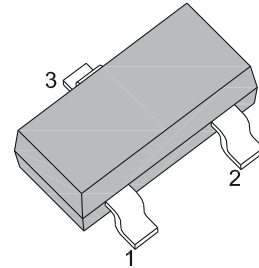


### Three Terminals SMD Switching Diode

#### Features

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

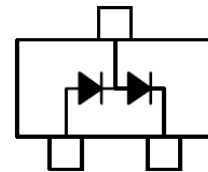


SOT-23



#### Mechanical Data

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



#### Maximum Ratings\* ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description		BAV99	Unit	Conditions
	Marking Code		A7		
<b>VRRM</b>	Maximum Repetitive Reverse Voltage		70	V	
<b>IF(AV)</b>	Average Rectified Forward Current		215	mA	Average over any 20ms period
<b>IFSM</b>	Non-Repetitive Peak Forward Surge Current	Pulse Width=1.0 $\mu$ s	2.0	A	
		Pulse Width=1.0s	1.0		
<b>PD</b>	Power Dissipation FR-5 Board at TA=25 $^{\circ}$ C		225	mW	Note 1
	Derate above 25 $^{\circ}$ C		1.8	mW/ $^{\circ}$ C	
	Power Dissipation Alumina Substrate at TA=25 $^{\circ}$ C		300	mW	Note 2
	Derate above 25 $^{\circ}$ C		2.4	mW/ $^{\circ}$ C	
<b>RthJA</b>	Thermal Resistance, Junction to Ambient		556	$^{\circ}$ C/W	Note 1
			417	$^{\circ}$ C/W	Note 2
<b>TJ, TSTG</b>	Operating Junction and Storage Temperature Range		-55 to +150	$^{\circ}$ C	

# Three Terminals SMD Switching Diode

## BAV99

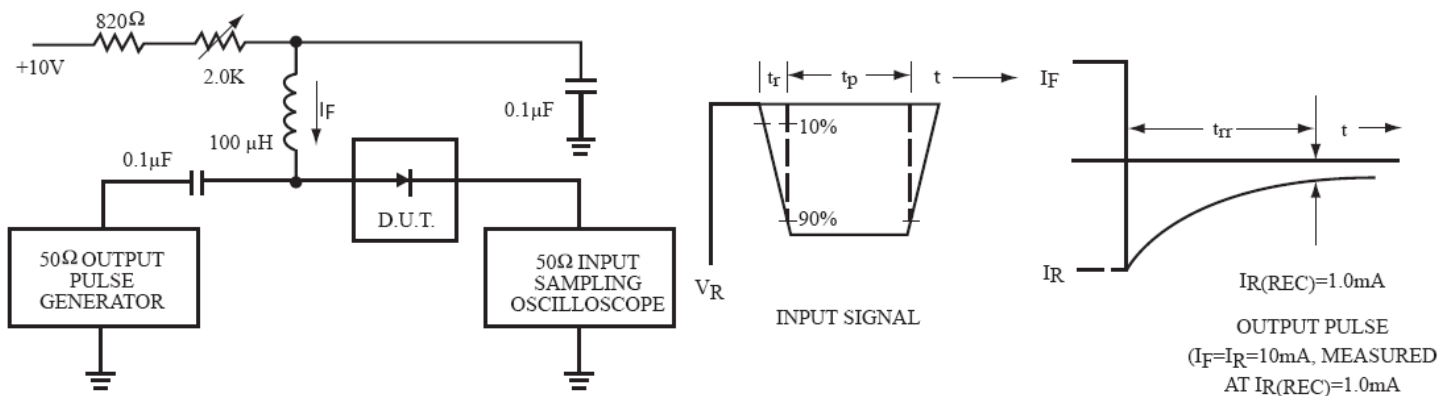
**Note:** 1: FR-5=1.0X0.75X0.062”  
 2: Alumina=0.4x0.3x0.024”, 99.5% alumina

### Electrical Characteristics *(T<sub>Ambient</sub>=25°C unless noted otherwise)*

Symbol	Description	Min.	Max.	Unit	Conditions
<b>V<sub>R</sub></b>	Reverse Breakdown Voltage	70	-	V	I <sub>(BR)</sub> =100μA
<b>V<sub>F</sub></b>	Forward Voltage	-	0.715	V	I <sub>F</sub> =1.0mA
			0.855		I <sub>F</sub> =10mA
			1.0		I <sub>F</sub> =50mA
			1.25		I <sub>F</sub> =150mA
<b>I<sub>R</sub></b>	Reverse Current	-	2.5	μA	V <sub>R</sub> =70V
			30		V <sub>R</sub> =25V, T <sub>J</sub> =150° C
			50		V <sub>R</sub> =70V, T <sub>J</sub> =150° C
<b>C<sub>T</sub></b>	Total Capacitance	-	1.5	pF	V <sub>R</sub> =0V, f=1MHz
<b>T<sub>rr</sub></b>	Reverse Recovery Time	-	6.0	nS	I <sub>F</sub> =I <sub>R</sub> =10mA, V <sub>R</sub> =5.0V, I <sub>R(REC)</sub> =1.0mA, R <sub>L</sub> =100Ω

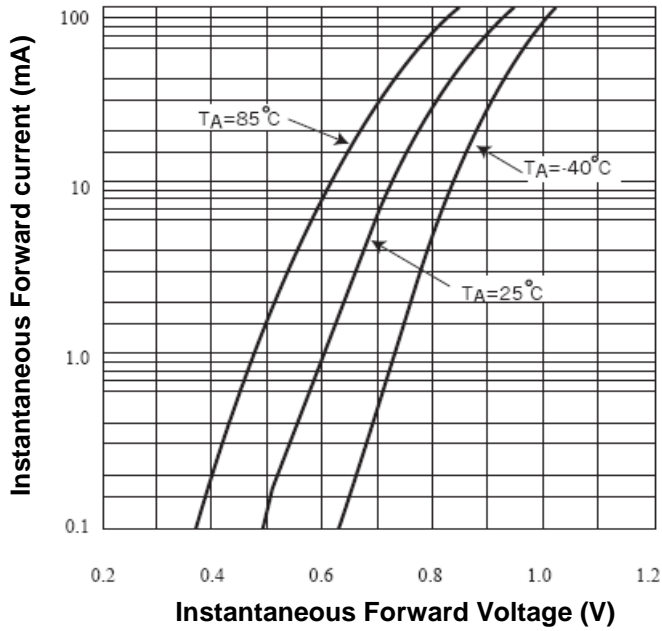
### Typical Characteristics Curves

Fig.1- Recovery Time Equivalent Test Circuit

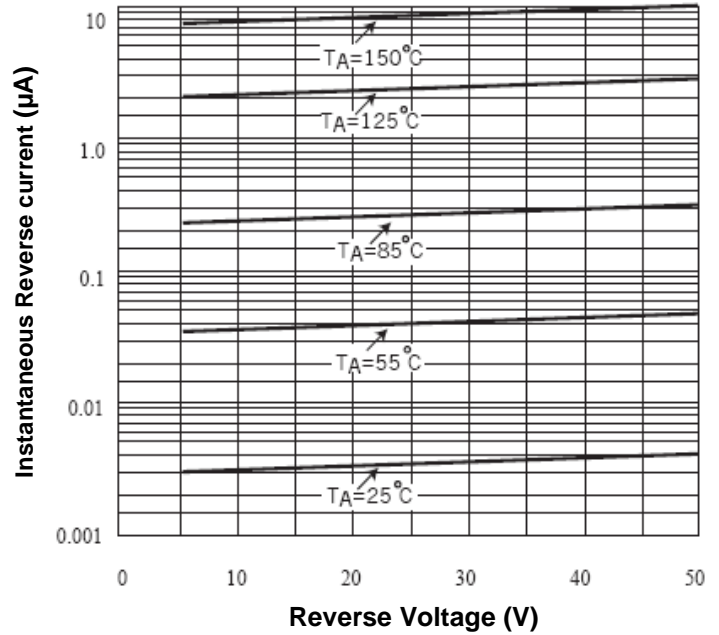


- Notes: 1. A 2.0 kΩ variable resistor for a Forward Current (I<sub>F</sub>) of 10 mA  
 2. Input pules is adjusted so I<sub>R(peak)</sub> is equal to 10 mA  
 3. t<sub>p</sub> >> t<sub>rr</sub>

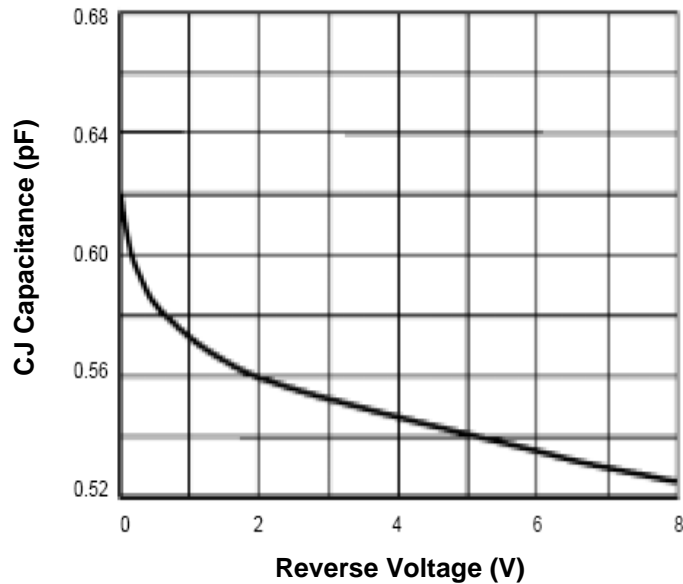
**Fig.2- Typical Instantaneous Forward Characteristics**



**Fig.3- Typical Reverse Characteristics**



**Fig.4- Junction Capacitance**

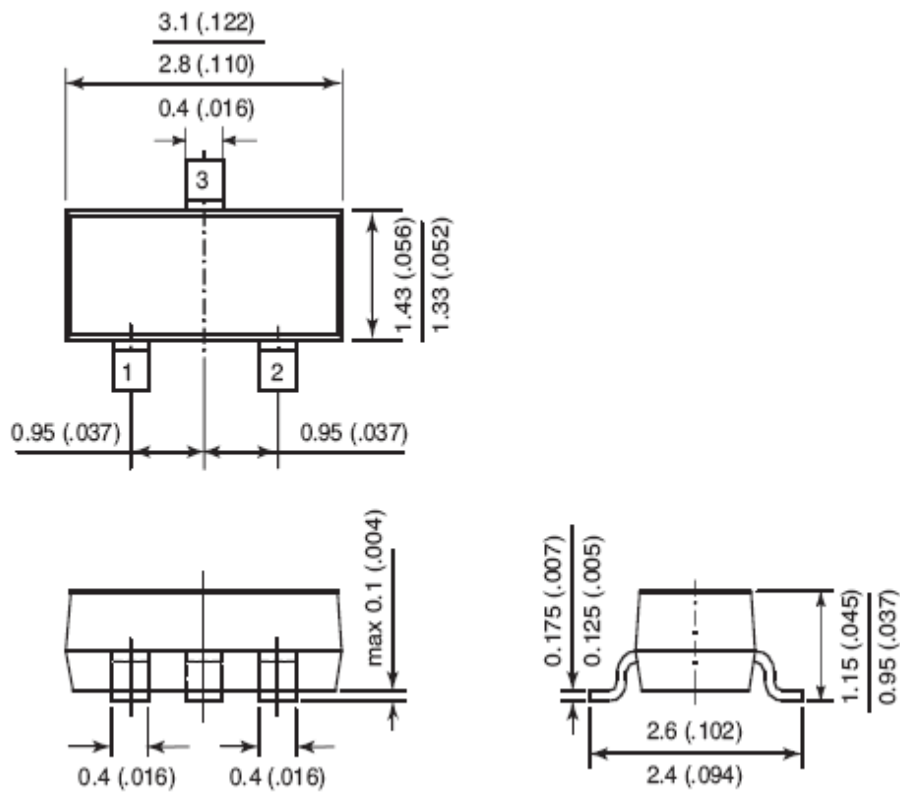


# Three Terminals SMD Switching Diode

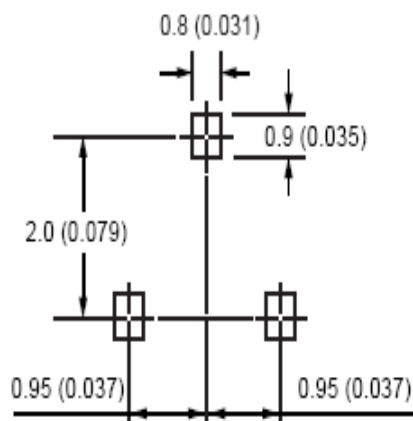
BAV99

Dimensions in mm (inch)

SOT-23



Mounting Pad Layout in mm (inch)



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