

2-Line Uni-directional TVS Diode Array
DESCRIPTION

The SESD24P is an uni-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 SESD24P 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 leadfree 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

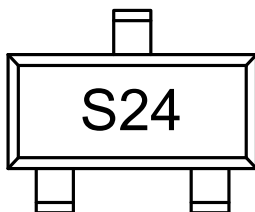
- Cellular Handsets and Accessories
- Notebook and Handhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC

MECHANICAL DATA

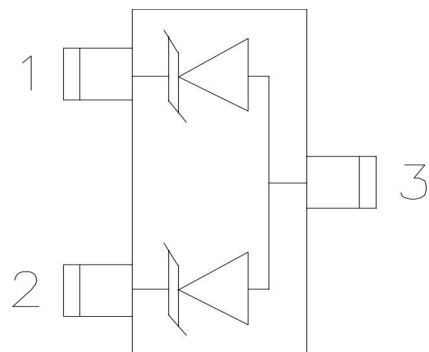
- Case : Molded, plastic SOT-23
- Polarity : Shown follows
- Epoxy : UL94-V0 rated flame retardant

IEC COMPATIBILITY

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

SOT-23 PACKAGE


S24 = Device Marking Code

SCHEMATIC & PIN CONFIGURATION


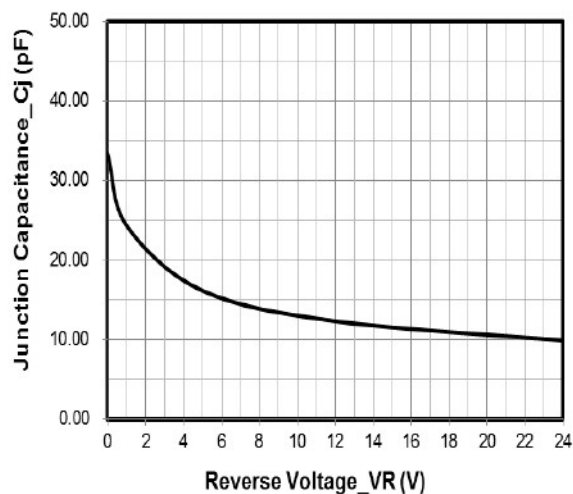
**2-Line Uni-directional TVS Diode Array****Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	270	W
Peak Pulse Current (8/20 μs)	I _{PP}	6	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	± 30 ± 30	kV
Operating Temperature Range	T _J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T _{stg}	-55 to +150	$^{\circ}\text{C}$

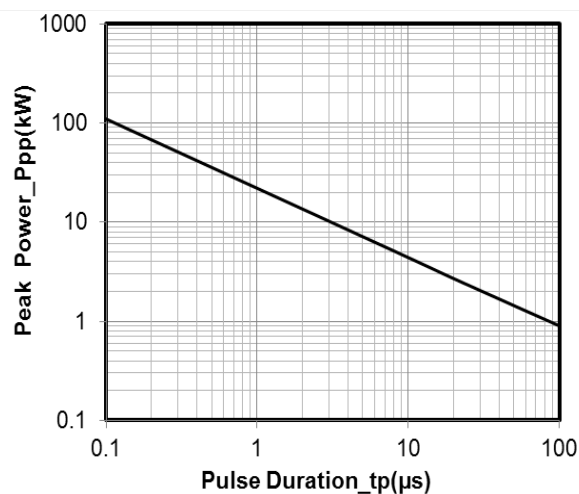
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			24	V	
Breakdown Voltage	V _{BR}	27			V	I _T = 1mA
Reverse Leakage Current	I _R			0.2	μA	V _{RWM} = 24V
Forward Voltage	V _F		0.8	1.2	V	I _F = 10mA
Clamping Voltage	V _C			32	V	I _{PP} = 1A (8 x 20 μs pulse)
Clamping Voltage	V _C			45	V	I _{PP} = 6A (8 x 20 μs pulse)
Junction Capacitance	C _J			40	pF	V _R = 0V, f = 1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3
Junction Capacitance	C _J			20	pF	V _R = 0V, f = 1MHz, Pin 1 to Pin 2

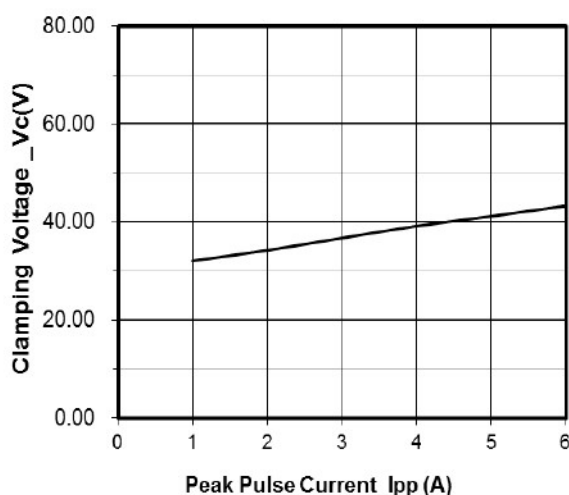
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



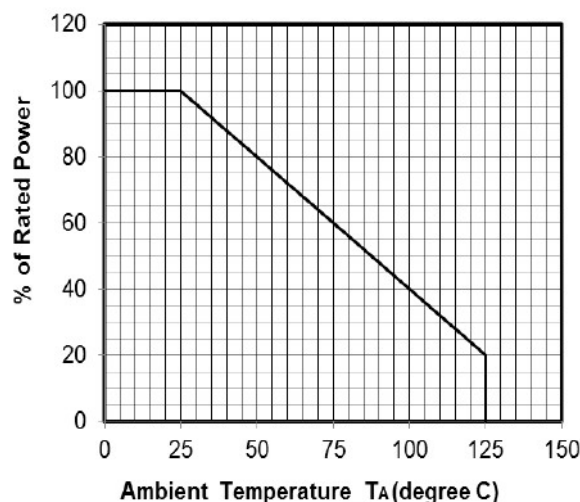
Junction Capacitance vs. Reverse Voltage



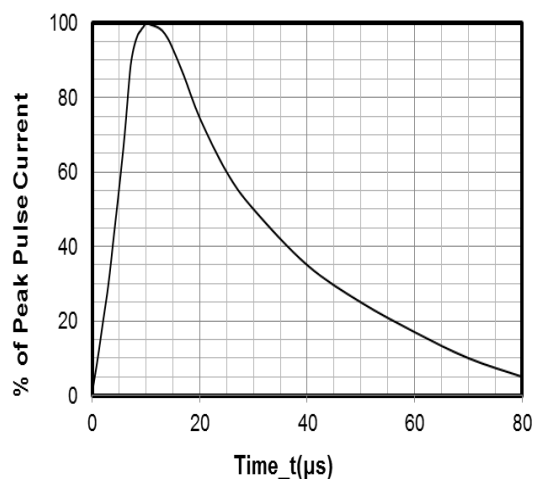
Peak Pulse Power vs. Pulse Time



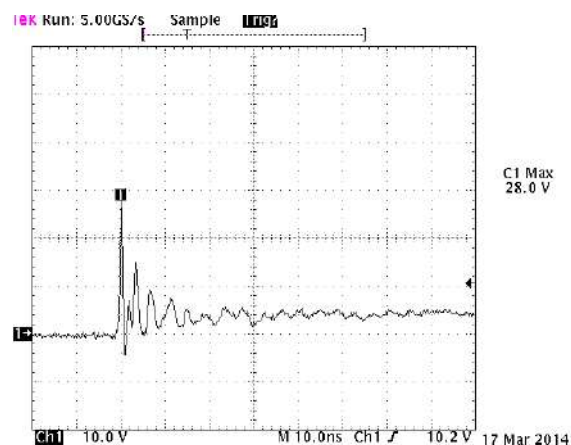
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

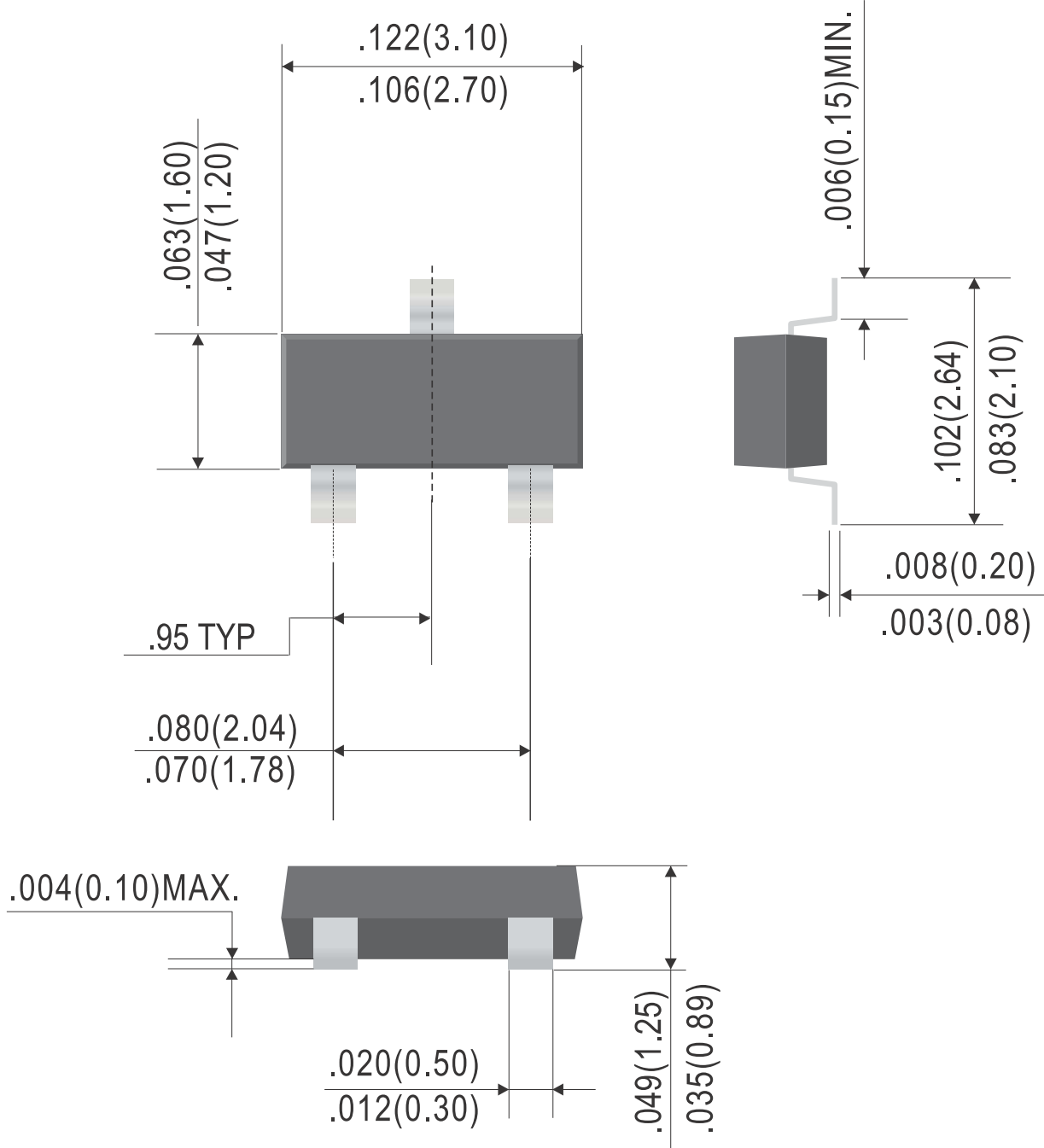


Note: Data is taken with a 10x attenuator

ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

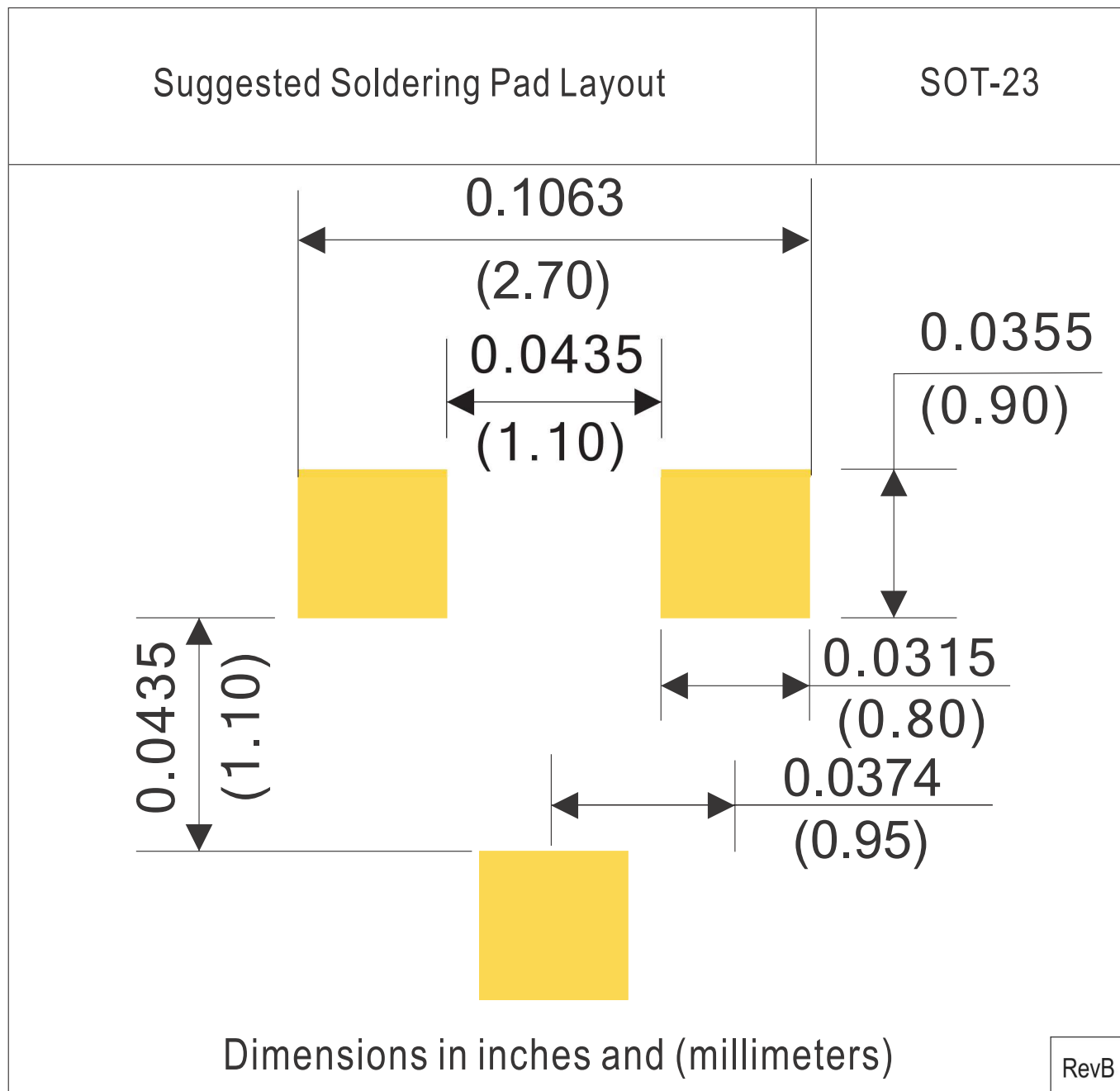
Outline Drawing

SOT-23



Dimensions in inches and (millimeters)

Rev.E



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

Device PN	Packing
SESD24P -T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	Tape&Reel: 3 Kpcs/Reel

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

(2) Halogen free product for packing code suffix "H"

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

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