

200mA, Low VF SMD Schottky Barrier Diode

FEATURES

- Designed for mounting on small surface
- Low Capacitance
- Low forward voltage drop
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

APPLICATIONS

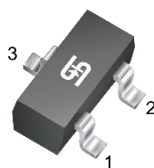
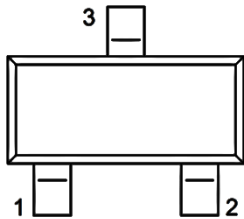
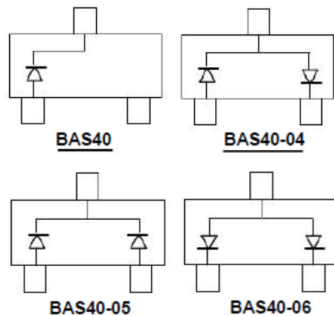
- Adapters
- For switching power supply
- Low stored charge
- Inverter

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
$I_{F(AV)}$	200	mA
V_{RRM}	40	V
I_{FSM}	0.6	A
V_F at $I_F=40mA$	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
Repetitive peak reverse voltage	V_{RRM}	40	V
Forward current	$I_{F(AV)}$	200	mA
Non-repetitive peak forward surge current @ $t = 8.3ms$	I_{FSM}	0.6	A
Junction temperature range	T_J	-65 to +125	°C
Storage temperature range	T_{STG}	-65 to +125	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	357	°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	-	0.38	V
	$I_F = 40\text{mA}, T_J = 25^\circ\text{C}$			1.00	
Reverse current per diode ⁽²⁾	$V_R = 30\text{V}, T_J = 25^\circ\text{C}$	I_R	-	0.2	μA
Reverse Breakdown Voltage	$I_R = 10\mu\text{A}$	$V_{(BR)}$	40	-	V
Junction capacitance	$f = 1\text{MHz}, V_R = 1\text{V}$	C_J	-	5.0	pF
Reverse Recovery Time	$I_F = I_R = 10\text{mA}, R_L = 100\Omega,$ $I_{RR} = 1\text{mA}$	t_{rr}	-	5.0	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
BAS40 RFG	SOT-23	3K / 7" Reel	43
BAS40-04 RFG	SOT-23	3K / 7" Reel	44
BAS40-05 RFG	SOT-23	3K / 7" Reel	45
BAS40-06 RFG	SOT-23	3K / 7" Reel	46

CHARACTERISTICS CURVES

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

Fig. 1 Power Derating Curve

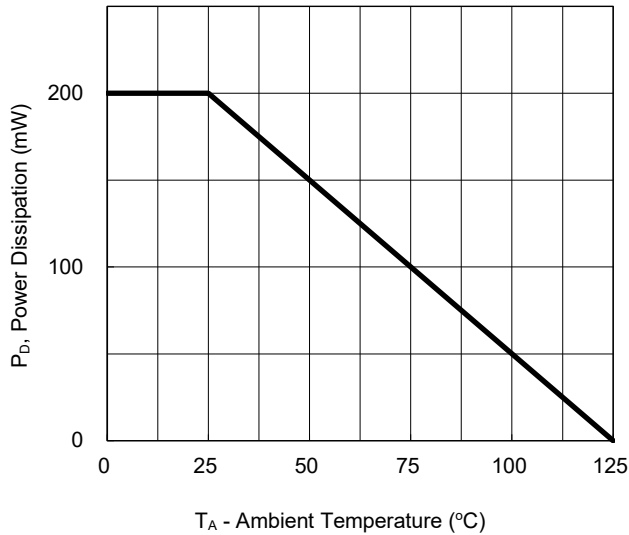


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Leg

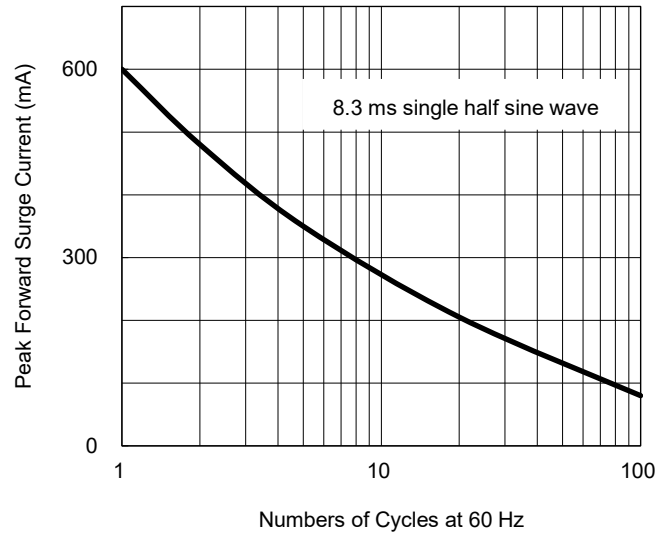


Fig.3 Typical Forward Characteristics

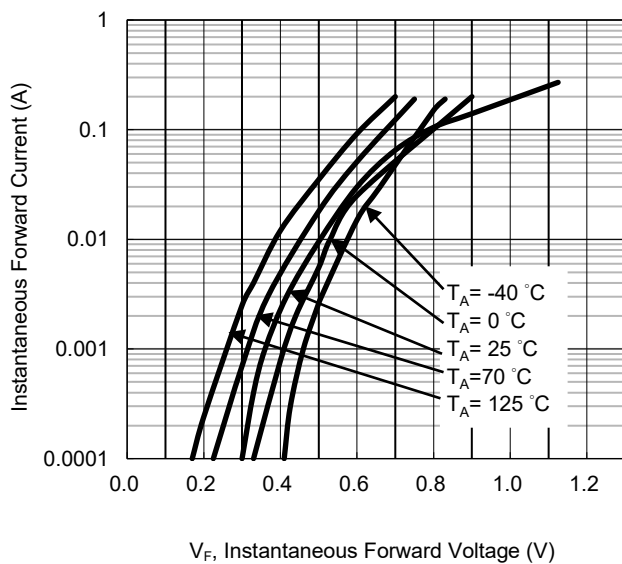
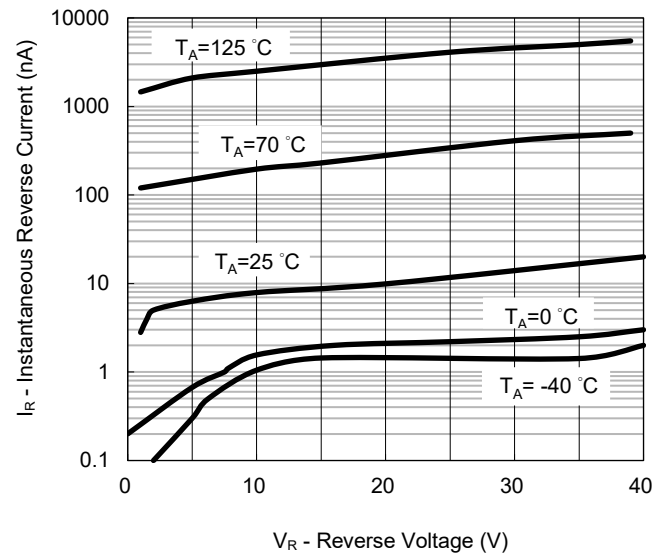


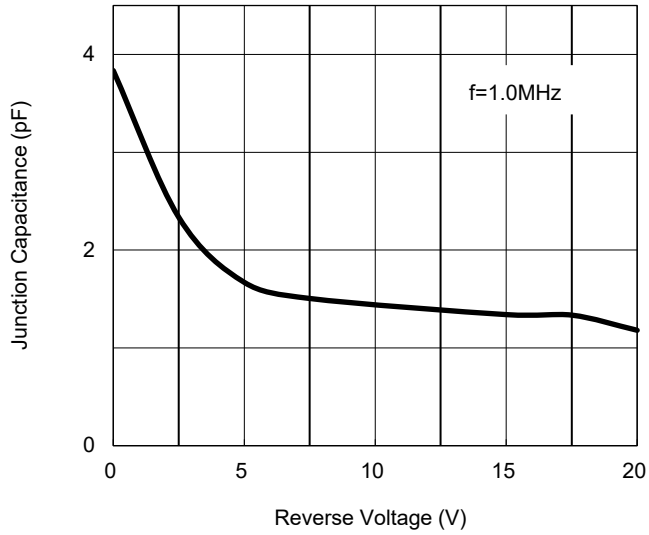
Fig.4 Typical Reverse Characteristics



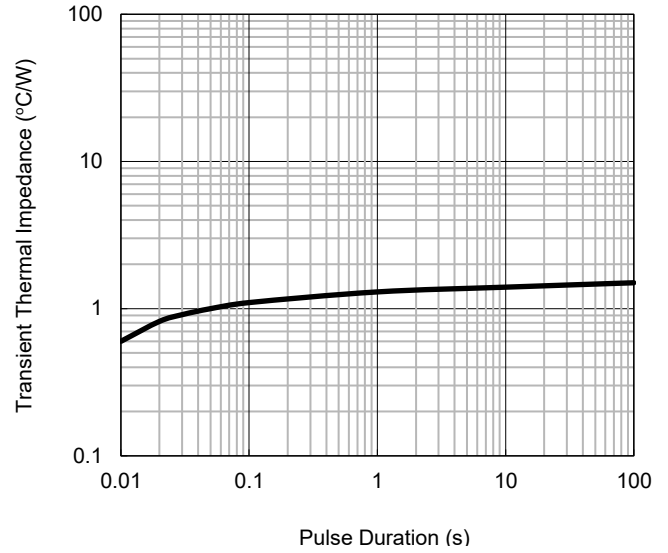
CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

**Fig. 5 Typical Total Capacitance VS.
Reverse Voltage**

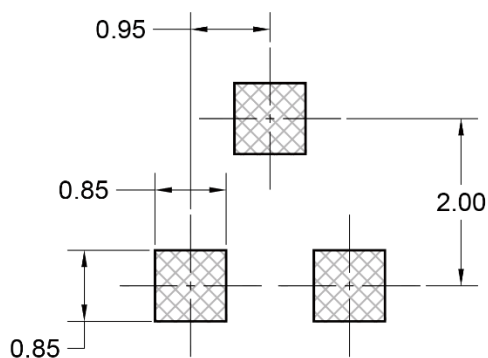
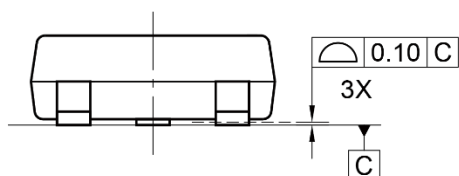
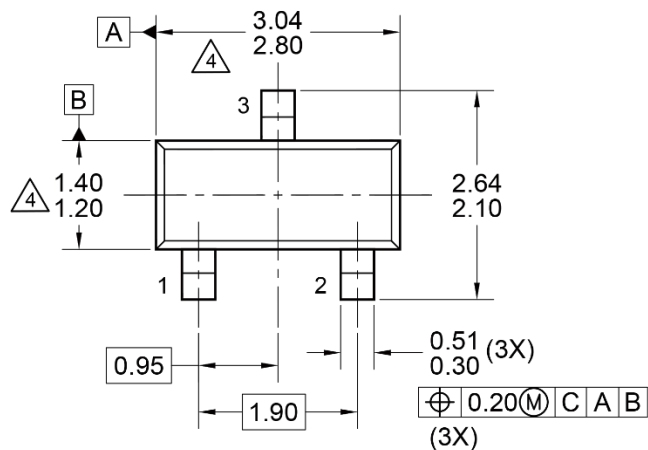


**Fig.6 Typical Transient Thermal
Characteristics**

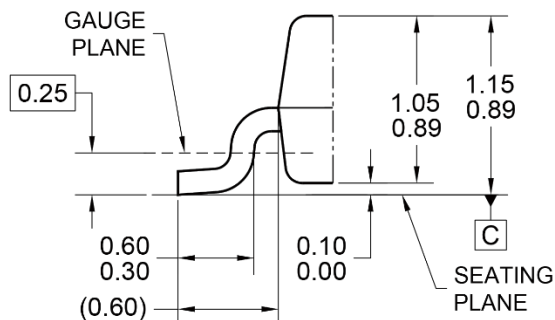
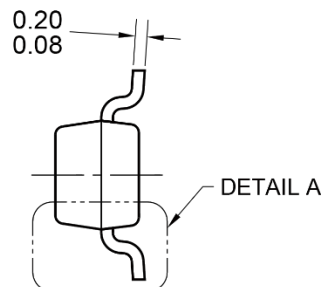


PACKAGE OUTLINE DIMENSIONS

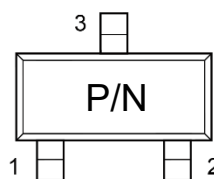
SOT-23



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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