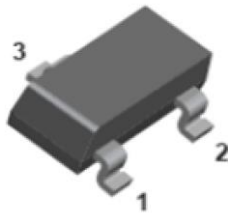
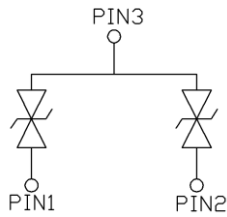


2-Line, Bi-directional, Transient Voltage Suppressor



SOT-23

Features

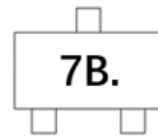
- Ultra small package
- Stand-off voltage: 7V Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
- IEC61000-4-5(surge): 22A (8/20 μs)
- Ultra-low capacitance: $C_J = 50\text{ pF}$ typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC

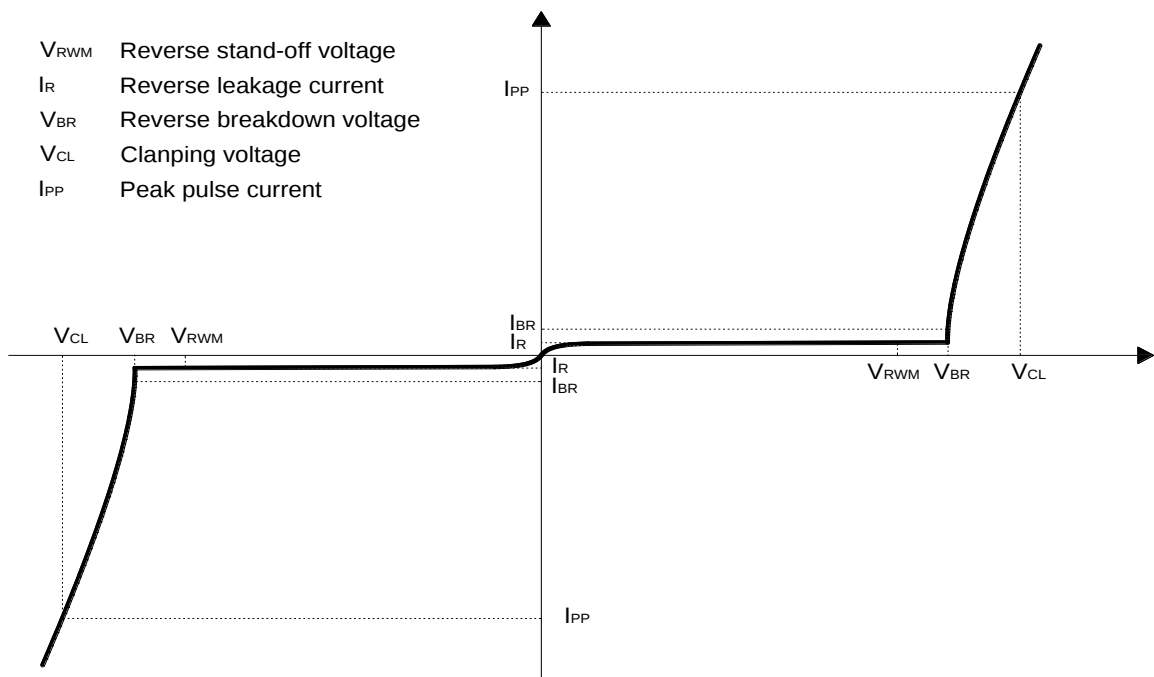
Mechanical Characteristics

- Package: SOT-23
- Case Material: "Green" Molding Compound.
- Marking Information: See Below



■Definitions of electrical characteristics

- V_{RWM} Reverse stand-off voltage
 I_R Reverse leakage current
 V_{BR} Reverse breakdown voltage
 V_{CL} Clamping voltage
 I_{PP} Peak pulse current





ESD0702EB

■Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	330	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	22	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	KV
Junction temperature	T_J	125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				7
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	7.5		9.5
Reverse leakage current	I_R	nA	$V_{RWM} = 7V$			500
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$			9
		V	$I_{PP} = 7A, t_p = 8/20\mu s$			15
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		50	60

(1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

(2). Contact discharge mode, according to IEC61000-4-2.

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

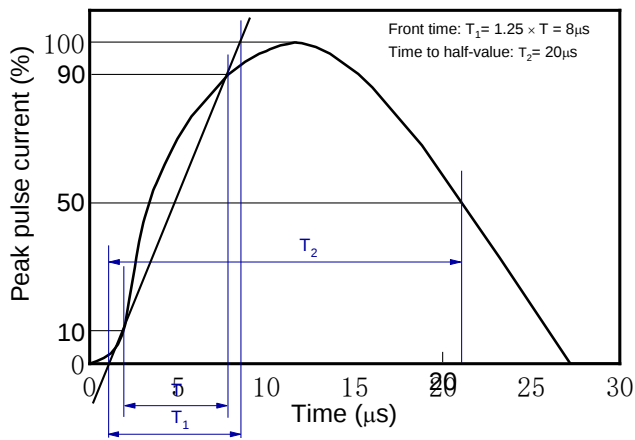
■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD0702EB	Approximate 10	3000	30000	120000	Tae& reel

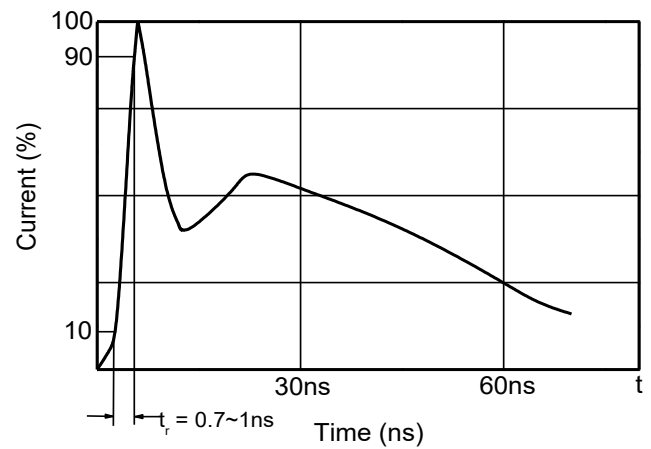


■ Typical Performance Characteristics (Ta=25°C unless otherwise Specified)

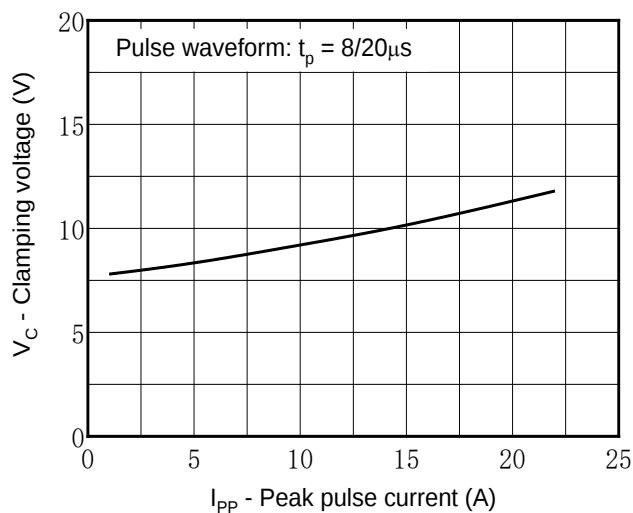
8/20μs waveform per IEC61000-4-5



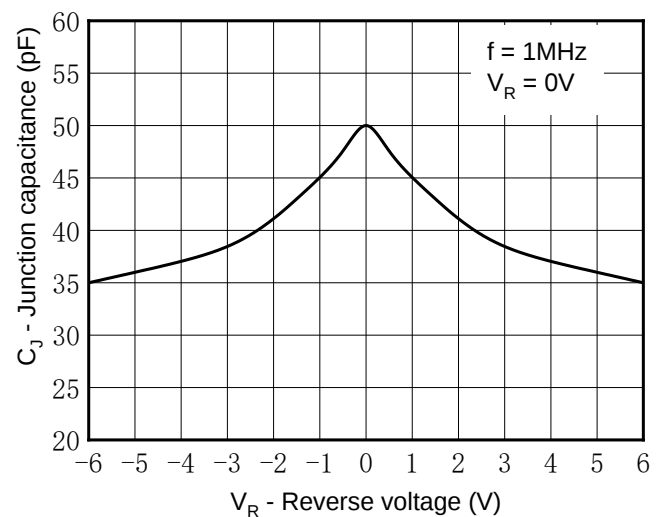
Contact discharge current waveform per IEC61000-4-2



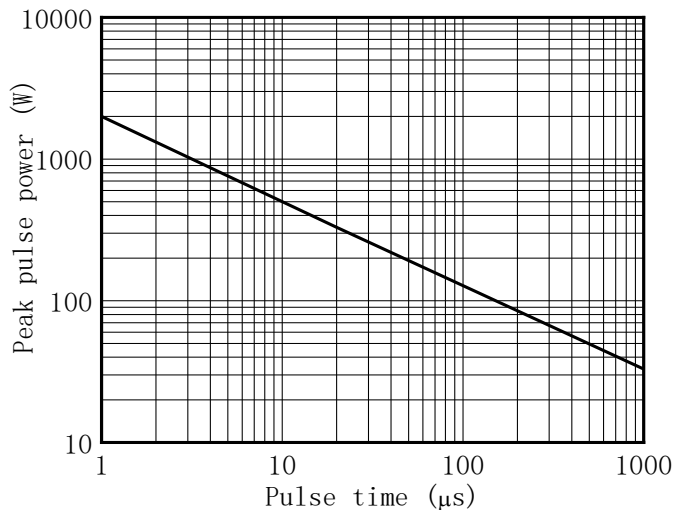
Clamping voltage vs. Peak pulse current



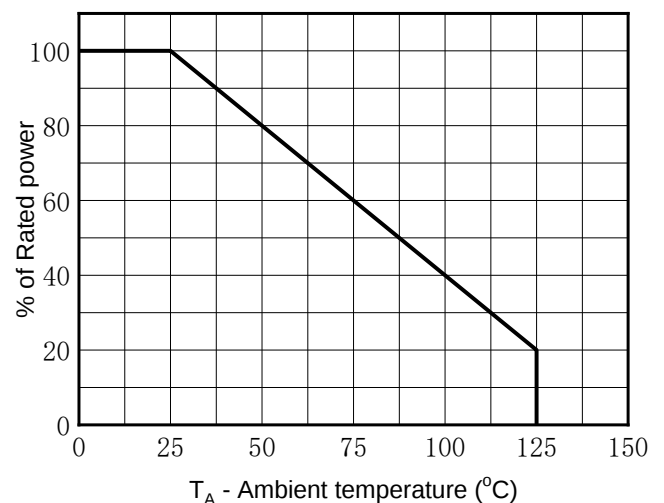
Capacitance vs. Reverse voltage



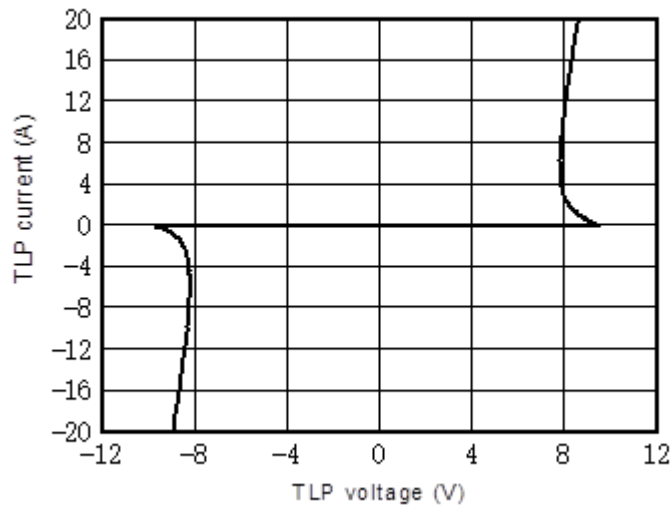
Non-repetitive peak pulse power vs. Pulse time



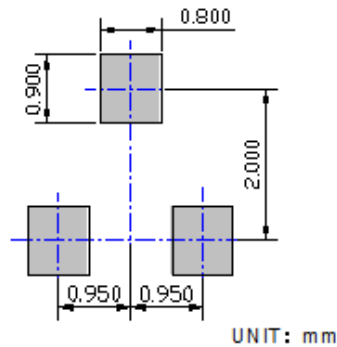
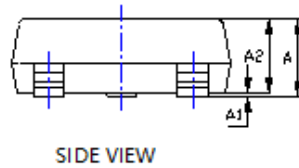
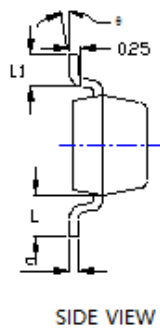
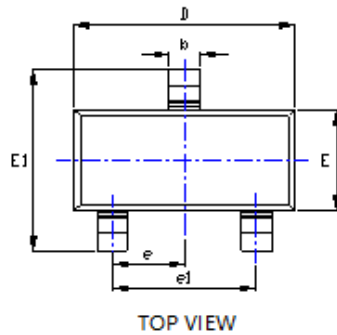
Power derating vs. Ambient temperature



TLP Measurment



■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

NOTE:
 1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
 2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
 3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



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