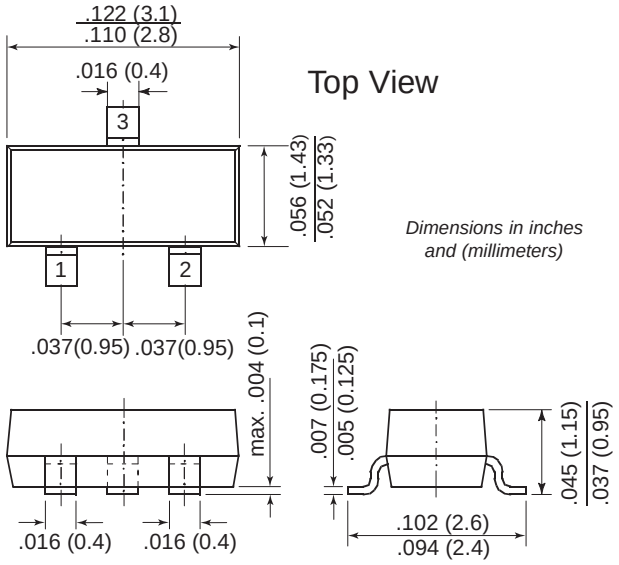
New Product

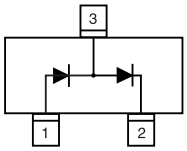
Vishay Semiconductors
formerly General Semiconductor

Dual In-Series General-Purpose Controlled-Avalanche Diode

TO-236AB (SOT-23)

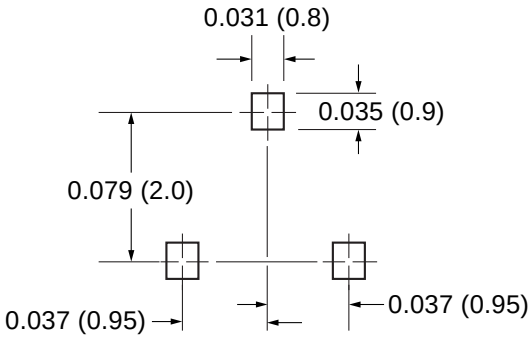


Dimensions in inches and (millimeters)



Top View

Mounting Pad Layout



Features

- Silicon Epitaxial Planar Diode
- For general purpose switching applications

Mechanical Data

Case: SOT-23 (TO-236AB) Plastic Package
Weight: approx. 0.008g
Marking Code: L21
Packaging Codes/Options:
E8/10K per 13” reel (8mm tape), 30K/box
E9/3K per 7” reel (8mm tape), 30K/box

Maximum Ratings and Thermal Characteristics

T_A = 25°C unless otherwise noted

Parameter		Symbol	Value	Unit
Continuous Reverse Voltage		V_R	90	V
Peak Repetitive Reverse Voltage		V_{RRM}	110	V
Peak Repetitive Reverse Current		I_{RRM}	600	mA
Forward Current (continuous)	single diode loaded dual diode loaded	I_F	250(1) 150(1)	mA
Peak Repetitive Forward Current		I_{RFM}	600	mA
Non-Repetitive Peak Forward Current(2)	at t_p = 1µs at t_p = 100µs at t_p = 1s	I_{FSM}	10 4.0 0.75	A
Power Dissipation		P_{tot}	250(1)	mW
Peak Repetitive Reverse Energy at t_p = 50µs, f≤ 20Hz, T_J = 25°C		E_{RRM}	5	mJ
Typical Thermal Resistance Junction to Ambient Air		$R_{\theta JA}$	500(1)	°C/W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_S	–65 to +150	°C

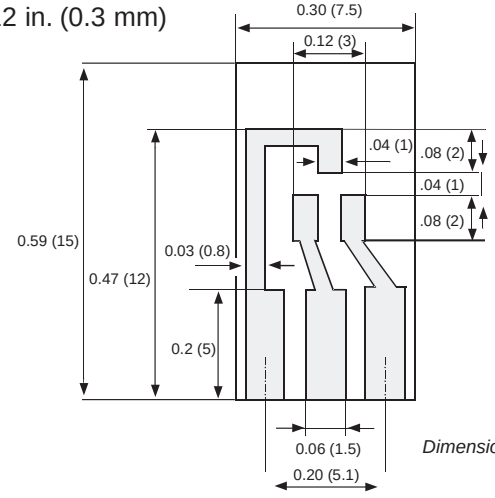
Notes:
(1) Device on Fiberglass Substrate, see layout on second page
(2) Square wave with T_J = 25°C prior to surge

Electrical Characteristics (per diode) T_J = 25°C unless otherwise noted

Parameter	Symbol	Test Condition	Min	Max	Unit
Forward Voltage	V_F	I_F = 10mA	—	750	mV
		I_F = 50mA	—	840	mV
		I_F = 100mA	—	900	mV
		I_F = 200mA	—	1.00	V
		I_F = 400mA	—	1.25	V
Reverse Current	I_R	V_R = 90V	—	100	nA
		V_R = 90V, T_j = 150°C	—	100	µA
Reverse Avalanche Breakdown Voltage	$V_{(BR)R}$	I_R = 1mA	120	170	V
Diode Capacitance	C_d	f = 1MHz V_R = 0	—	35	pF
Reverse Recovery Time	t_{rr}	I_F = I_A = 30mA I_R = 30mA, R_L = 100Ω, I_{rr} = 3mA	—	50	ns

Layout for $R_{\theta JA}$ test

Thickness: Fiberglass 0.059 in. (1.5 mm)
Copper leads 0.012 in. (0.3 mm)



Dimensions in inches (millimeters)