

70mA, 70V SMD Schottky Barrier Diode

FEATURES

- Low turn-on voltage
- Fast switching
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

APPLICATIONS

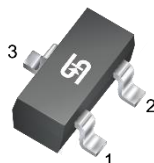
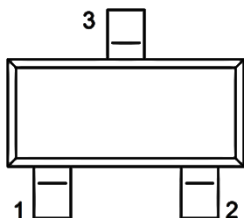
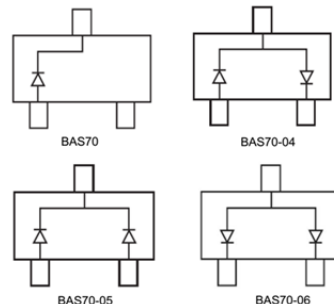
- Adapters
- For switching power supply
- Low stored charge
- Inverter

MECHANICAL DATA

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 8 mg (approximately)



KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	70	mA
V_{RRM}	70	V
I_{FSM}	0.1	A
V_F at $I_F=15mA$	1	V
T_J Max.	125	°C

PACKAGE: SOT-23	PIN CONFIGURATION	CIRCUIT DIAGRAM
		

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_D	200	mW
Repetitive peak reverse voltage	V_{RRM}	70	V
Working peak reverse voltage	V_{RWM}	70	V
DC blocking voltage	V_R	70	V
RMS reverse voltage	$V_{R(RMS)}$	49	V
Forward current	I_F	70	mA
Non-repetitive peak forward surge current @ $t = 1s$	I_{FSM}	100	mA
Junction temperature range	T_J	-55 to +125	°C
Storage temperature range	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	625	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 1\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	0.41	V
	$I_F = 15\text{mA}, T_J = 25^\circ\text{C}$			1.00	
Reverse current per diode ⁽²⁾	$V_R = 50\text{V}, T_J = 25^\circ\text{C}$	I_R	-	100	nA
Reverse Breakdown Voltage	$I_R = 10\mu\text{A}$	$V_{(BR)}$	70	-	V
Junction capacitance	$f = 1\text{MHz}, V_R = 0\text{V}$	C_J	-	2	pF
Reverse Recovery Time	$I_F = I_R = 10\text{mA}, R_L = 100\Omega,$ $I_{RR} = 1\text{mA}$	t_{rr}	-	5	ns

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING	DEVICE MARKING
BAS70 RFG	SOT-23	3K / 7" Reel	73
BAS70-04 RFG	SOT-23	3K / 7" Reel	74
BAS70-05 RFG	SOT-23	3K / 7" Reel	75
BAS70-06 RFG	SOT-23	3K / 7" Reel	76

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 Power Derating Curve

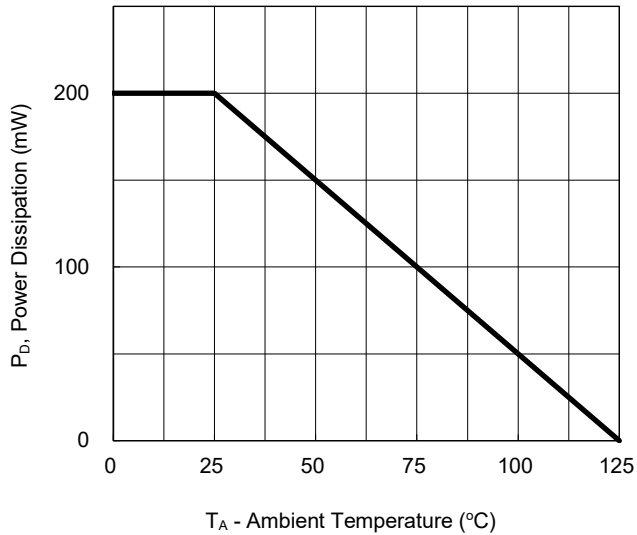


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Leg

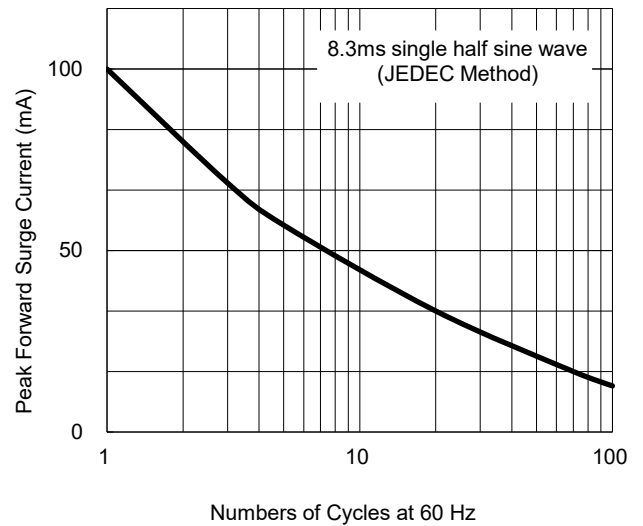


Fig.3 Typical Forward Characteristics

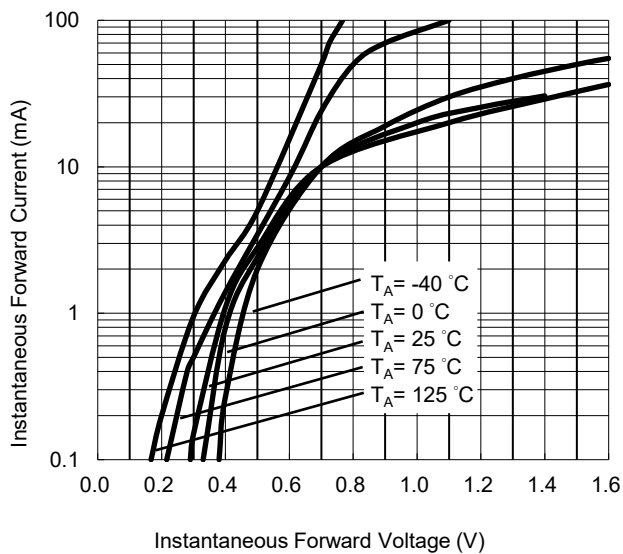
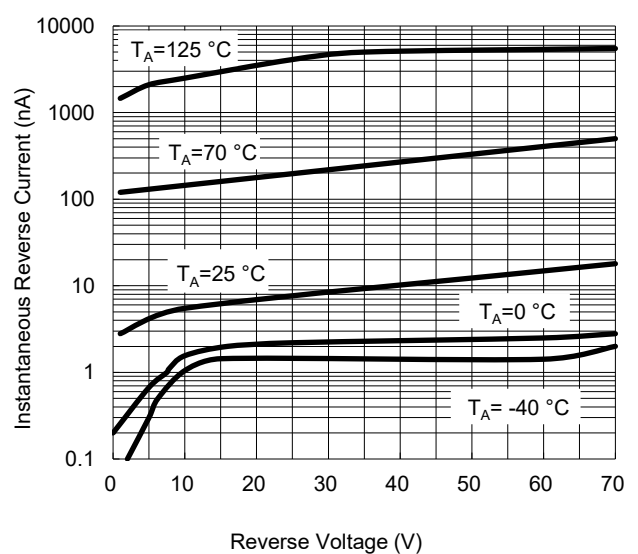


Fig.4 Typical Reverse Characteristics



CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 5 Typical Total Capacitance VS. Reverse Voltage

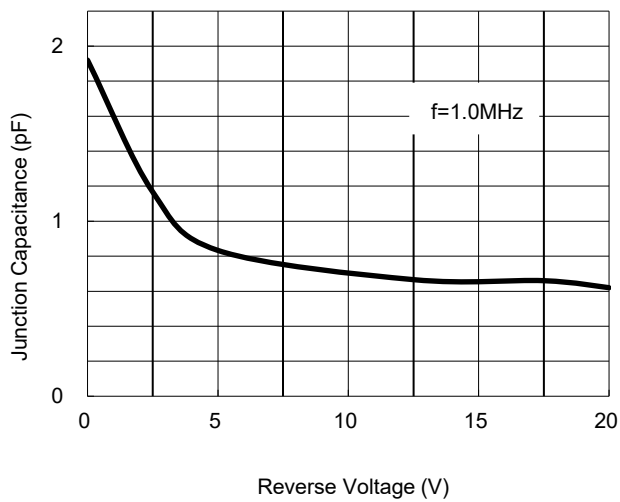
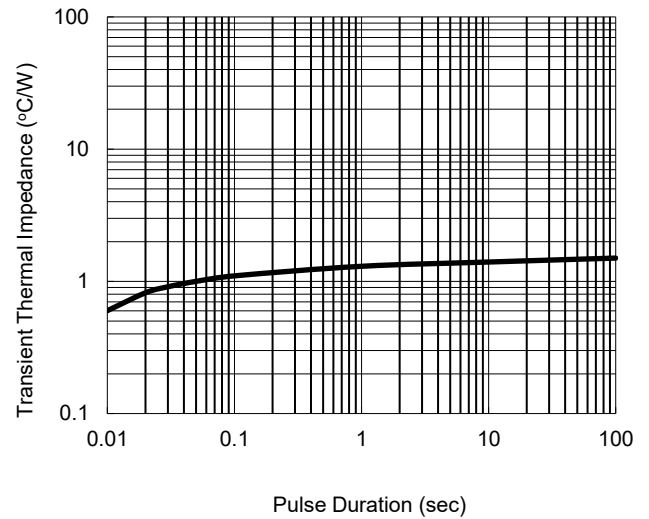
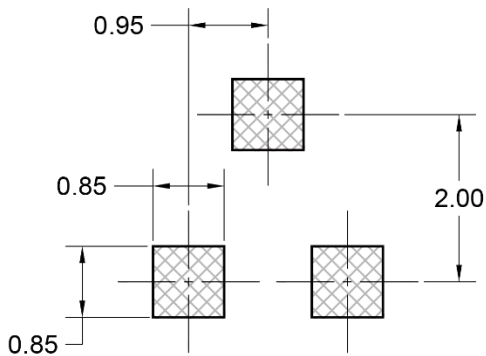
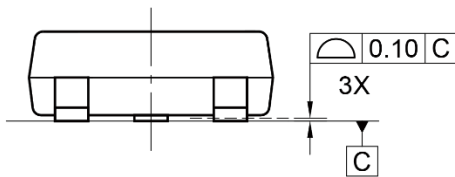
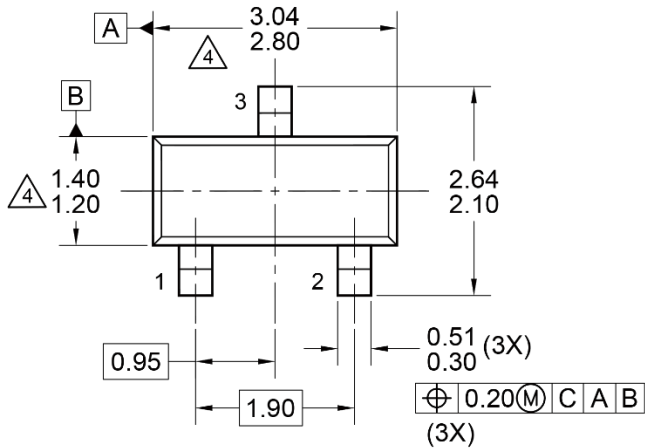


Fig.6 Typical Transient Thermal Characteristics

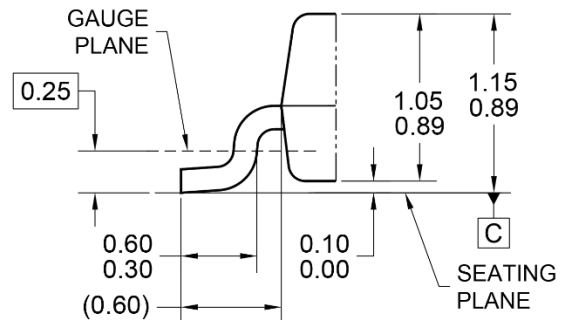
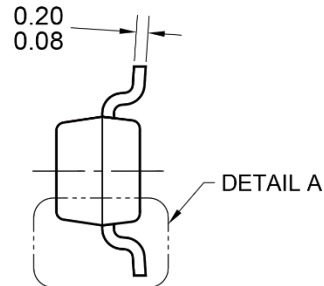


PACKAGE OUTLINE DIMENSIONS

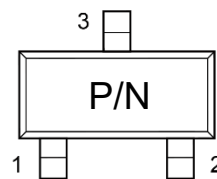
SOT-23



SUGGESTED PAD LAYOUT



DETAIL A, ROTATED -90°
(SCALE 2:1)



MARKING DIAGRAM

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC TO-236, ISSUE H, VARIATION AA.
4. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DWG NO. REF: HQ2SD07-SOT23JEDEC-104 REV B.

P/N = Device marking

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