

Fast Switch Diodes

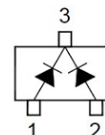
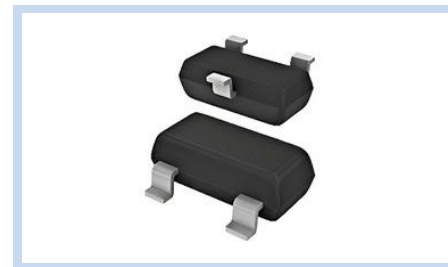
225mW SOT-23 AEC-Q101

BAV70-A

MERITEK

FEATURE

- Fast Switching Speed
- High conductance
- Fast Reverse Recovery Time
- AEC-Q101 Compliance
- Application: Signal Processing, Rectifying, General Purpose Switching



MECHANICAL DATA

- Case: SOT-23 Package, Molded Epoxy Meets UL94V-0
- Terminals: Solderable per MIL-STD, Method 2026

MAXIMUM RATING

Parameter	Symbol	Value	Units
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Reverse Voltage	V_R	70	V
Forward Rectified Current (Average)	$I_{F(AV)}$	200	mA
Peak Forward Surge Current	$t = 1\mu s$	2	A
	$t = 1s$	1	
Power Dissipation	$T_A = 25^\circ C$ Mounted on FR-5 Board	225	mW
	$T_A = 25^\circ C$ Mounted on Alumina	300	
	Derate above $25^\circ C$, Mounted on FR-5 Board	1.8	mW/ $^\circ C$
	Derate above $25^\circ C$, Mounted on Alumina	2.4	
Typical Thermal Resistance	Junction to Ambient, Mounted on FR-5 Board	556	$^\circ C/W$
	Junction to Ambient, Mounted on Alumina	417	
Operating Junction Temperature Range	T_J	$-55 \sim +150$	$^\circ C$
Storage Temperature Range	T_{STG}	$-65 \sim +150$	$^\circ C$

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Symbol	Min	Max	Unit
Reverse Breakdown Voltage	$I_R = 100\mu A$	$V_{(BR)R}$	70	--	V
Instantaneous Forward Voltage	$I_F = 1mA$	V_F	--	715	mV
	$I_F = 10mA$		--	855	
	$I_F = 50mA$		--	1000	
	$I_F = 150mA$		--	1250	
Reverse Leakage Current	$V_R = 70V, T_J = 25^\circ C$	I_R	--	2.5	μA
	$V_R = 25V, T_J = 150^\circ C$		--	60	
	$V_R = 70V, T_J = 150^\circ C$		--	100	
Capacitance	$V_R = 0V, f = 1MHz$	C_d	--	1.5	pF
Reverse Recovery Time	$I_F = 10mA, V_R = 6V, I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	t_{rr}	--	6.0	nS

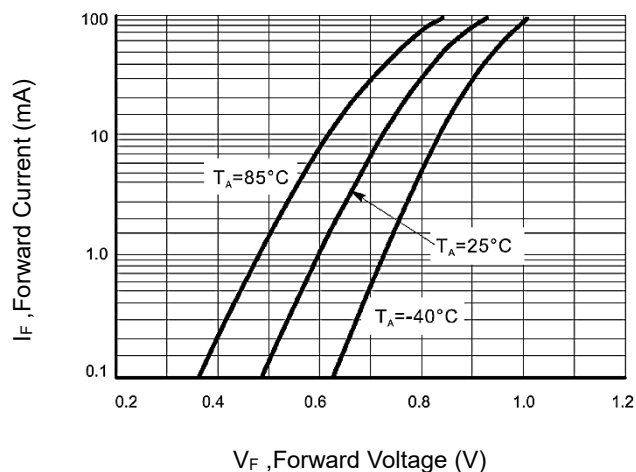
Note:

1. $T_A = 25^\circ C$ unless otherwise specified.

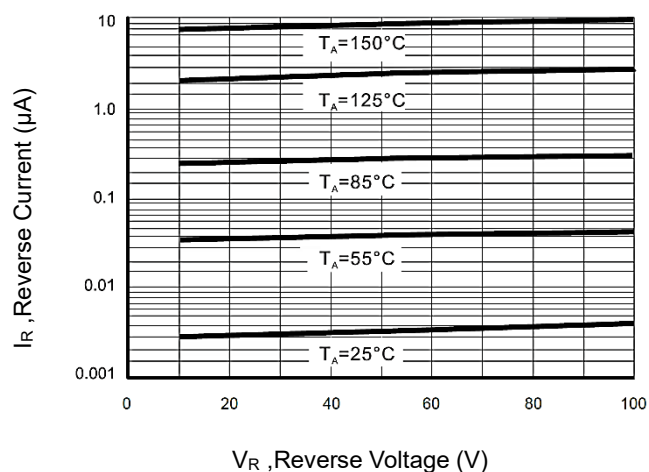
2. The size of FR-5 substrate is 1.0x0.75x0.062 inch³; The size of alumina is 0.4x0.3x0.024 inch³

CHARACTERISTIC CURVES

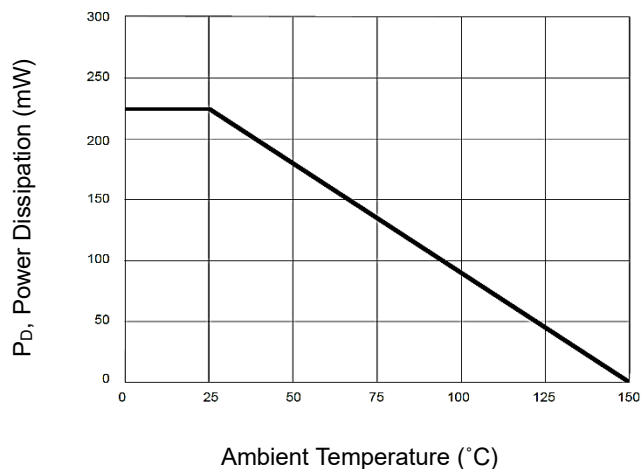
Typical Forward Characteristics



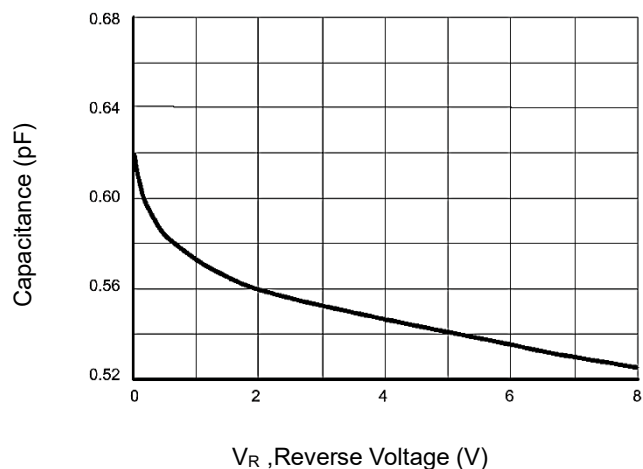
Typical Reverse Characteristics



Power Derating Curve



Capacitance



DIMENSIONS

Item	Min (mm)	Max (mm)
A	0.89	1.30
b	0.30	0.50
c	0.08	0.18
D	2.80	3.04
e	0.85	1.15
e1	1.70	2.10
E	2.10	2.75
E1	1.20	1.60
L	0.30	0.50
X	0.80	
X1	0.95	
Y	1.10	
Y1	0.90	
Y2	2.90	

