

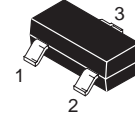
# Monolithic Dual Switching Diode

This switching diode has the following features:

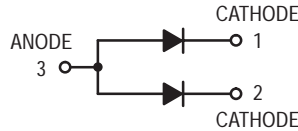
- Low Leakage Current Applications
- Medium Speed Switching Times
- Available in 8 mm Tape and Reel
  - Use BAW156LT1 to order the 7 inch/3,000 unit reel
  - Use BAW156LT3 to order the 13 inch/10,000 unit reel

## BAW156LT1

Motorola Preferred Device



CASE 318-08, STYLE 12  
SOT-23 (TO-236AB)



### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	70	Vdc
Forward Current	$I_F$	200	mAdc
Peak Forward Surge Current	$I_{FM}(\text{surge})$	500	mAdc

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board <sup>(1)</sup> $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225	mW
		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate <sup>(2)</sup> $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300	mW
		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

### DEVICE MARKING

BAW156LT1 = JZ

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Max	Unit
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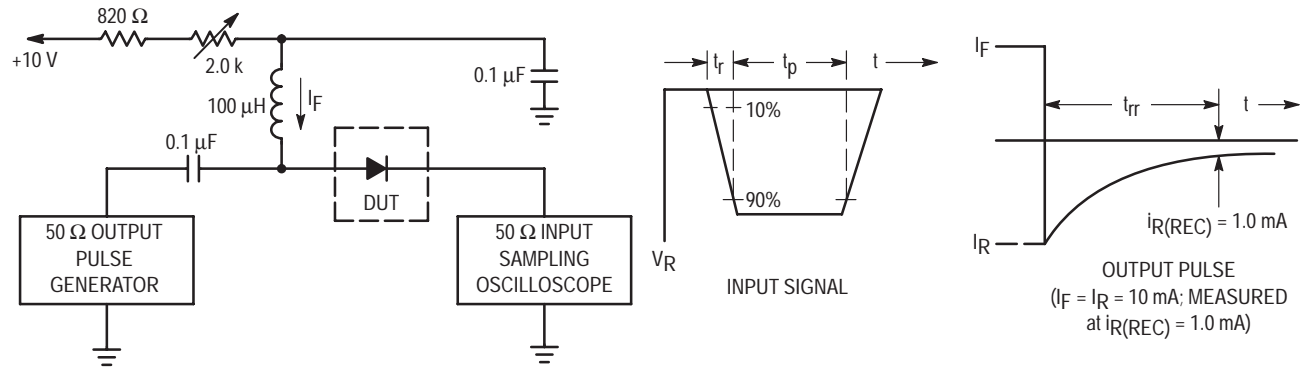
### OFF CHARACTERISTICS

Reverse Breakdown Voltage ( $I_{BR} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current ( $V_R = 70 \text{Vdc}$ ) ( $V_R = 70 \text{Vdc}, T_J = 150^\circ\text{C}$ )	$I_R$	—	5.0 80	nAdc
Diode Capacitance ( $V_R = 0 \text{V}, f = 1.0 \text{MHz}$ )	$C_D$	—	2.0	pF
Forward Voltage ( $I_F = 1.0 \text{mAdc}$ ) ( $I_F = 10 \text{mAdc}$ ) ( $I_F = 50 \text{mAdc}$ ) ( $I_F = 150 \text{mAdc}$ )	$V_F$	—	900 1000 1100 1250	mVdc
Reverse Recovery Time ( $I_F = I_R = 10 \text{mAdc}$ ) (Figure 1)	$t_{rr}$	—	3.0	$\mu\text{s}$

1. FR-5 =  $1.0 \times 0.75 \times 0.062 \text{ in.}$

2. Alumina =  $0.4 \times 0.3 \times 0.024 \text{ in.}$  99.5% alumina.

Preferred devices are Motorola recommended choices for future use and best overall value.



- Notes: 1. A 2.0 k $\Omega$  variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
 2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10 mA.  
 3.  $t_p \gg t_{rr}$

**Figure 1. Recovery Time Equivalent Test Circuit**