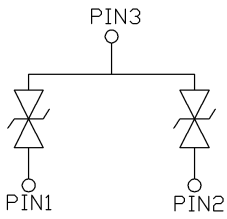
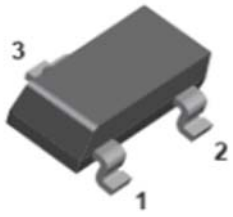
2-Line, Bi-directional, Transient Voltage Suppressor





SOT-23

Features

- Stand-off voltage: ±24V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 8A (8/20μs)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

Applications

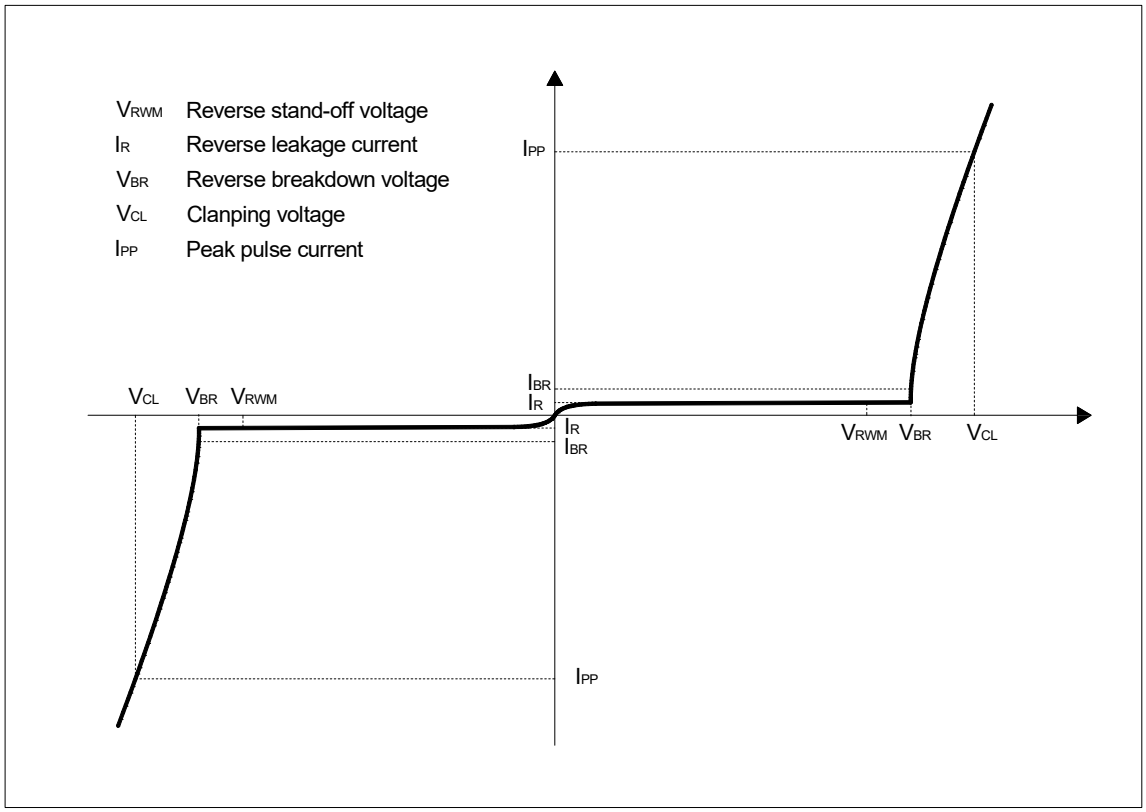
- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC

Mechanical Data

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below



■Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	350	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	8	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	150	℃
Storage temperature	T_{STG}	-55~150	℃

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

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				±24
Reverse leakage current	I_R	μA	V_{RWM} = 24V			0.5
Reverse breakdown voltage	V_{BR}	V	I_T = 1mA	26.4		31
Clamping voltage [1)]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs		31	34
		V	I_{PP} = 5A, t_p = 8/20μs		36	40
		V	I_{PP} = 8A, t_p = 8/20μs		41	44
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		20	30

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
ESD2402EB	F2	Approximate 8	3000	30000	120000	7” reel

■ Characteristics (Typical)

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

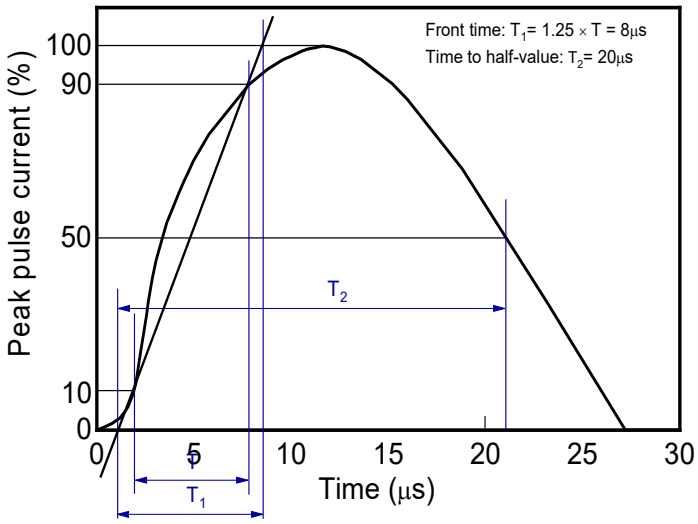


Fig.2 Contact discharge current waveform per IEC61000-4-2

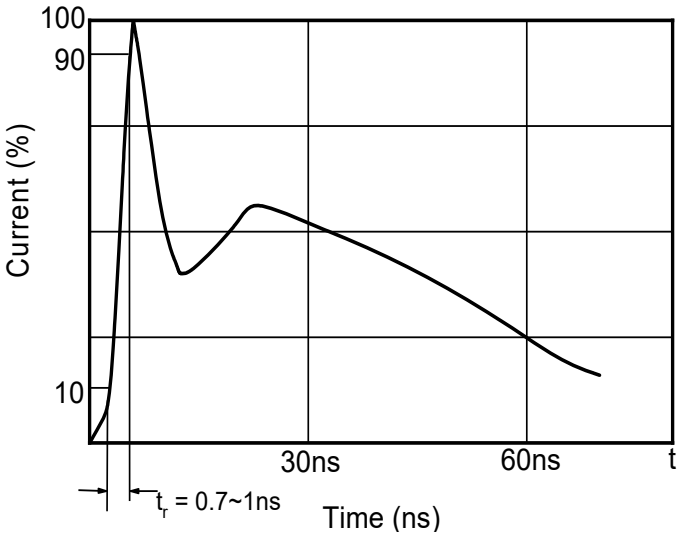


Fig.3 Clamping voltage vs. Peak pulse current

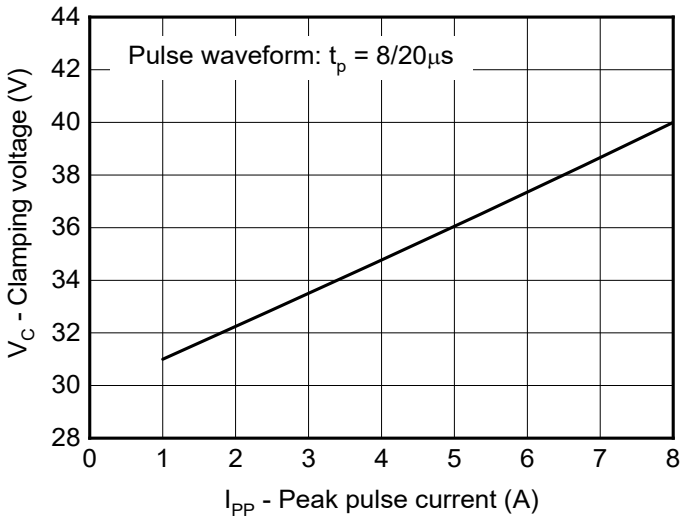


Fig.4 Capacitance vs. Reverse voltage

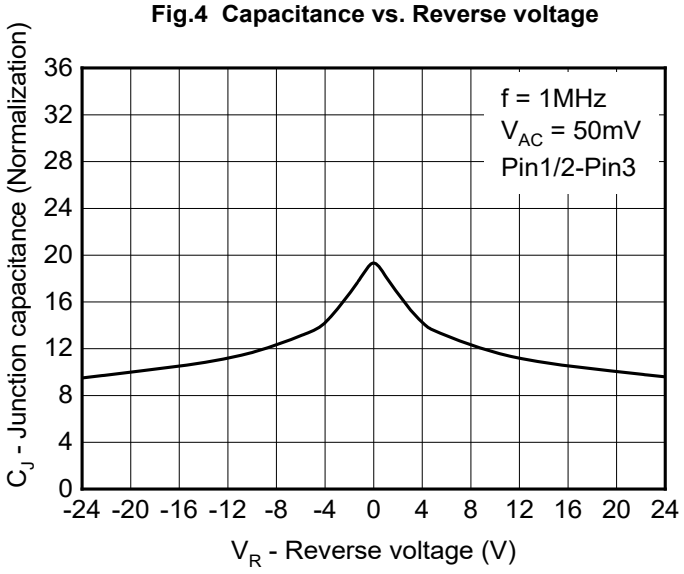


Fig.5 Non-repetitive peak pulse power vs. Pulse time

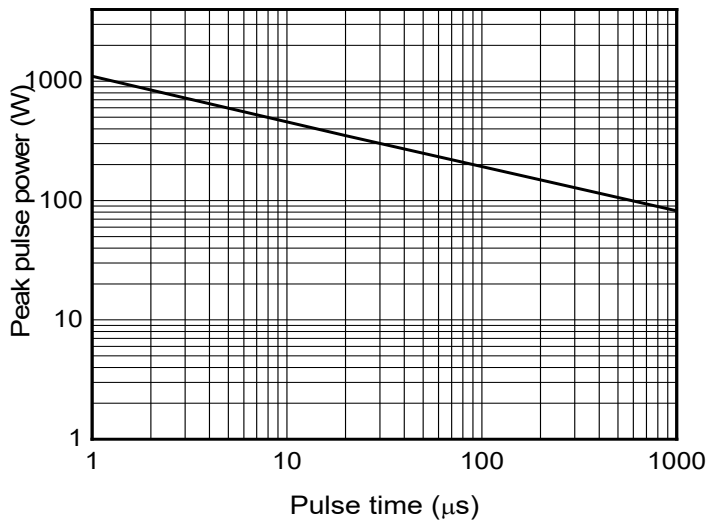
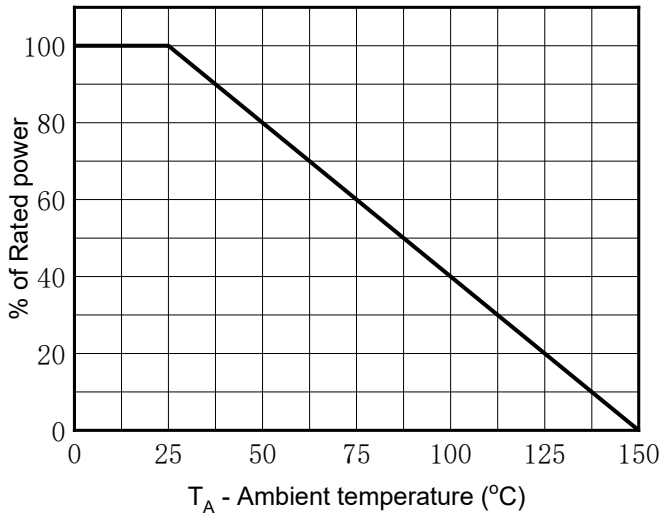
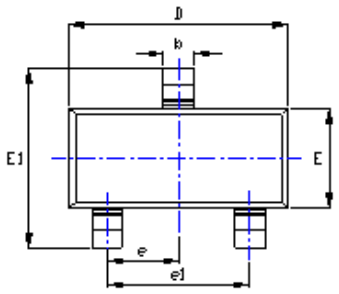


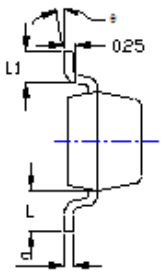
Fig6. Power derating vs. Ambient temperature



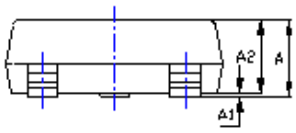
■ Outline Dimensions



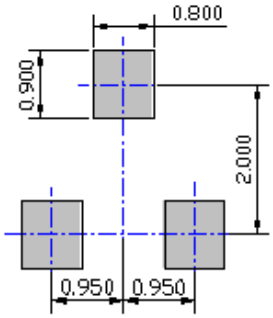
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

DIMENSIONS				
SYMBOL	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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