

## 100mA, 45V Schottky Barrier Diode

### FEATURES

- AEC-Q101 qualified
- Low Capacitance
- Low forward voltage drop
- Surface mound device type
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

### APPLICATIONS

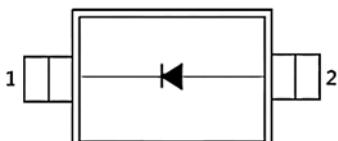
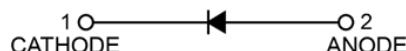
- Adapters
- For switching power supply
- Low stored charge
- Inverter

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	100	mA
$V_{RRM}$	45	V
$I_{F5M}$	1	A
$T_{J\ MAX}$	125	°C
$V_F$ at $I_F=10\text{mA}$	0.45	V
Configuration	Single die	

### MECHANICAL DATA

- Case: SOD-323
- 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
- Polarity: Indicated by cathode band
- Weight: 4.5mg (approximately)



PACKAGE: SOD-323	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>	$P_D$	200	mW
Peak reverse voltage	$V_{RM}$	45	V
Reverse voltage	$V_R$	40	V
Forward current	$I_F$	100	mA
Non-repetitive peak forward surge current $t = 8.3\text{ms}$	$I_{F5M}$	1	A
Junction temperature	$T_J$	-55 to +125	°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>	$R_{\Theta JA}$	500	°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<sub>A</sub> = 25°C unless otherwise noted)**

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	$I_F = 10\text{mA}$	$V_F$	-	-	0.45	V
Reverse breakdown voltage	$I_R = 100\mu\text{A}$	$V_{BR}$	45	-	-	V
Reverse current <sup>(2)</sup>	$V_R = 10\text{V}$	$I_R$	-	-	1	$\mu\text{A}$
Junction capacitance	$f = 1\text{MHz}, V_R = 10\text{V}$	$C_J$	-	6	-	pF

**Notes:**

1. Pulse test with PW=0.3 ms  
2. Pulse test with PW=30 ms

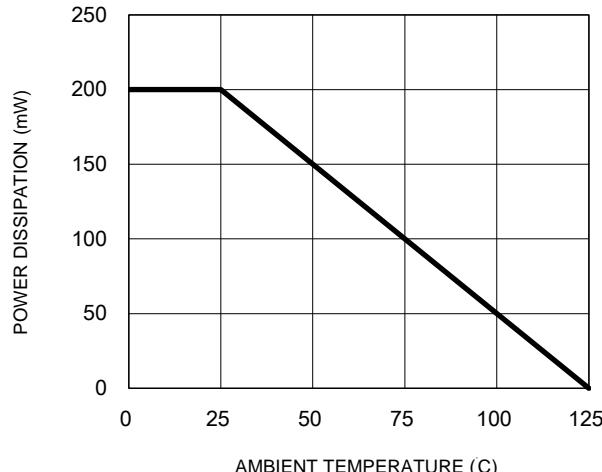
**ORDERING INFORMATION**

ORDERING CODE	PACKAGE	PACKING
RB500V-40H RRG	SOD-323	3,000 / 7" Tape & Reel

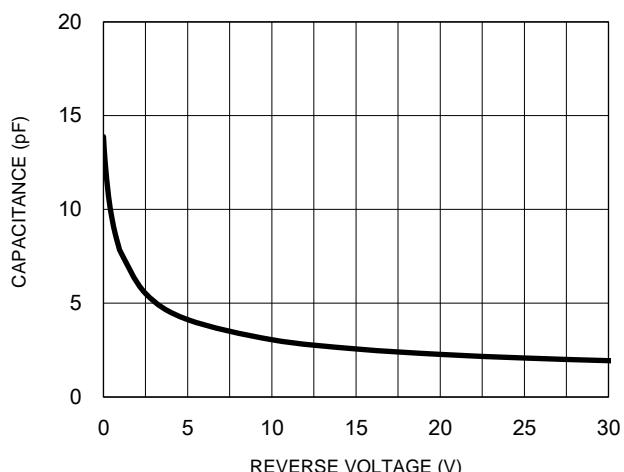
## CHARACTERISTICS CURVES

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

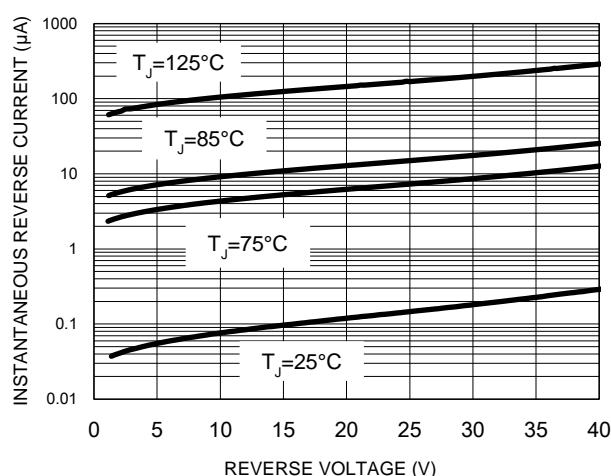
**Fig.1 Power Dissipation Curve**



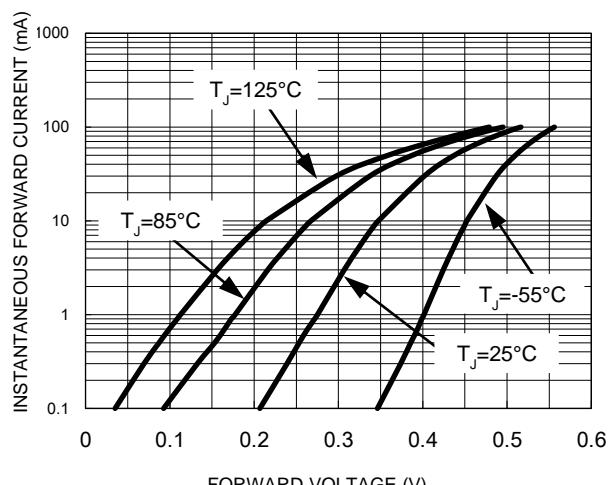
**Fig.2 Typical Junction Capacitance**

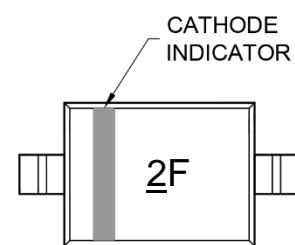
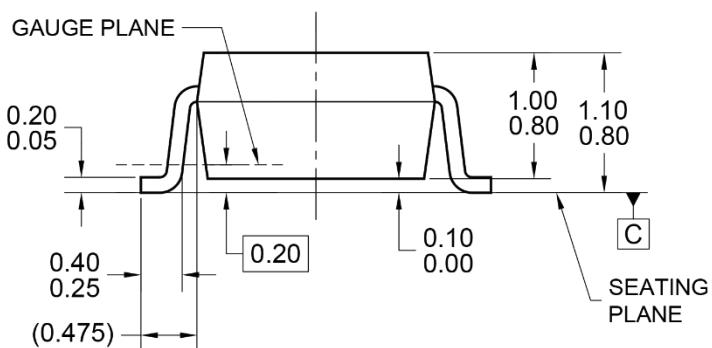
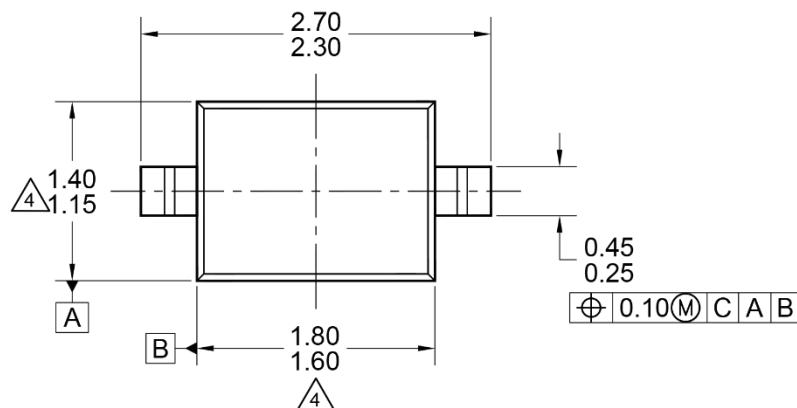


**Fig.3 Typical Reverse Characteristics**

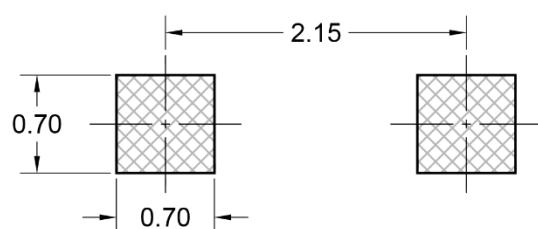


**Fig.4 Typical Forward Characteristics**



**PACKAGE OUTLINE DIMENSION**
**SOD-323**

**MARKING DIAGRAM**

2 = Device marking  
 F = Factory code


**SUGGESTED PAD LAYOUT**
**NOTES: UNLESS OTHERWISE SPECIFIED**

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: EIAJ ED-7500A, SC-76A.
4. MOLDED PLASTIC BODY LATERAL DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DWG NO. REF: HQ2SD07-SOD323-113 REV A.

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