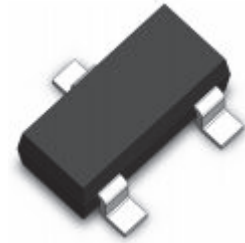
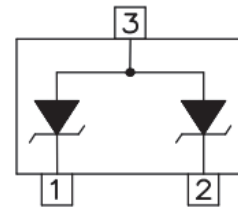


Features

- Stand-off voltage: 5V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): 20kV (contact)
IEC61000-4-5(surge): 5A (8/20 μ s)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant
- Compliant to Halogen-free
- Suffix “-Q1” for AEC-Q101



SOT-523



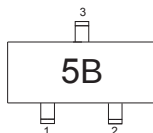
PIN Configuration

Applications

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

Mechanical Characteristics

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



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	80	W
Peak pulse current ($t_p = 8/20\mu s$)	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 to +150	$^{\circ}C$
Storage temperature	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Characteristics (TA=25 $^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}	pin1 or pin2 to pin3 and between pin1 and pin 2			5	V
Reverse breakdown voltage	V_{BR}	$I_T = 1mA$, pin1 or pin2 to pin 3	6			V
Reverse leakage current	I_R	$V_{RWM} = 5V$, pin1 or pin2 to pin 3 and between pin1 and pin 2			0.5	μA
Clamping voltage ¹⁾	V_{CL}	$I_{PP} = 1A$, $t_p = 8/20\mu s$, pin1 pin2			9	V
		$I_{PP} = 5A$, $t_p = 8/20\mu s$, pin1 or pin2 to pin3			16	V
Junction capacitance	C_J	$V_R = 0V$, $f = 1MHz$, pin 1 to pin 2		0.3		pF
Junction capacitance	C_J	$V_R = 0V$, $f = 1MHz$, pin 1 or pin2 to pin 3		0.6	0.8	pF

Notes:

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

Characteristic Curves

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

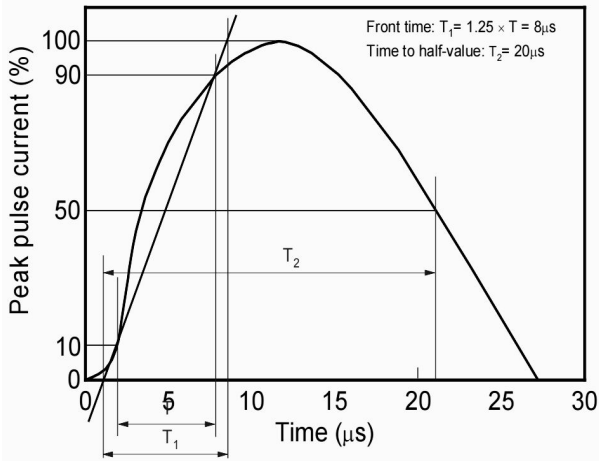


Fig.2 Contact discharge current waveform per IEC61000-4-2

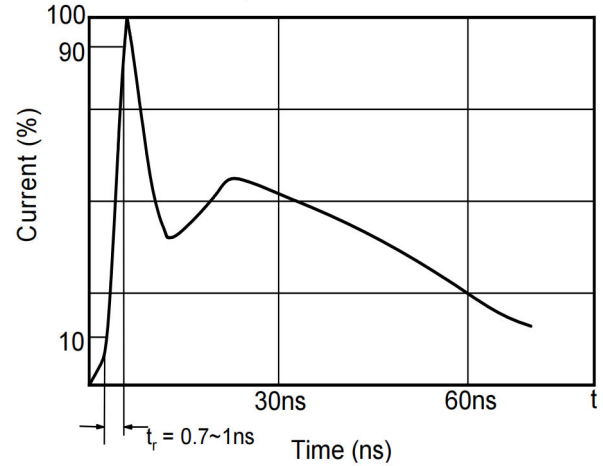


Fig.3 Clamping voltage vs. Peak pulse current

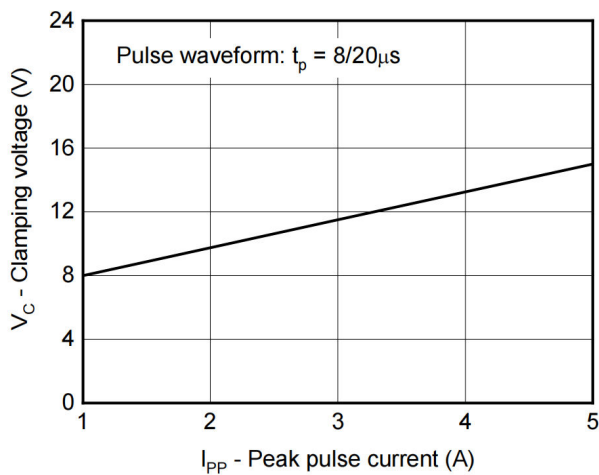


Fig.4 Capacitance vs. Reverse voltage

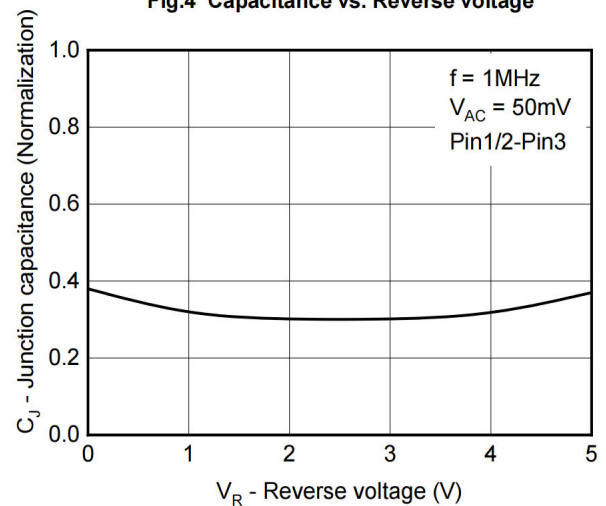


Fig.5 Non-repetitive peak pulse power vs. Pulse time

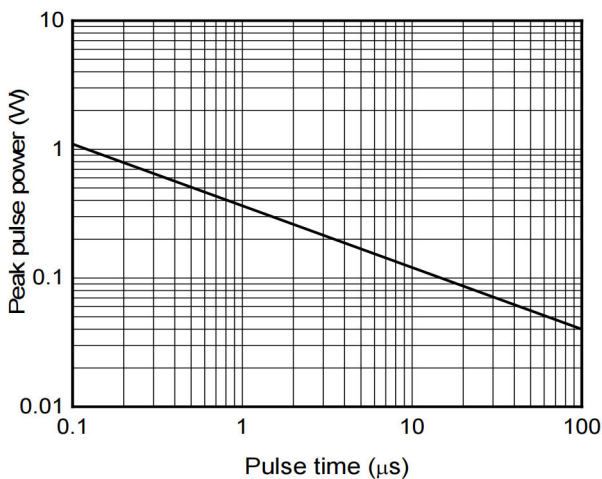
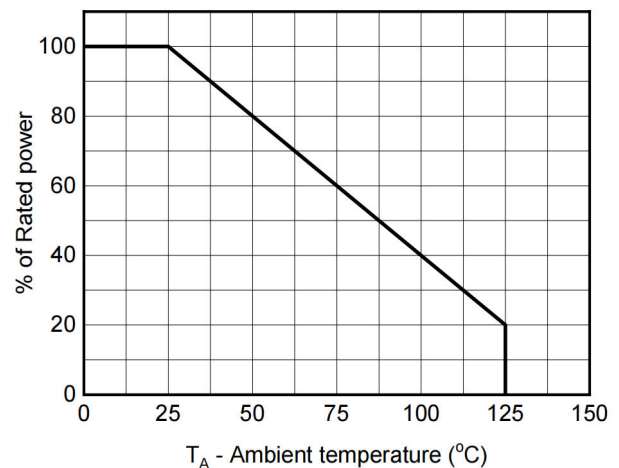


Fig.6 Power derating vs. Ambient temperature



Characteristic Curves

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

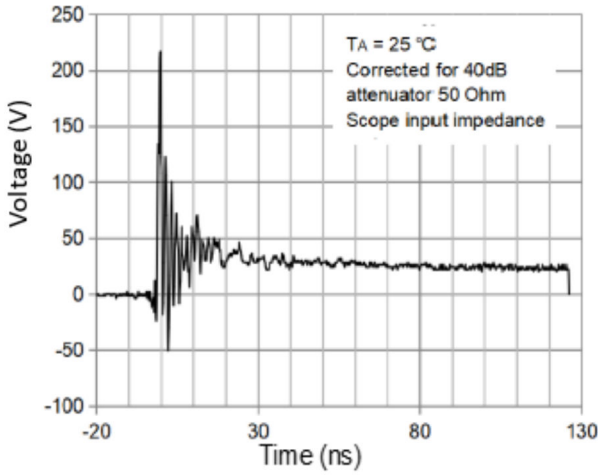
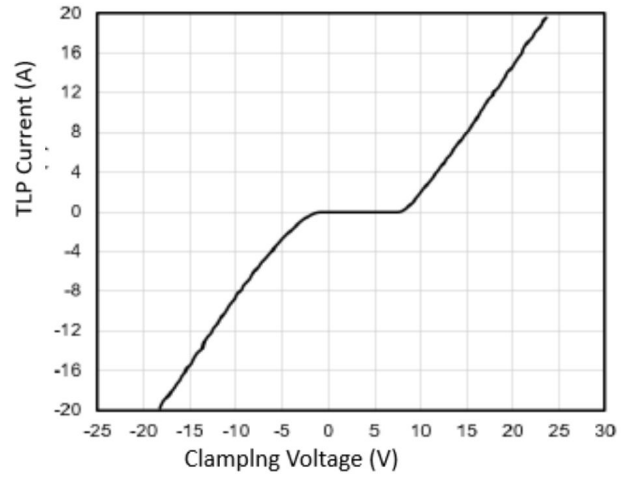
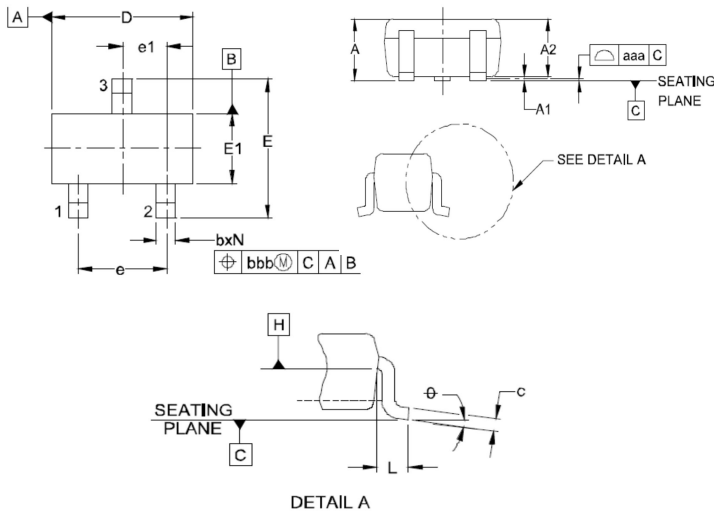


Fig.8 TLP Measurement



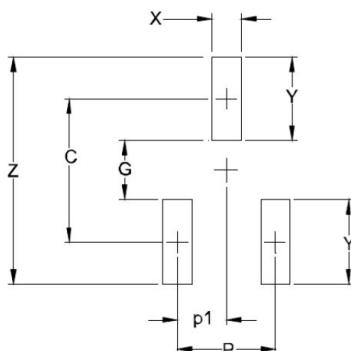
Outline Dimensions

SOT-523



DIM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.023	-	0.035	0.60	-	0.90
A1	0.000	-	0.004	0.00	-	0.10
A2	0.023	0.030	0.031	0.60	0.75	0.80
b	0.005	-	0.012	0.15	-	0.30
c	0.003	-	0.008	0.10	-	0.20
D	0.059	0.063	0.067	1.50	1.60	1.70
E	0.057	0.063	0.069	1.45	1.60	1.75
E1	0.029	0.031	0.033	0.75	0.80	0.85
e	0.039 BSC			1.00 BSC		
e1	0.020 BSC			0.50 BSC		
L	(0.009)			(0.22)		
N	3			3		
θ	0°	-	8°	0°	-	8°
aaa	0.004			0.10		
bbb	0.008			0.20		

Soldering Footprint



SYM	DIMENSIONS	
	INCHES	MILLIMETERS
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