

Surface Mount Switching Diodes

 Lead(Pb)-Free

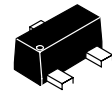
Features:

- * Ultra-Small Surface Mount Package
- * Fast switching Speed
- * For General Purpose Switching Applications
- * High Conductance

Mechanical Data:

- * Polarity: See Diagrams Page.2
- * Marking: See Diagrams Page.2
- * Weight: 0.002 grams (approx)

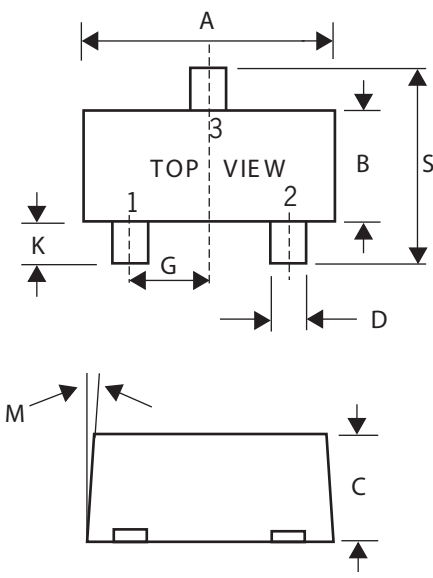
SWITCHING DIODES
200 mA PERES
70 VOLTS



SOT-523F(SC-89)

SOT-523F Outline Dimensions (SC-89)

Unit:mm



SC-89			
Dim	Min	Nom	Max
A	1.50	1.60	1.70
B	0.75	0.85	0.95
C	0.60	0.70	0.80
D	0.23	0.28	0.33
G	0.50BSC		
J	0.10	0.15	0.20
K	0.30	0.40	0.50
M	---	---	10°
N	---	---	10°
S	1.50	1.60	1.70

BAV70T

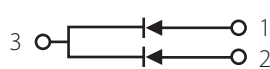
Maximum Ratings (T_A=25°C Unless otherwise noted)

Characteristic	Symbol	Value	Unit
Reverse Voltage	V _R	70	V
Forward Continuous Current	I _O	200	mA
Peak Forward Surge Current	I _{FSM}	0.5	A
Total Device Dissipation FR-5 Board ¹ T _A = 25°C Derate above 25°C	P _d	225 1.8	mW mW/°C
Thermal Resistance	R _{θJA}	555	°C/W
Total Device Dissipation Alumina Substrate ² T _A = 25°C Derate above 25°C	P _d	300 2.9	mW
Thermal Resistance	R _{θJA}	345	°C/W
Junction and Storage Temperature Range	T _j , T _{STG}	-55 to + 150	°C

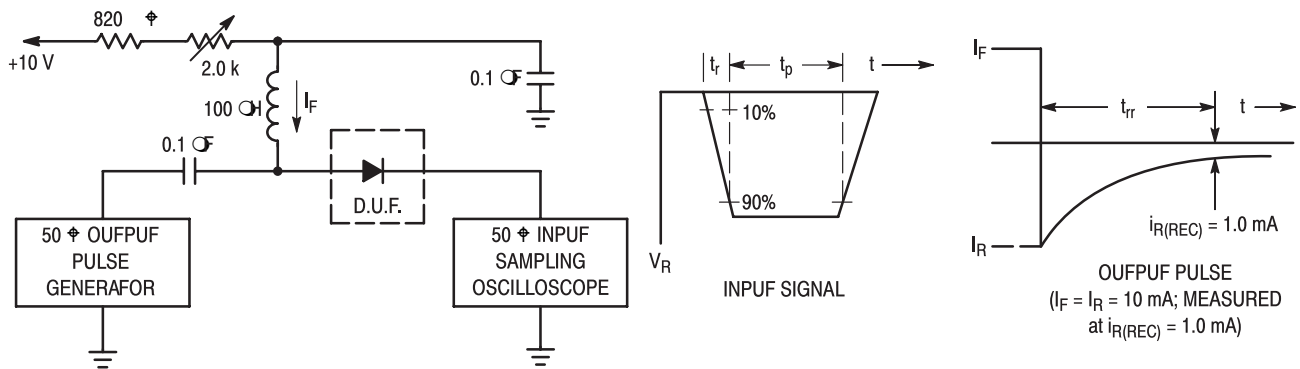
Electrical Characteristics (T_A=25°C Unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage I _R =100μA	V _{(BR)R}	70	-	V
Forward Voltage I _F =1.0mA I _F =10mA I _F =50mA I _F =150mA	V _F	-	715 855 1000 1250	mV
Total Capacitance V _R =0V, f=1.0MHz	C _T	-	1.5	Pf
Reverse Current V _R =75V V _R =50V	I _R	-	5.0 100	μA nA
Reverse Recover Time I _F = I _R = 10 mA, R _L = 100Ω, I _{R(REC)} = 1.0 mA ^{Fig.1}	T _{rr}	-	6.0	nS
Forward Recovery Voltage I _F = 10 mA, t _r = 20 ns ^{Fig.2}	V _{RF}	-	1.75	V

Device Marking

Item	Marking	Equivalent Circuit diagram
BAV70T	A4	

Electrical Characteristic curves ($T_A=25^\circ\text{C}$)



- Notes: 1. A 2.0 k Ω 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

Curves Applicable to Each Anode

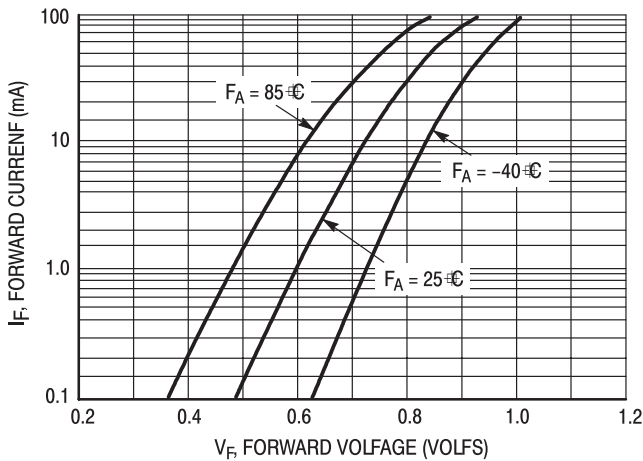


Figure 2. Forward Voltage

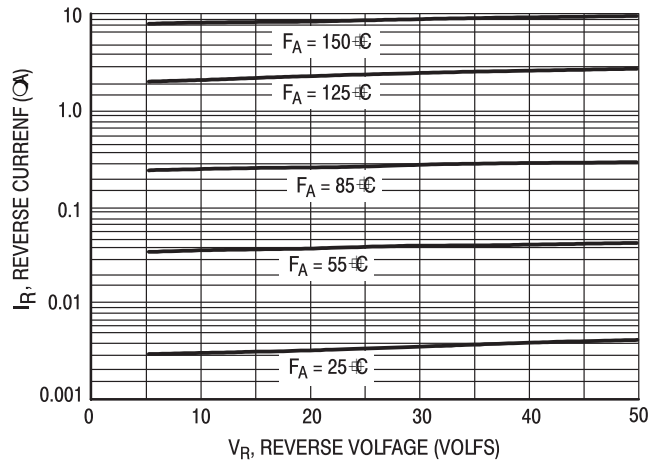


Figure 3. Leakage Current

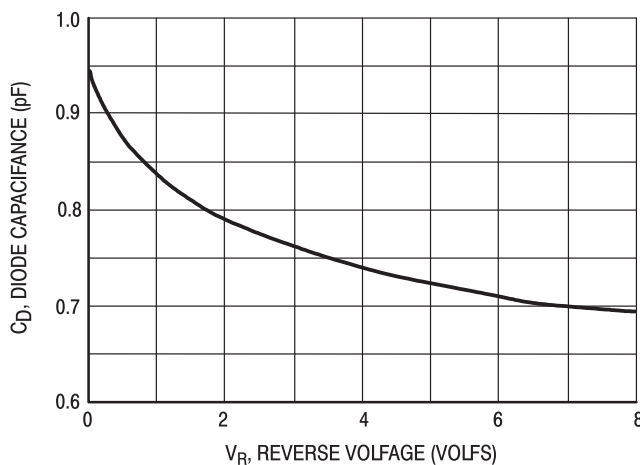


Figure 4. Capacitance