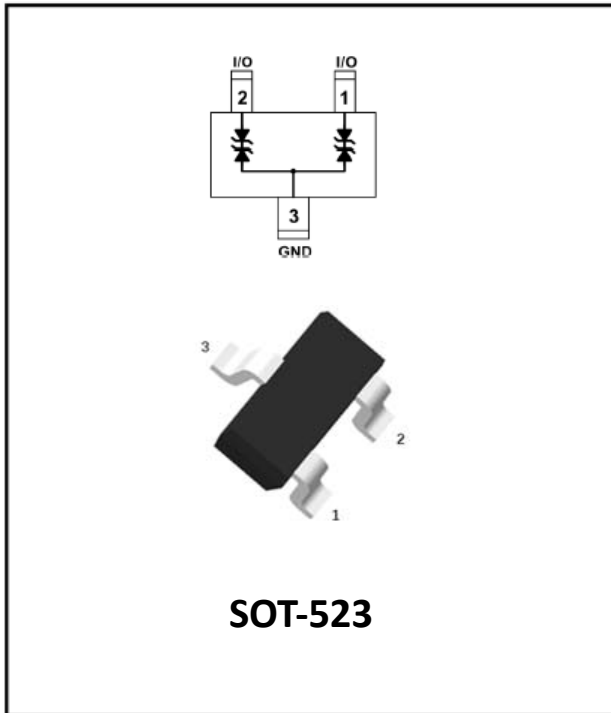


2-Line, Bi-directional, Transient Voltage Suppressor



Features

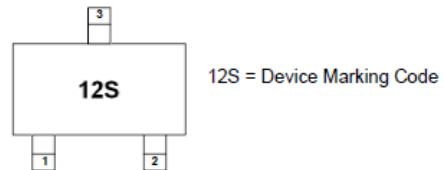
- Stand-off voltage: $\pm 5V$ Max
- Transient protection for each line according to
 - IEC61000-4-2(ESD): $\pm 30kV$ (contact)
 - IEC61000-4-5(surge): 3A (8/20 μs)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

Applications

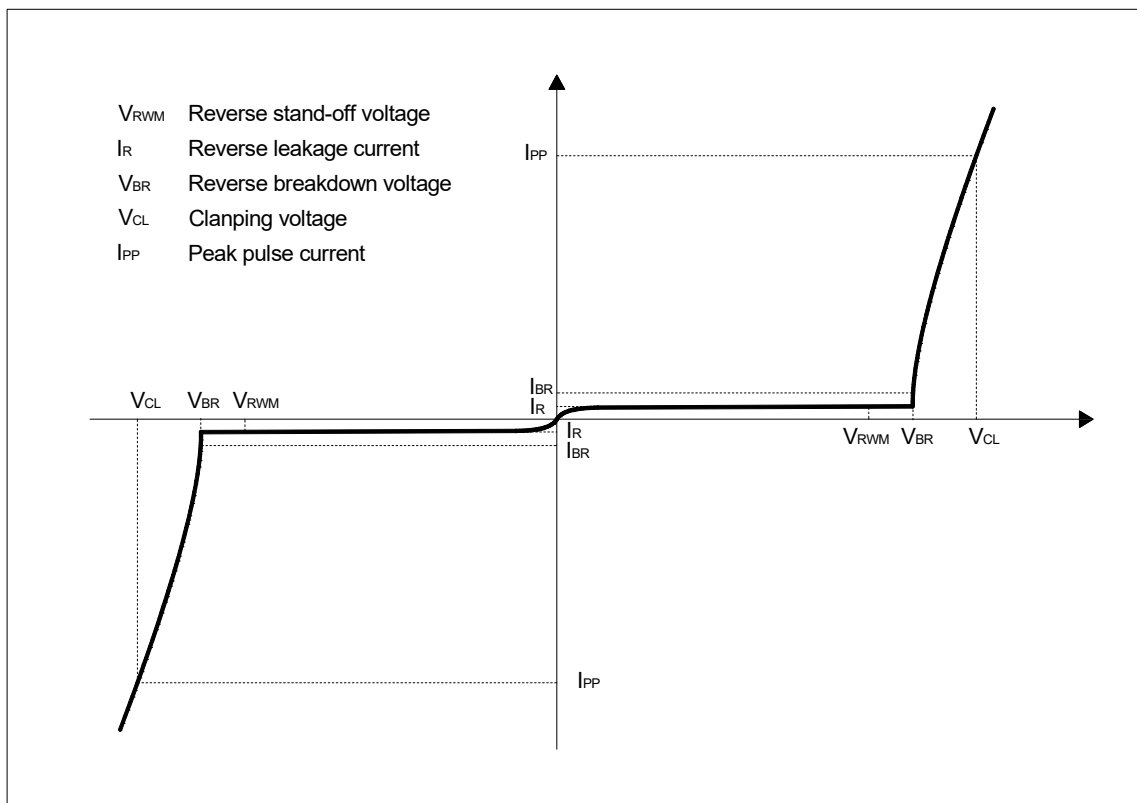
- Mobile Display Digital Interface (MDDI)
- USB 2.0
- Portable Instrumentation
- HBT Power Amplifier Protection
- Infiniband Transceiver Protection
- Firewire Ports

Mechanical Data

- Package: SOT-523
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below



Definitions of electrical characteristics





ESDLC0502S5B

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	36	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{pp}	3	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	
Junction temperature	T_J	-55~150	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

■Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$			0.1
Reverse breakdown voltage	V_{BR}	V	$I_T = 1mA$	6		8
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$			8.5
		V	$I_{PP} = 3A, t_p = 8/20\mu s$			12
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		5	

Notes:

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

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDLC0502S5B	F1	Approximate 2.7	3000	30000	120000	7" reel



■ Characteristics (Typical)

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

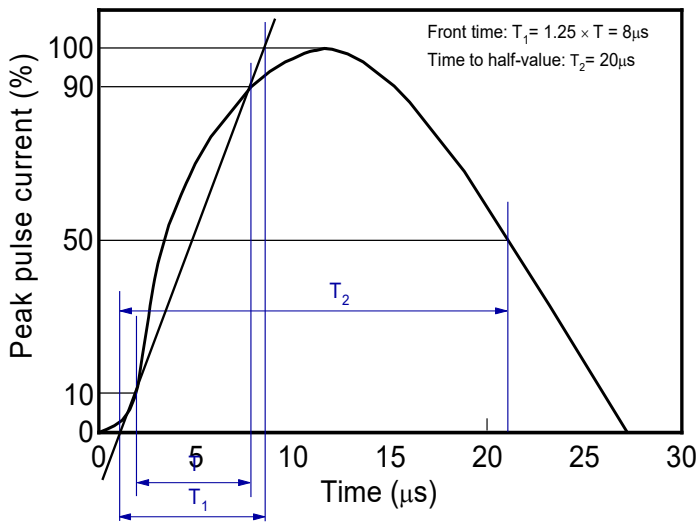


Fig.2 Contact discharge current waveform per IEC61000-4-2

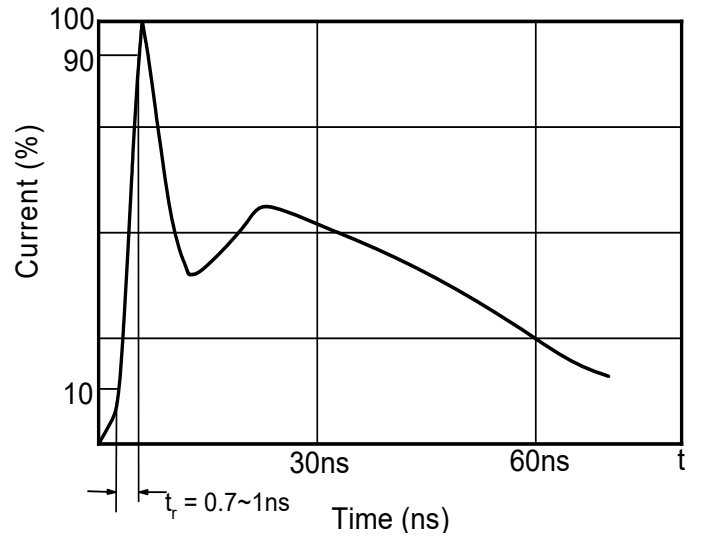


Fig.3 Clamping voltage vs. Peak pulse current

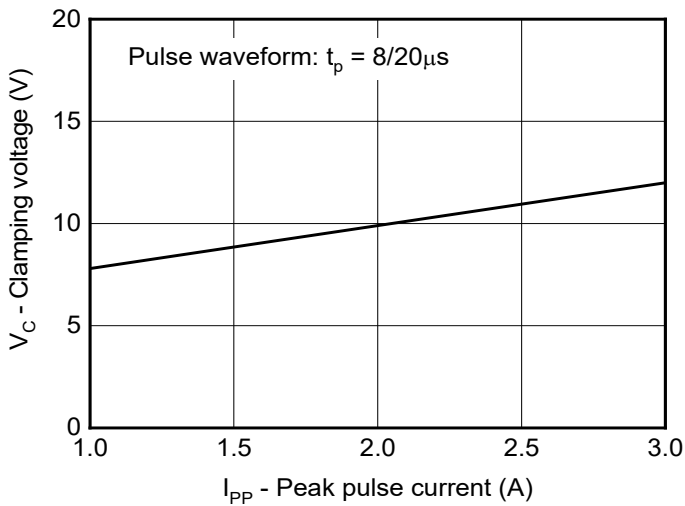


Fig.4 Capacitance vs. Reverse voltage

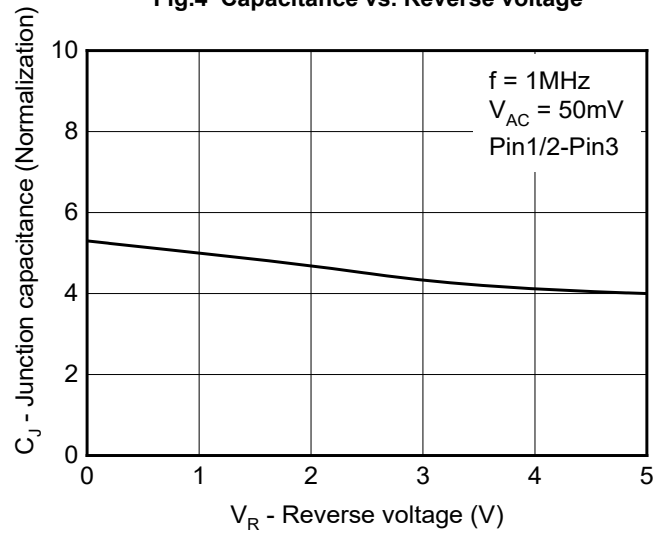


Fig.5 Non-repetitive peak pulse power vs. Pulse time

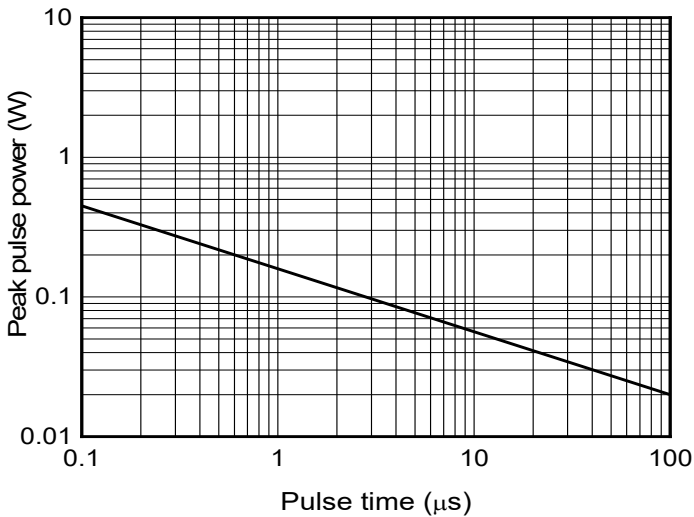


Fig.6 Power derating vs. Ambient temperature

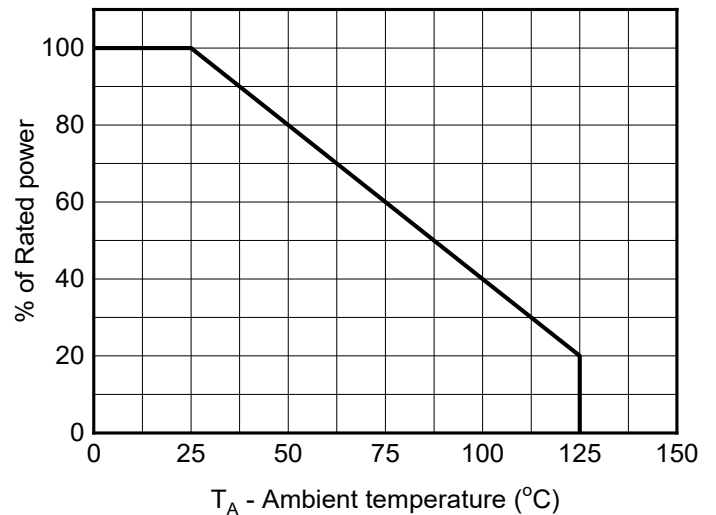
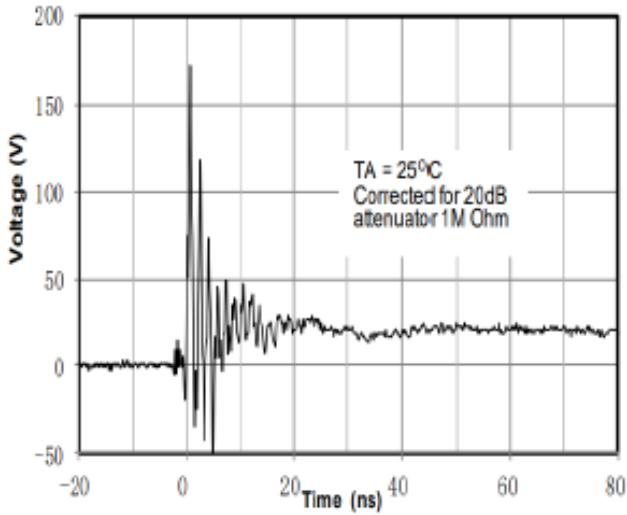
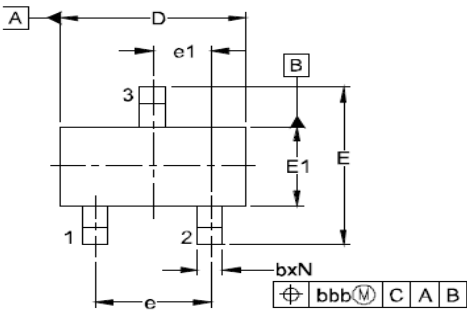


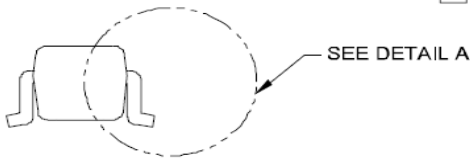
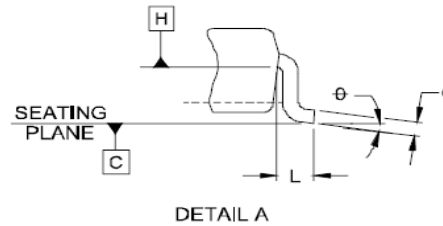
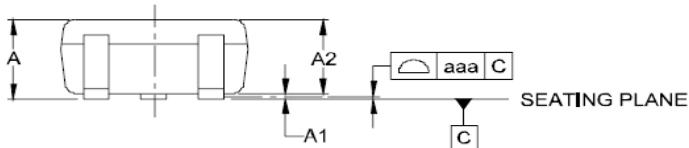
Fig.7 ESD clamping - I/O to GND
 (+8kV contact discharge per IEC61000-4-2)



■ Outline Dimensions



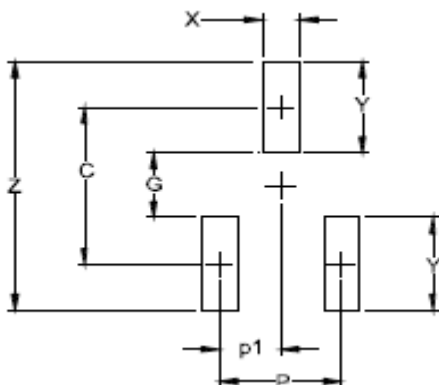
DIM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.023	-	.035	0.60	-	0.90
A1	.000	-	.004	0.00	-	0.10
A2	.023	.030	.031	0.60	0.75	0.80
b	.005	-	.012	0.15	-	0.30
c	.003	-	.008	0.10	-	0.20
D	.059	.063	.067	1.50	1.60	1.70
E	.057	.063	.069	1.45	1.60	1.75
E1	.029	.031	.033	0.75	0.80	0.85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



SIDE VIEW

DETAIL A

■ 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



ESDLC0502S5B

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