

## 225mA, 250V Dual High Speed Switching Diode

### FEATURES

- AEC-Q101 qualified
- Fast switching speed
- Low leakage current
- Ideal for automated placement
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

### APPLICATIONS

- High-speed switching at high voltage
- High-voltage general-purpose switching

### MECHANICAL DATA

- Case: SOT-23
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Weight: 8.00mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	225	mA
$V_{RRM}$	250	V
$I_{FSM}$	9	A
$T_{J\ MAX}$	150	°C
$V_F$ at $I_F=200mA$	1.25	V
Configuration	Dual die	



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 <sup>(1)</sup>	$P_D$	350	mW
Repetitive peak reverse voltage	$V_{RRM}$	250	V
Forward current	$I_F$	225	mA
Repetitive peak forward current	$I_{FRM}$	625	mA
Non-repetitive peak forward surge current	$t = 10\text{ms}$	1.7	A
	$t = 100\mu\text{s}$	3	A
	$t = 1\mu\text{s}$	9	A
Junction temperature	$T_J$	-55 to +150	°C
Storage temperature	$T_{STG}$	-55 to +150	°C

**Note:**

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	357	°C/W

**Thermal Performance Note:**

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

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

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	$I_F = 100\text{mA}$	$V_F$	-	-	1.00	V
	$I_F = 200\text{mA}$		-	-	1.25	
Reverse breakdown voltage	$I_R = 100\mu\text{A}$	$V_{BR}$	250	-	-	V
Reverse current <sup>(2)</sup>	$V_R = 200\text{V}$	$I_R$	-	-	0.1	$\mu\text{A}$
	$V_R = 200\text{V}, T_J = 150^\circ\text{C}$		-	-	100	$\mu\text{A}$
Junction capacitance	$f = 1\text{MHz}, V_R = 0\text{V}$	$C_J$	-	-	5	pF
Reverse recovery time	$I_F = I_R = 30\text{mA},$ $I_{RR} = 3\text{mA}, R_L = 100\Omega$	$t_{rr}$	-	-	50	ns

**Notes:**

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

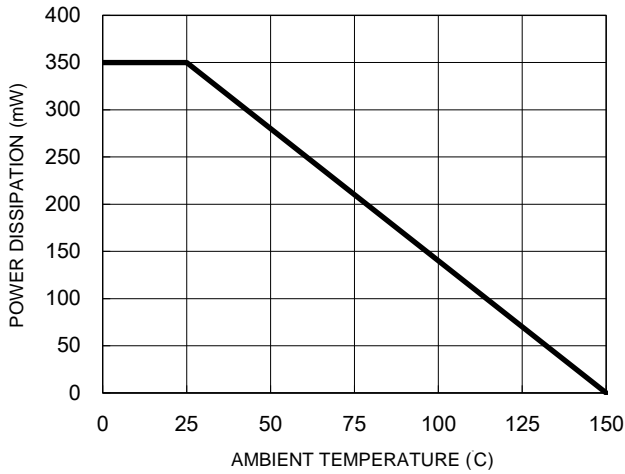
**ORDERING INFORMATION**

ORDERING CODE	PACKAGE	PACKING
BAV23SH RFG	SOT-23	3,000 / 7" Tape & Reel

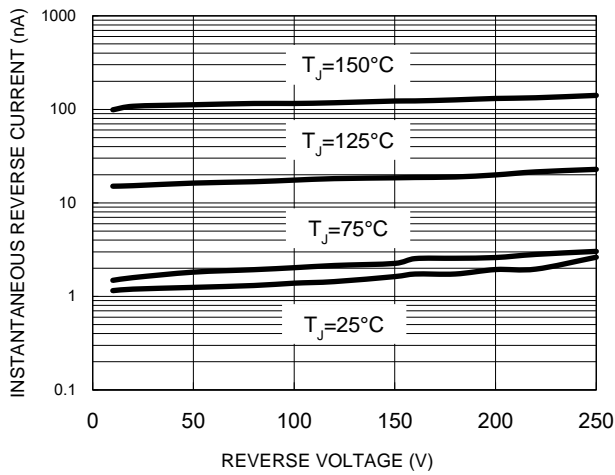
**CHARACTERISTICS CURVES**

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

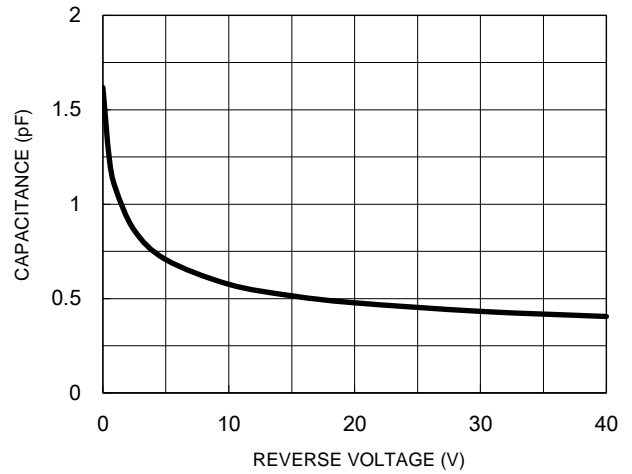
**Fig.1 Power Dissipation Curve**



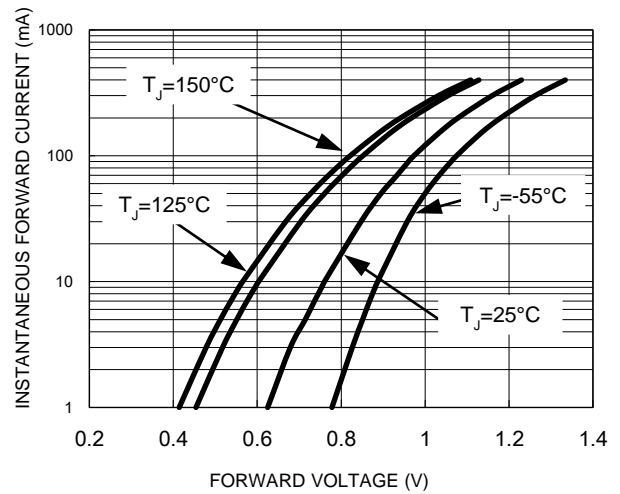
**Fig.3 Typical Reverse Characteristics**



**Fig.2 Typical Junction Capacitance**

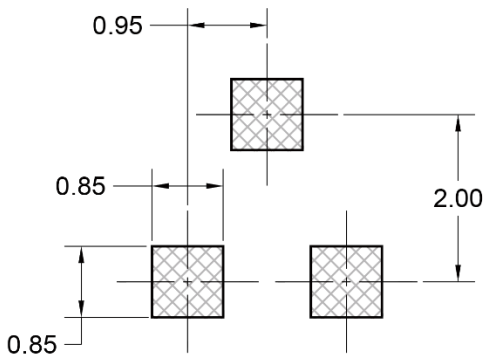
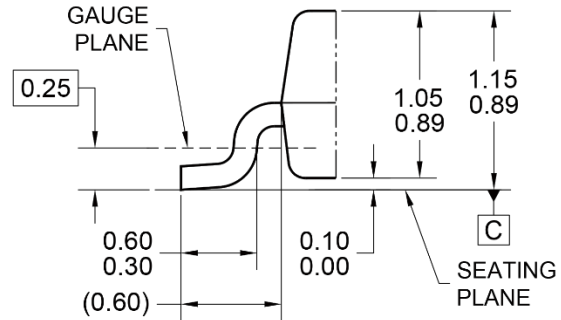
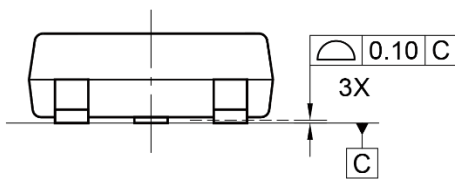
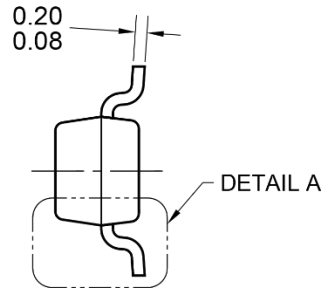
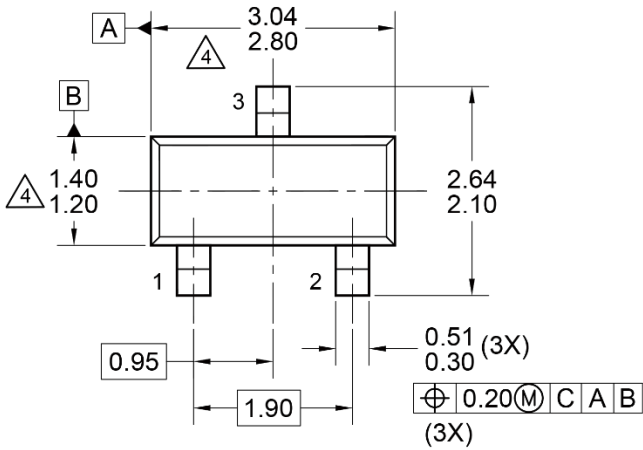


**Fig.4 Typical Forward Characteristics**

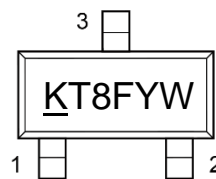


**PACKAGE OUTLINE DIMENSIONS**

**SOT-23**



**SUGGESTED PAD LAYOUT**



**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.

- KT8** = Device marking
- F** = Factory code
- Y** = Year code
- W** = Bi-Week code (A~Z)

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