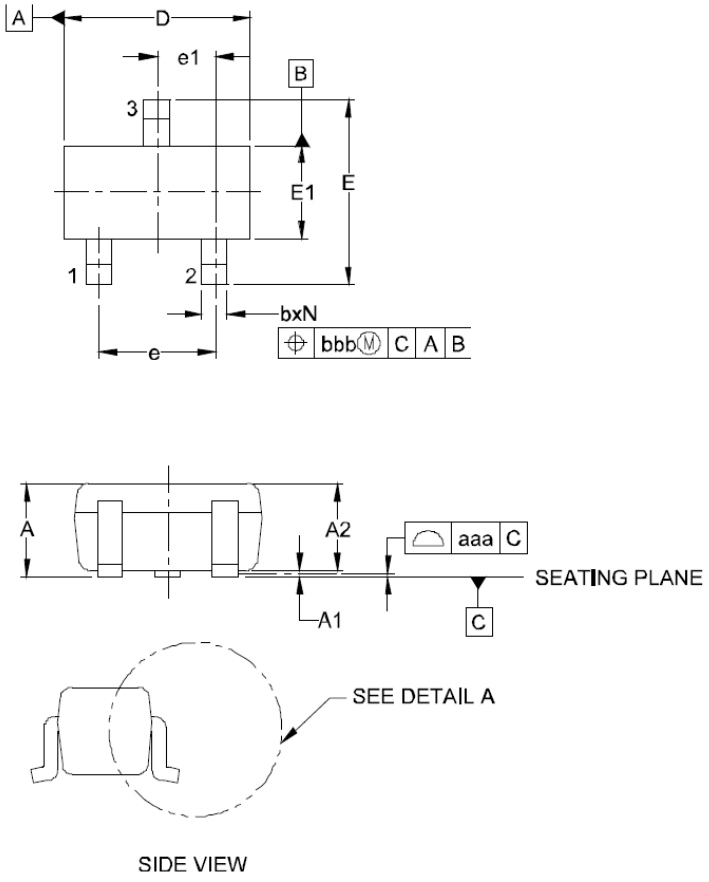


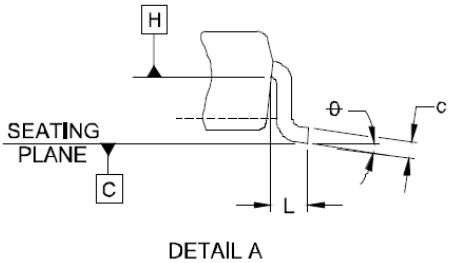
Fig.8 TLP Measurment



■ Outline Dimensions

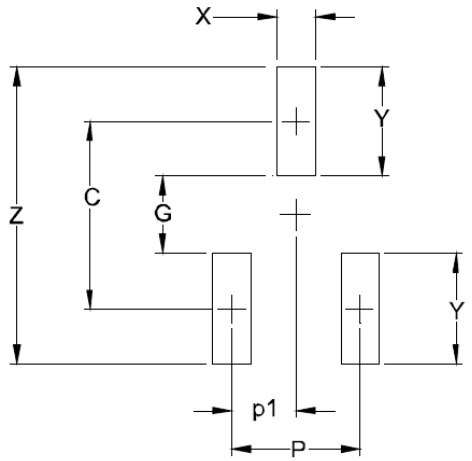


DIMENSIONS						
DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.023	-	.035	0.60	-	0.90
A1	.000	-	.004	0.00	-	0.10
A2	.023	.030	.031	0.60	0.75	0.80
b	.005	-	.012	0.15	-	0.30
c	.003	-	.008	0.10	-	0.20
D	.059	.063	.067	1.50	1.60	1.70
E	.057	.063	.069	1.45	1.60	1.75
E1	.029	.031	.033	0.75	0.80	0.85
e	.039 BSC			1.00 BSC		
e1	.020 BSC			0.50 BSC		
L	(.009)			(0.22)		
N	3			3		
θ	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.008			0.20		



DETAIL A

■ Soldering Footprint



SYM	DIMENSIONS	
	INCHES	MILLIME-TERS
C	(.055)	(1.40)
P	.039	1.00
P1	.020	0.50
G	.024	0.60
X	.016	0.40
Y	.031	0.80
Z	.087	2.20

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