

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


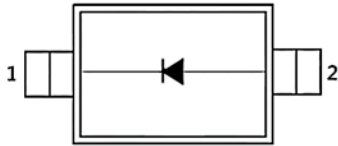
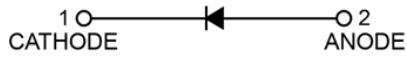
- Adapters
- For switching power supply
- Low stored charge
- Inverter

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)

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



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 ⁽¹⁾	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	I_{FSM}	1	A
$t = 8.3ms$			
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 ⁽¹⁾	$R_{\theta JA}$	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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 10\text{mA}$	V_F	-	-	0.45	V
Reverse breakdown voltage	$I_R = 100\mu\text{A}$	V_{BR}	45	-	-	V
Reverse current ⁽²⁾	$V_R = 10\text{V}$	I_R	-	-	1	μA
Junction capacitance	$f = 1\text{MHz}, V_R = 10\text{V}$	C_J	-	6	-	pF

Notes:

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

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

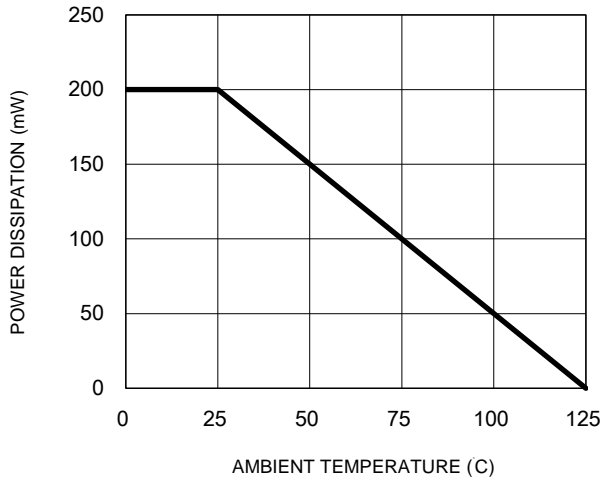


Fig.2 Typical Junction Capacitance

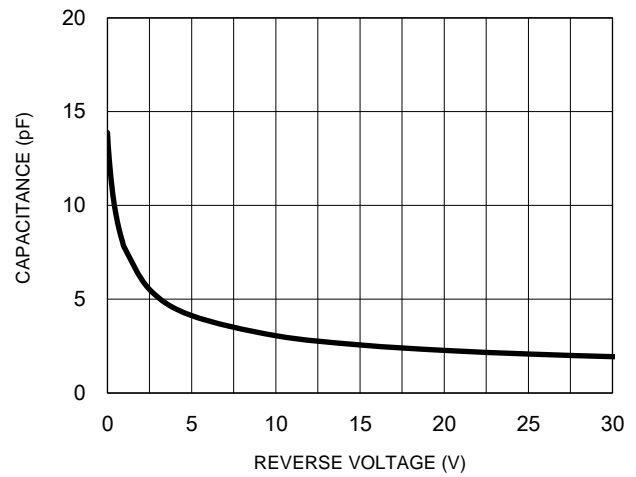


Fig.3 Typical Reverse Characteristics

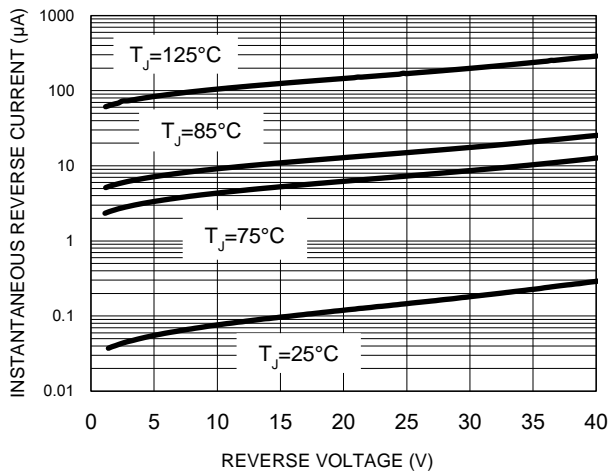
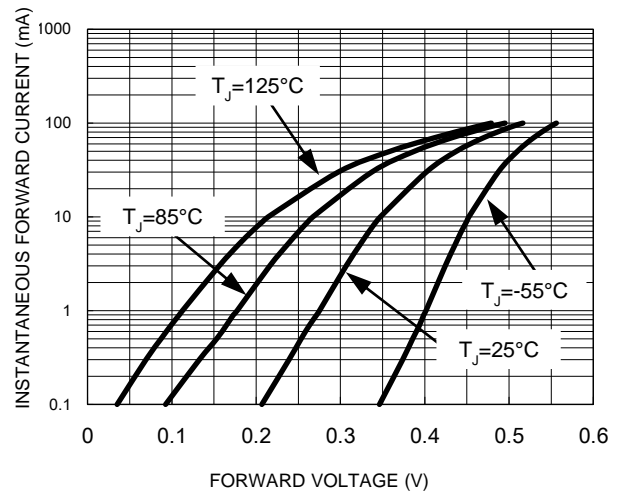
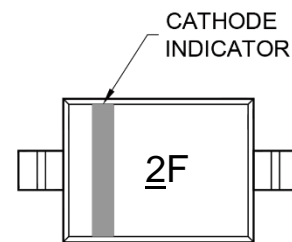
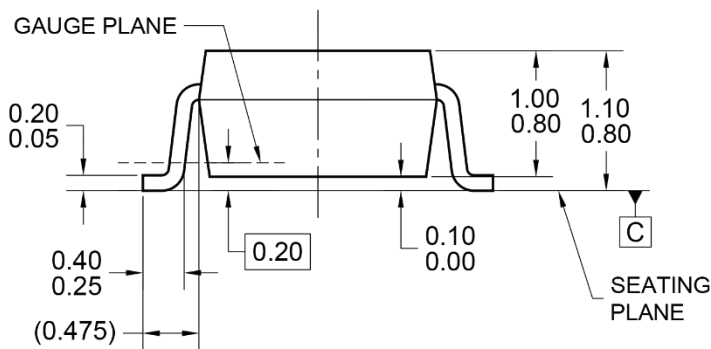
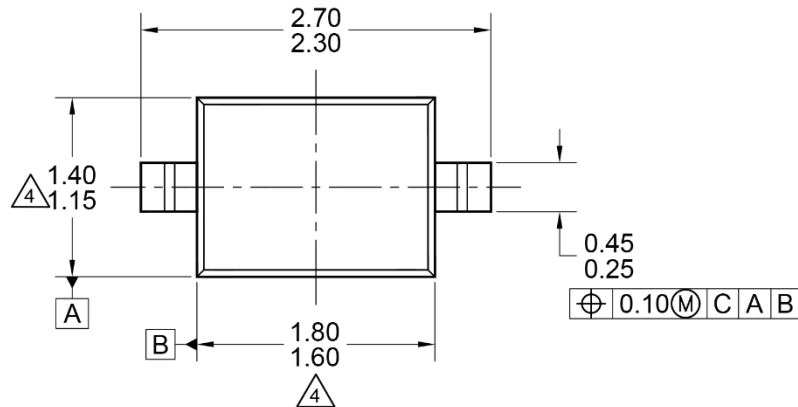


Fig.4 Typical Forward Characteristics



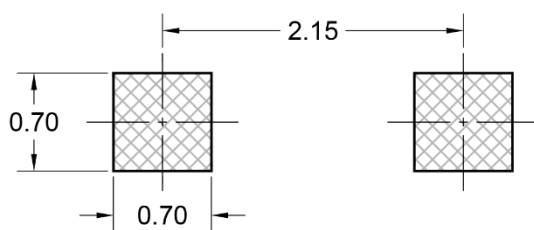
PACKAGE OUTLINE DIMENSION

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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