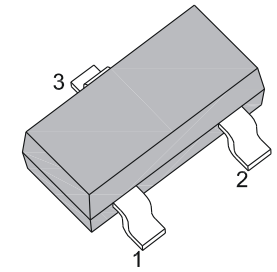
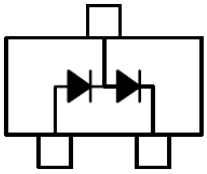
Three Terminals SMD Switching Diode

Features

- Silicon Epitaxial Planar Diode
- Low Current Leakage
- Low Forward Voltage
- Fast Switching Dual Diode with Common Cathode
- RoHS Compliant



SOT-23



Mechanical Data

Case:	SOT-23, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	Approx. 0.008 gram

Maximum Ratings* *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description		BAV99	Unit	Conditions
	Marking Code		A7		
V_{RRM}	Maximum Repetitive Reverse Voltage		70	V	
$I_{F(AV)}$	Average Rectified Forward Current		215	mA	Average over any 20ms period
I_{FSM}	Non-Repetitive Peak Forward Surge Current	Pulse Width=1.0µs	2.0	A	
		Pulse Width=1.0s	1.0		
P_D	Power Dissipation FR-5 Board at T_A=25° C		225	mW	Note 1
	Derate above 25° C		1.8	mW/° C	
	Power Dissipation Alumina Substrate at T_A=25° C		300	mW	Note 2
	Derate above 25° C		2.4	mW/° C	
R_{thJA}	Thermal Resistance, Junction to Ambient		556	° C/W	Note 1
			417	° C/W	Note 2
T_J, T_{STG}	Operating Junction and Storage Temperature Range		-55 to +150	° C	

BAV99

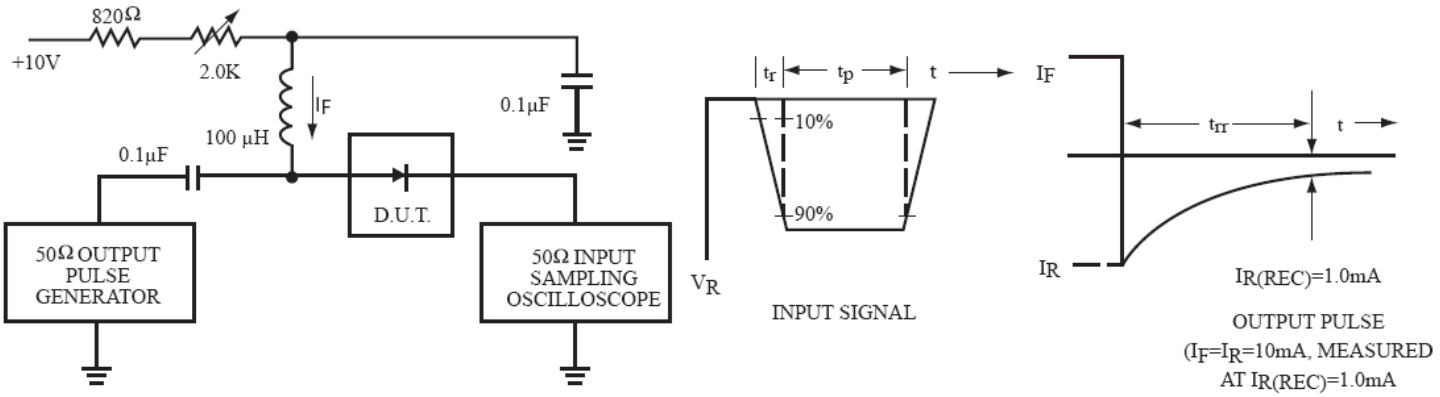
Note: 1: FR-5=1.0X0.75X0.062”
2: Alumina=0.4x0.3x0.024”, 99.5% alumina

Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	Min.	Max.	Unit	Conditions
V_R	Reverse Breakdown Voltage	70	-	V	$I_{(BR)}$=100μA
V_F	Forward Voltage	-	0.715	V	I_F=1.0mA
			0.855		I_F=10mA
			1.0		I_F=50mA
			1.25		I_F=150mA
I_R	Reverse Current	-	2.5	μA	V_R=70V
			30		V_R=25V, T_J=150° C
			50		V_R=70V, T_J=150° C
C_T	Total Capacitance	-	1.5	pF	V_R=0V, f=1MHz
T_{rr}	Reverse Recovery Time	-	6.0	nS	I_F=I_R=10mA, V_R=5.0V, $I_{R(REC)}$=1.0mA, R_L=100Ω

Typical Characteristics Curves

Fig.1- Recovery Time Equivalent Test Circuit



Notes:1. A 2.0 kΩ variable resistor for a Forward Current (I_F) 0f 10 mA
2. Input pules is adjusted so I_R(peak) is equal to 10 mA
3. $t_p \gg t_{rr}$

Fig.2- Typical Instantaneous Forward Characteristics

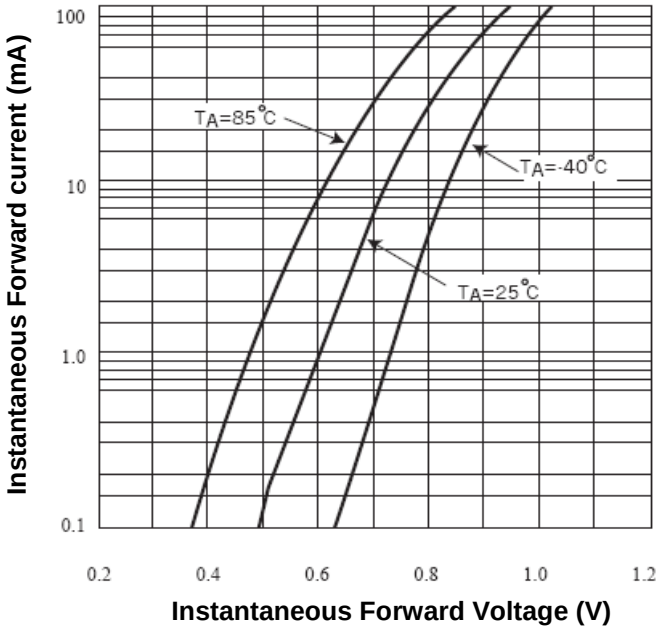


Fig.3- Typical Reverse Characteristics

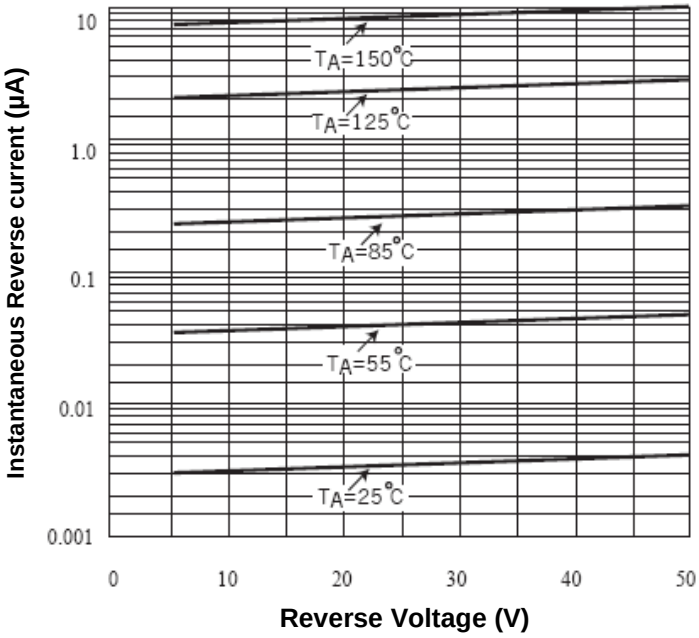
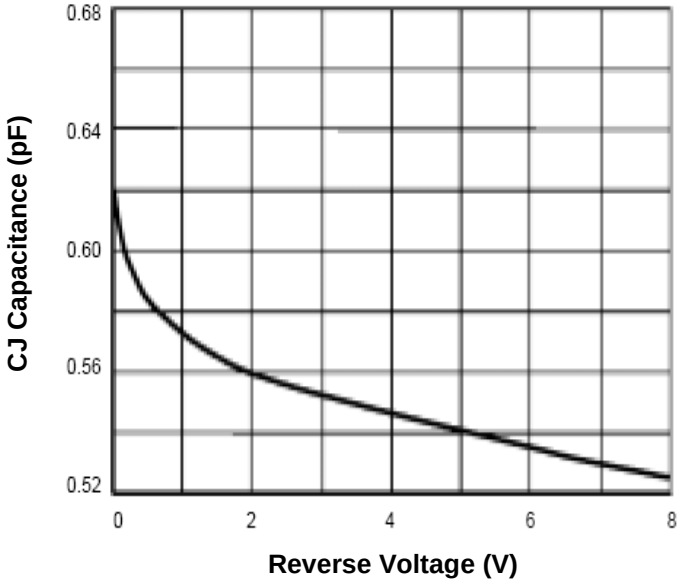
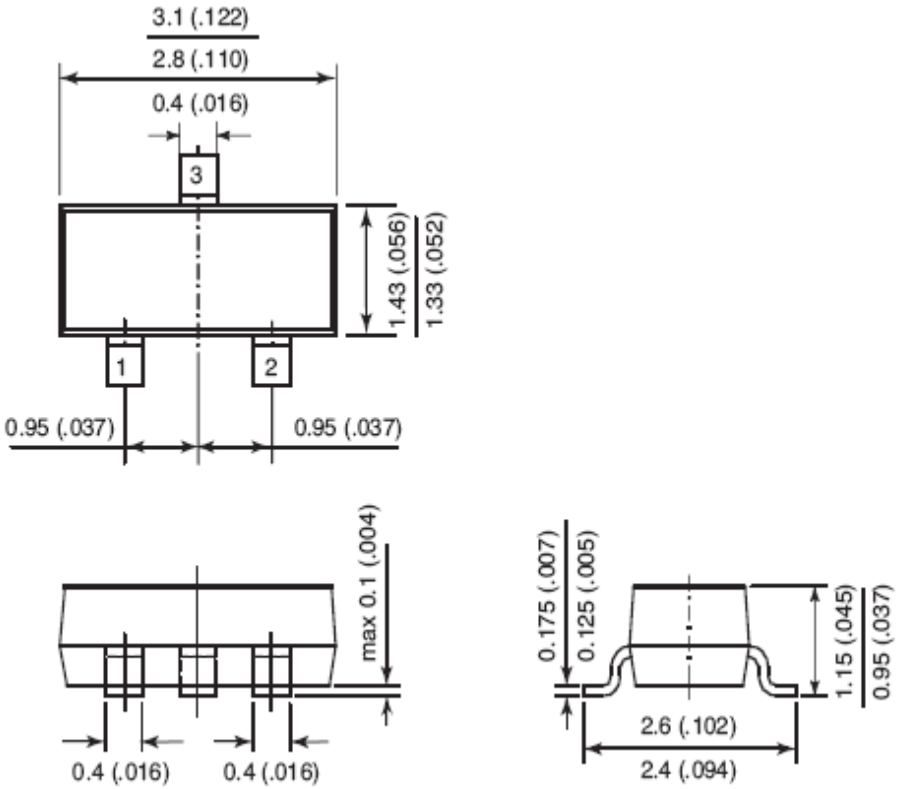


Fig.4- Junction Capacitance

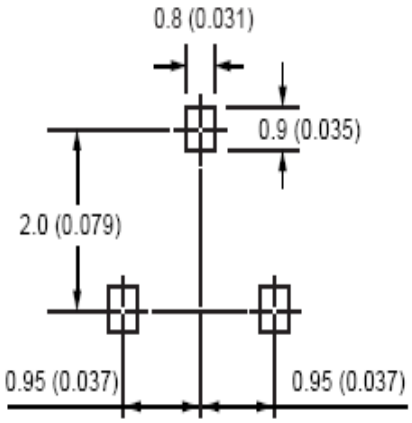


Dimensions in mm (inch)

SOT-23



Mounting Pad Layout in mm (inch)



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