



2-Line Bi-directional TVS Diode Array

DESCRIPTION

The SESD24M2T-B is a bi-directional TVS diode array, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting sensitive semiconductor components from damage. The SESD24M2T-B complies with the IEC 61000-4-2 (ESD) standard with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into a lead-free SOT-23 package. It is designed to protect components which are connected to data and transmission lines from voltage surges.

FEATURES

- Protects two uni-directional lines
- Ultra low leakage: nA level
- Operating voltage: 24V
- Low clamping voltage

APPLICATIONS

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

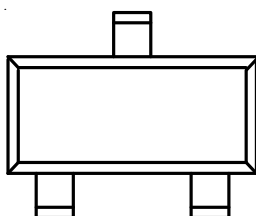
MECHANICAL DATA

- Case : Molded, plastic SOT-23
- Polarity : Shown follows
- Epoxy : UL94-V0 rated flame retardant

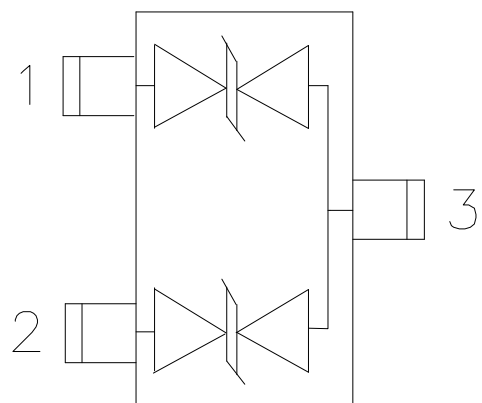
IEC COMPATIBILITY

- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC61000-4-5 (Lighting) 6A (8/20 μs)

SOT-23 PACKAGE



SCHEMATIC & PIN CONFIGURATION





2-Line Bi-directional TVS Diode Array

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

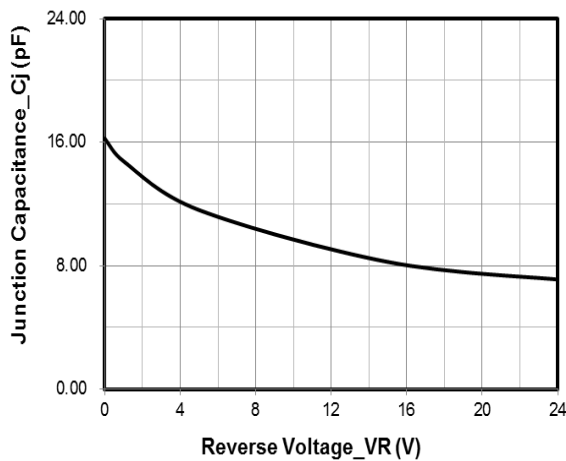
Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

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

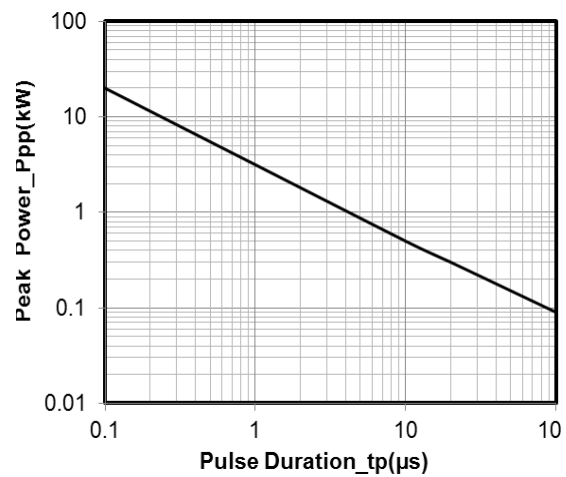
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			24	V	
Breakdown Voltage	V_{BR}	26.7		32	V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_{R}			500	nA	$V_{\text{RWM}} = 24\text{V}$
Clamping Voltage	V_{C}		30	36	V	$I_{\text{PP}} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	V_{C}		43	50	V	$I_{\text{PP}} = 6\text{A}$ (8 x 20 μs pulse)
Junction Capacitance	C_{J}			20	pF	$V_{\text{R}} = 0\text{V}$, $f = 1\text{MHz}$, Pin 1 to Pin 3 or Pin 2 to Pin 3



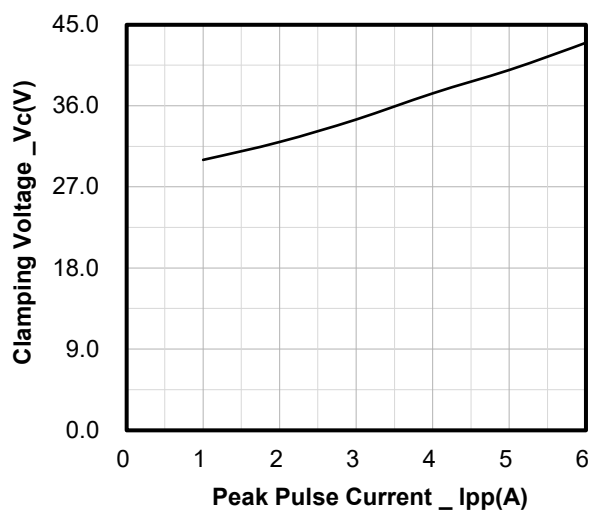
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



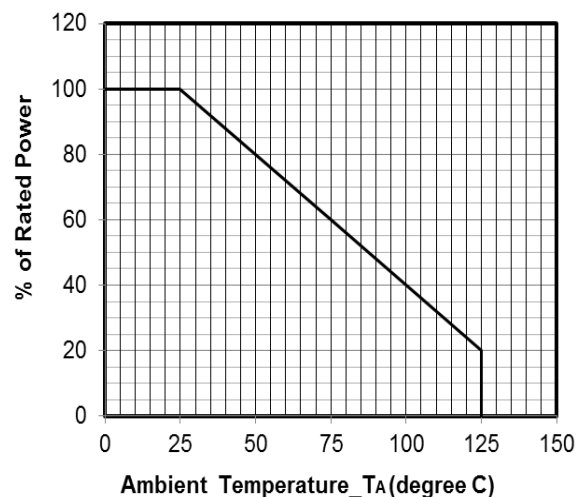
Junction Capacitance vs. Reverse Voltage



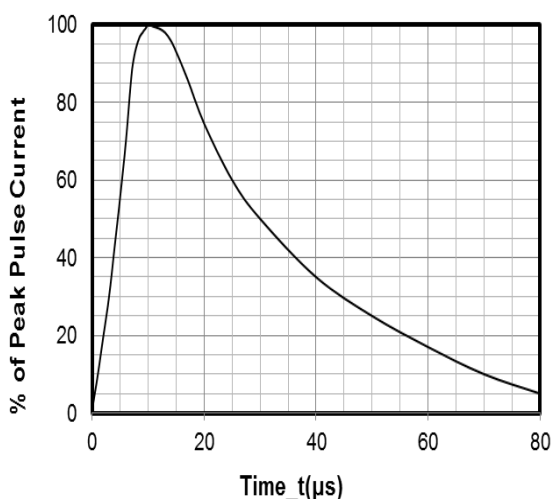
Peak Pulse Power vs. Pulse Time



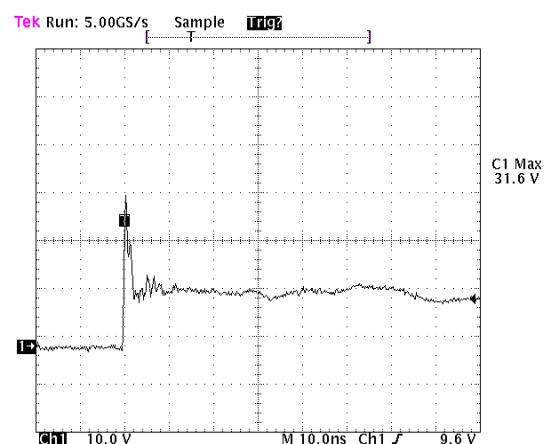
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20 μ s Pulse Waveform



Note: Data is taken with a 10x attenuator

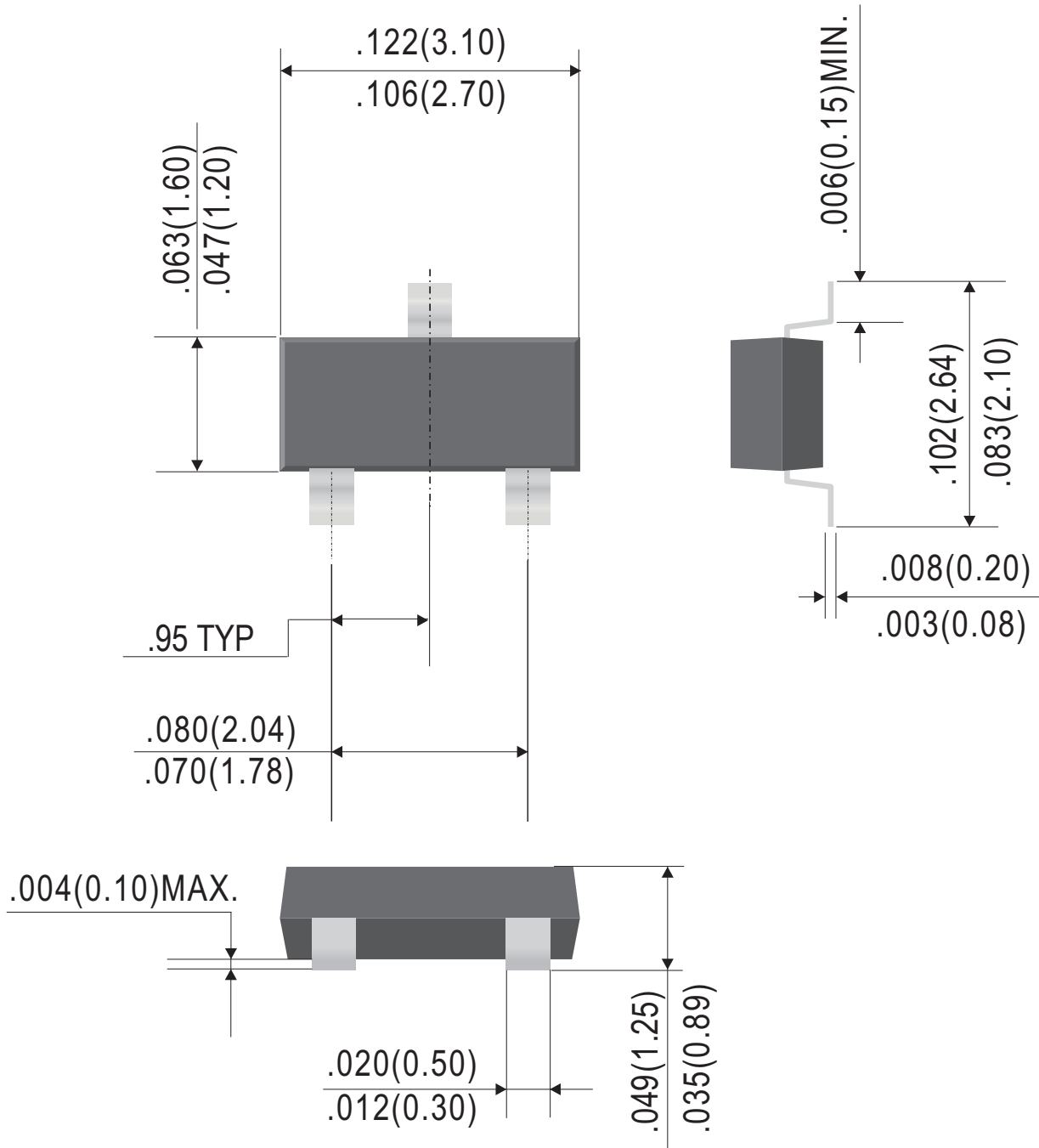
ESD Clamping Voltage

8 kV Contact per IEC61000-4-2



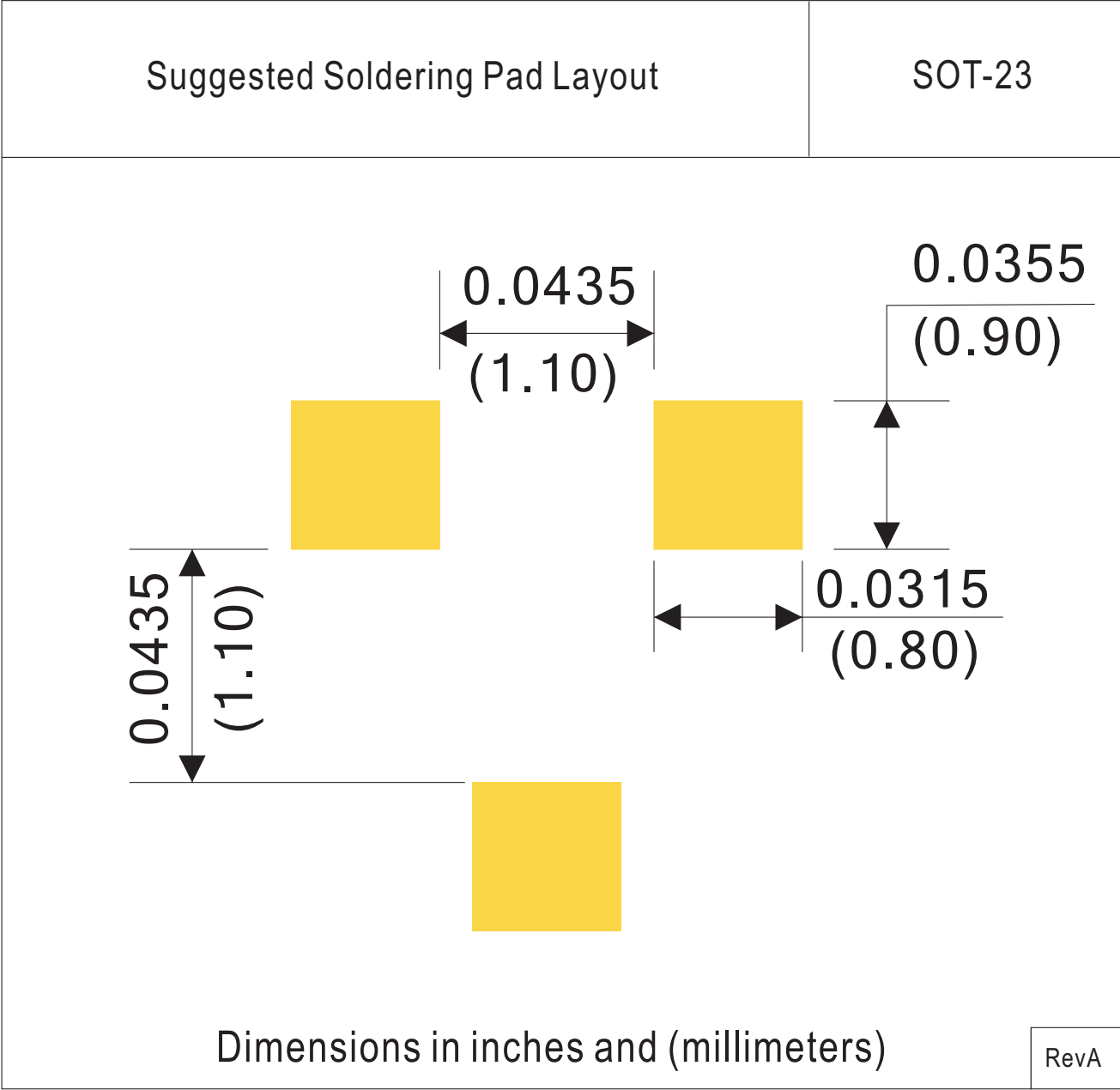
Outline Drawing

SOT-23



Dimensions in inches and (millimeters)

Rev.E



**2-Line Bi-directional TVS Diode Array****Ordering Information:**

Device PN	Marking	Packing
SESD24M2T-B-T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	24M	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Packing code suffix "G" for RoHS product ; Packing code Suffix "H" for halogen free product

(3) Willas brand abbreviation, Label Type does not display

(4) There may be additional marking, which relates to the lot trace code information (data code and vendor code), the logo or the environmental category on the device

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