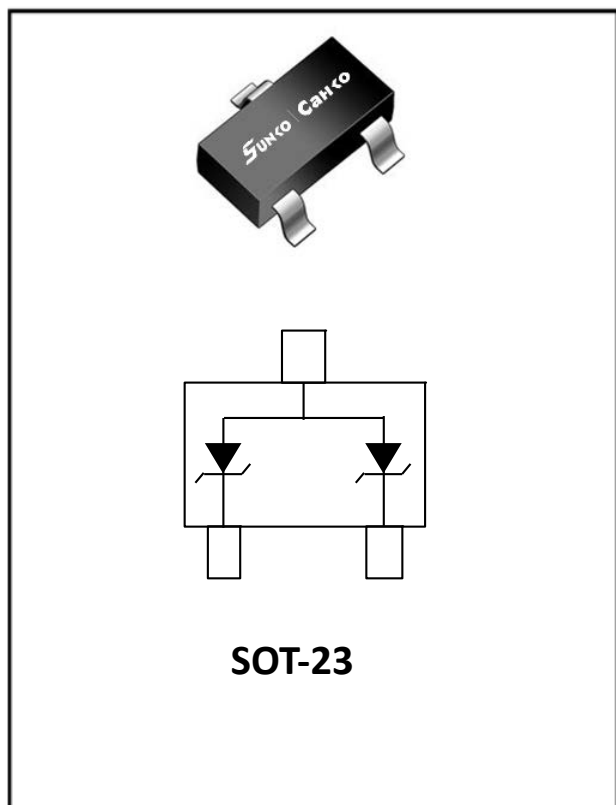


2- Line, Uni-directional, Transient Voltage Suppressor



Features

- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ contact, $\pm 30\text{kV}$ air IEC61000-4-5:8A($t_p=8/20\mu\text{s}$)
- Low leakage current
- Ultra low clamping voltage
- Compliant

Applications

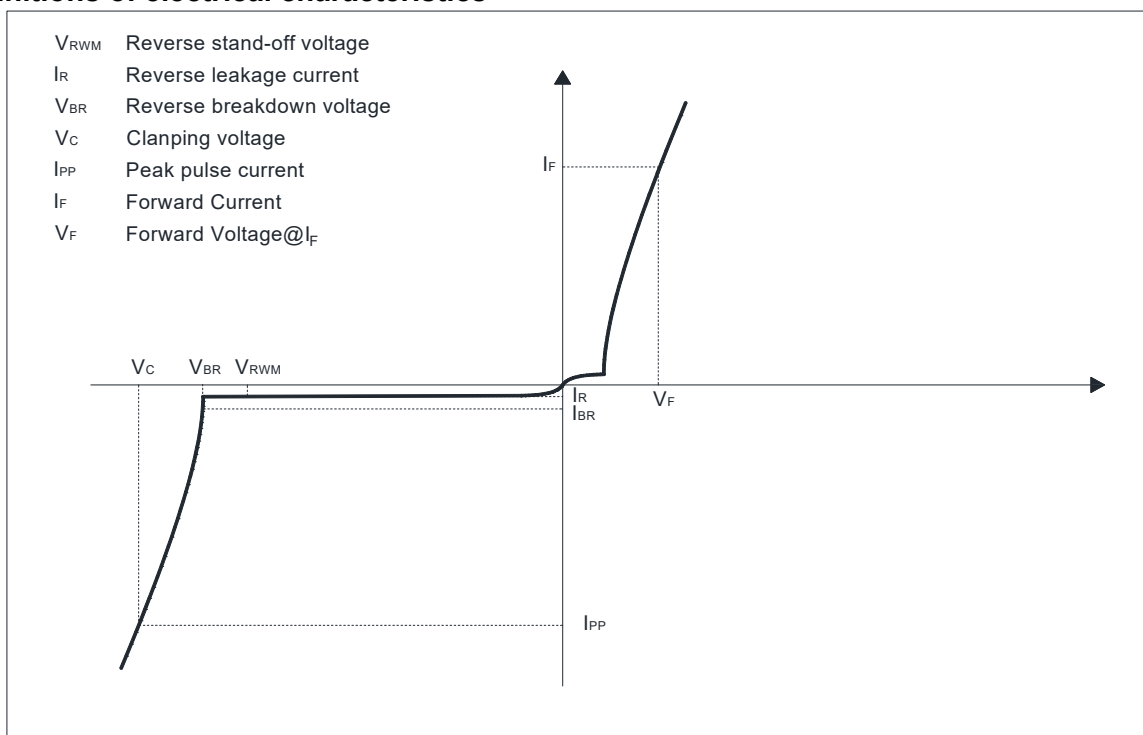
- Switches / Buttons
- Test Equipment/Instrumentation
- Point-of-Sale Terminals
- Medical Equipment
- Notebooks / Desktops / Servers
- Computer Peripherals

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 ($t_p = 8/20\mu s$)	P_{pk}	280	W
Peak pulse current ($t_p = 8/20\mu s$)	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	-55~150	°C
Storage temperature	T_{STG}	-55~150	°C

Notes:

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

■Electrical Characteristics ($T_J=25^\circ C$)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				15
Reverse leakage current	I_R	μA	$V_{RWM} = 15V$			1.0
Reverse breakdown voltage	V_{BR}	V	$I_T = 1mA$	16.1		19
Forward Voltage	V_F	V	$I_F = 10mA$			1.25
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 16A, t_p = 0.2/100ns(TLP)$		19	
Dynamic resistance ²⁾	R_{DYN}	Ω	TLP, $t_p = 100ns$, I/O to Ground		0.19	
Clamping voltage ¹⁾	V_C	V	$I_{PP} = 1A, t_p = 8/20\mu s$			24
			$I_{PP} = 5A, t_p = 8/20\mu s$			30
			$I_{PP} = 8A, t_p = 8/20\mu s$			35
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		45	55

Notes:

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

(2). 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.

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD1502E	F2	Approximate 10	3000	30000	120000	7 reel

■ Characteristics (Typical)

Fig.1 8/20us Waveform Per IEC6100-4-5

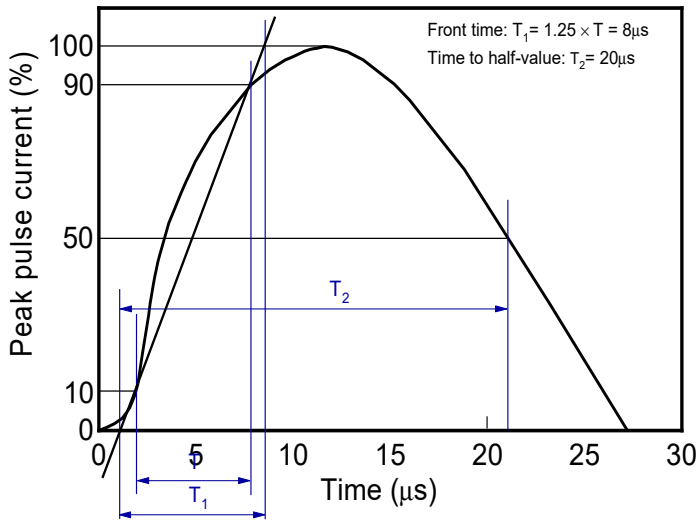


Fig.3 Clamping Voltage VS Peak Pulse Current

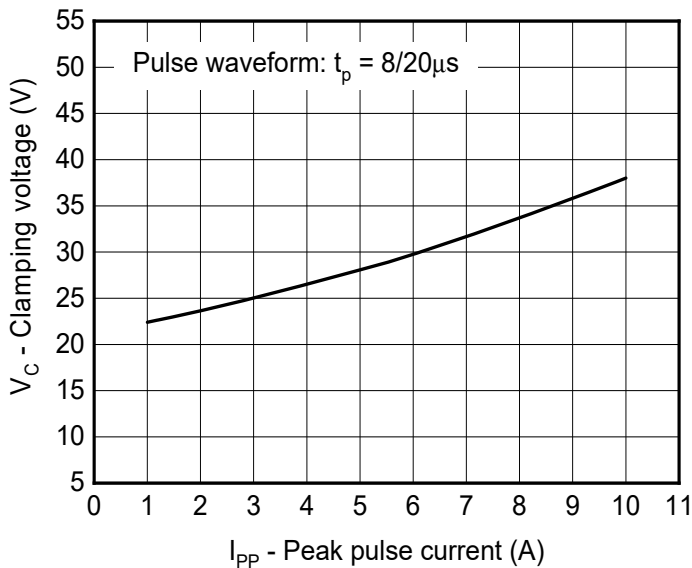


Fig.4 Non-Repetitive Peak Pulse Power vs Pulse Time

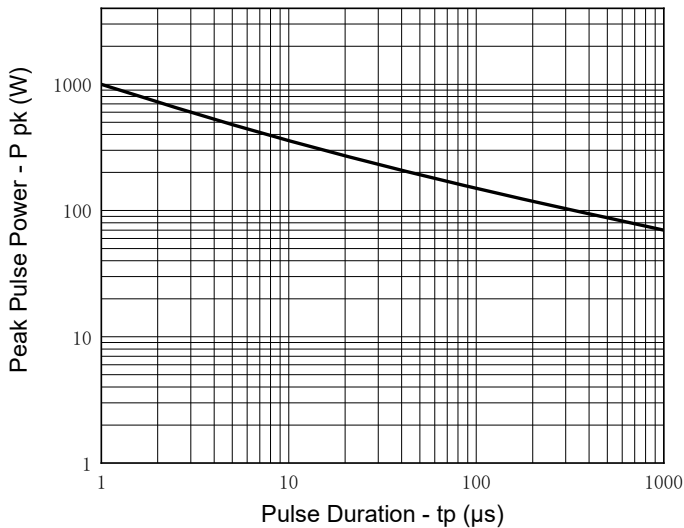


Fig.2 Contact Discharge Current Waveform per IEC61000-4-2

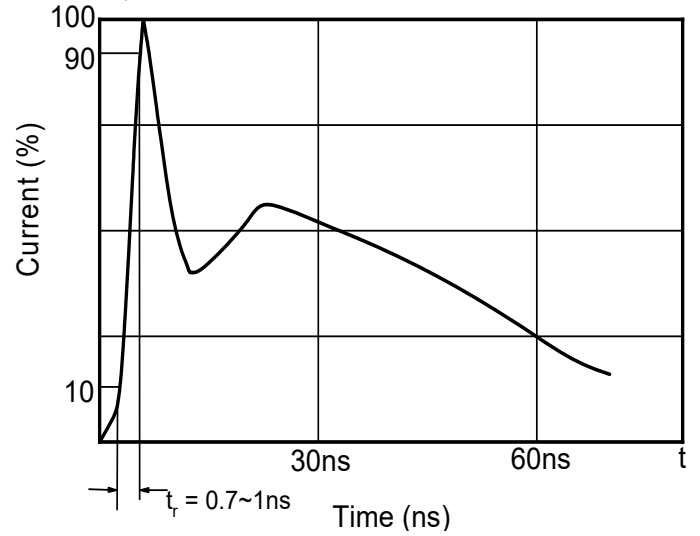


Fig.4 Capacitance VS Bias

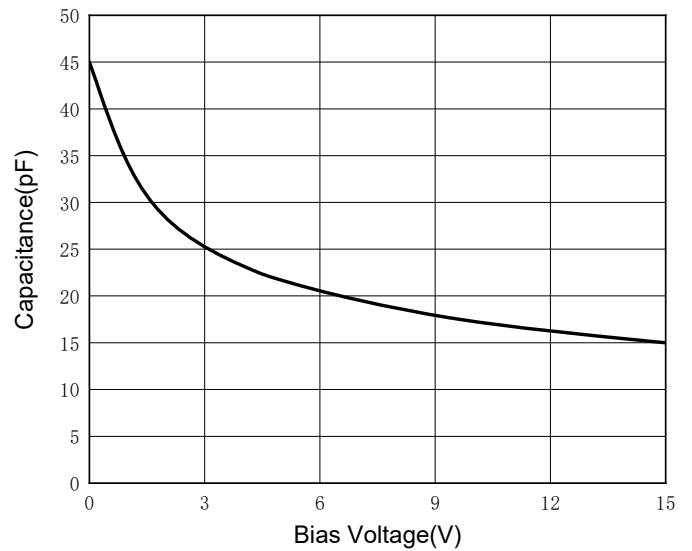


Fig.5 Power Derating Curve

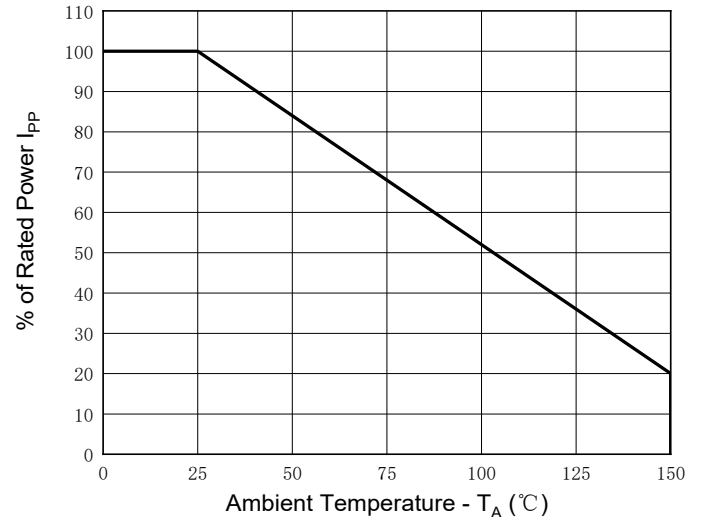
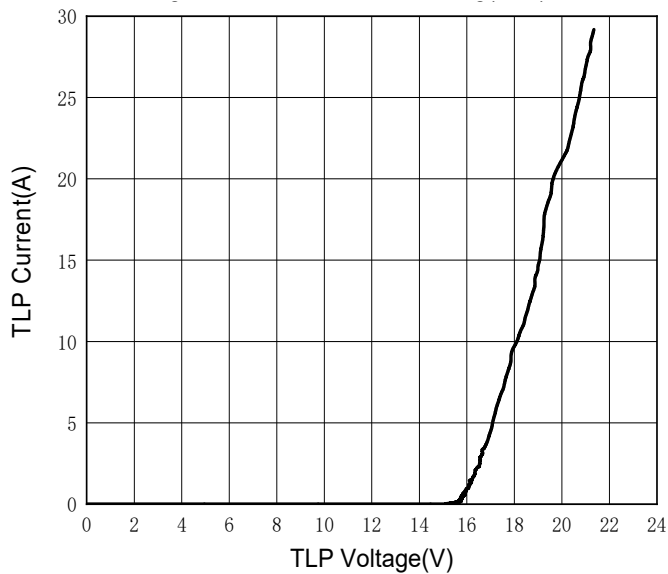
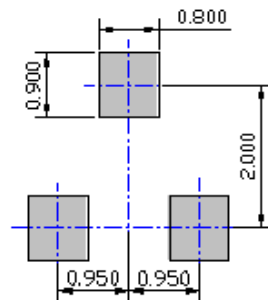
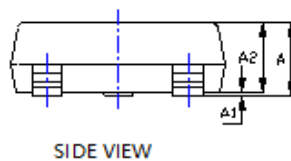
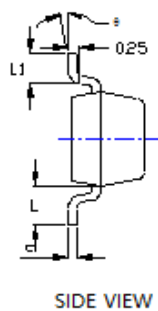
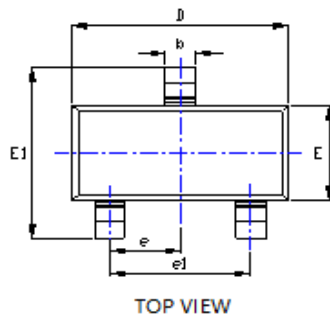


Fig.6 Trans mission Line Pulsing(TLP)Plot



■ Outline Dimensions



UNIT: mm

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.

Disclaimer

The information presented in this document is for reference only. Shanghai Sunco Electronics Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, life-saving, lifesustaining, or military. Russiansunco or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.russiansunco.com> , or consult your nearest Russiansunco's sales office for further assistance.