

## 40V, 0.5A Schottky Barrier Diode

### Product Summary

Parameter	Rating
$V_{RRM}$	40 V
$V_F \text{ Max @ } 500\text{mA}$	470 mV
$I_{F(AV)}$	500 mA
$I_R \text{ Max @ } V_F = 40 \text{ V}$	100 $\mu\text{A}$



### Features

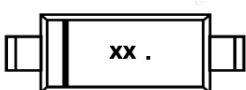

- High Current Rectifier Schottky Diode
- For Power Supply
- Low Voltage, Low Inductance

SOD-323

### Mechanical Data

- Package: SOD-323 package name
- Moisture Sensitivity: Level 1, per J-STD-020
- Halogen Free. "Green" Device <sup>(Note1)</sup>
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish & RoHS Compliant
- Weight: 0.004 g (approximate)

### Body Marking and Pin Layout

Body Marking	Internal structure
 <p><b>XX:</b> Device Marking Code<sup>1</sup>  <b>Bar:</b> Cathode Pin indicator  <b>Dot(optional):</b> Manufacturing Site Marking</p> <p><sup>1</sup>   Refer to the ordering information for the specific device code.</p>	

### Ordering Information

Ordering Product Name	Device Marking Code	Reel Size	Packing Type	Qty/Reel
Product Name-TP	D4	7"	Tape & Reel	3,000
Product Name-13P	D4	13"	Tape & Reel	10,000

For packaging details, visit our website at <https://www.mccsemi.com/Package/List>

**40V, 0.5A Schottky Barrier Diode**
**Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Reverse Voltage	$V_R$	40	V
Forward continuous current	$I_F$	500	mA
Non-Repetitive Peak Surge Current	$I_{FSM}$	2	A
$t_p= 8.3\text{ms Half Sine Wave, } T_J = 25^\circ\text{C}$			
Power Dissipation <sup>(Note 2)</sup>	$P_D$	200	mW
Operating Temperature Range	$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

- Notes:
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  2. Device mounted on an FR4 Printed-Circuit Board (PCB) with the recommended pad layout.

**Thermal characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Rating	Unit
Thermal Resistance from Junction to Ambient <sup>(Note 2)</sup>	$R_{\theta JA}$	500	$^\circ\text{C/W}$

**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$I_R=100 \mu\text{A}$ (pulse test)	$V_{BR}$	40			V
Forward Voltage	$I_F = 500 \text{ mA}$	$V_F$			0.47	V
Reverse Current	$V_R = 40 \text{ V}$	$I_R$			100	$\mu\text{A}$
Junction Capacitance	$V_R=0 \text{ V, } f=1.0\text{MHz}$	$C_J$			150	pF
Reverse Recovery Time	$I_F=10\text{mA, } I_R=10\text{mA, } I_{rr}=0.1 \times I_R, R_L=100\Omega$	$t_{rr}$			30	ns

Curve Characteristics

Fig.1 - Typical Instantaneous Forward Characteristics (per diode)

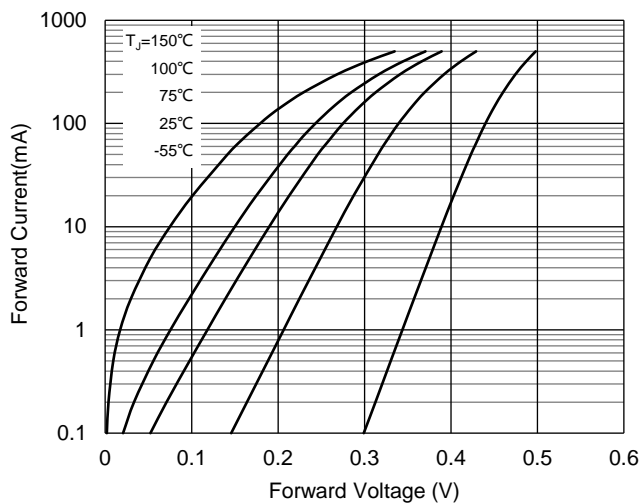


Fig.2 - Typical Reverse Leakage Characteristics (per diode)

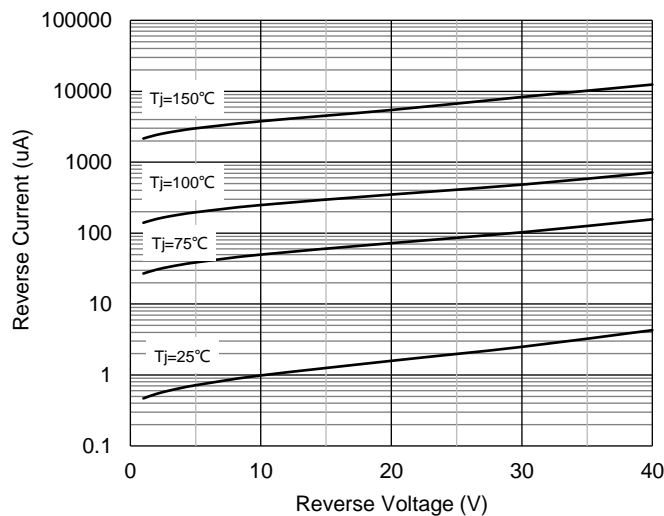


Fig.3 - Typical Capacitance Characteristics (per diode)

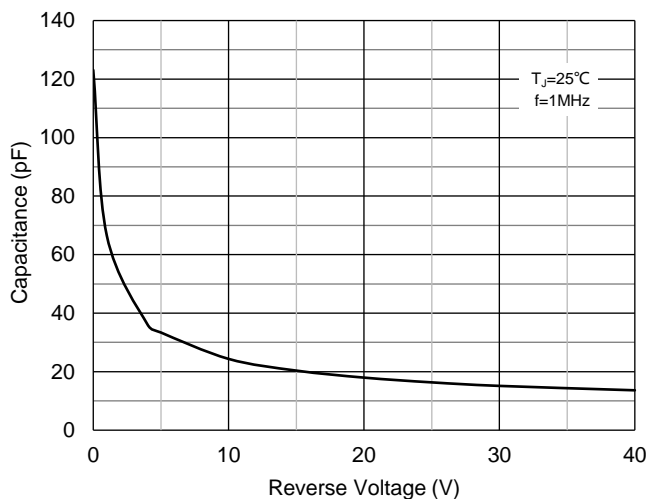
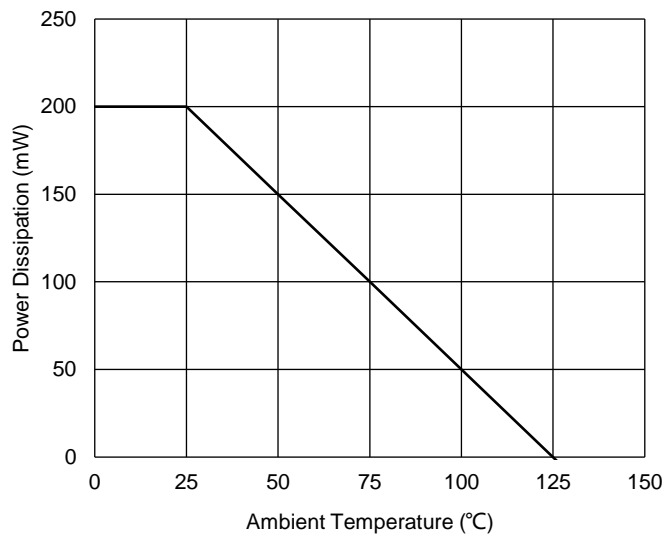
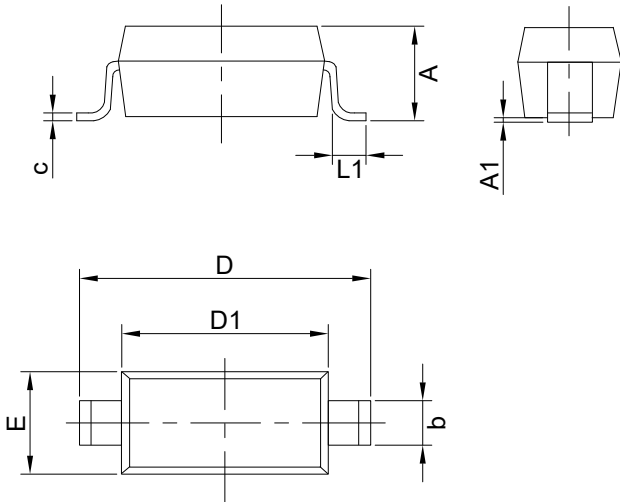


Fig.4 - Power Derating Curve



Package Outline

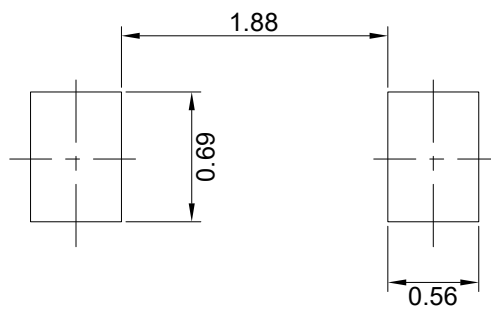


DIM	INCH		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.031	0.045	0.80	1.15*	Note 1
A1	0.000	0.006	0.00	0.15	
b	0.010	0.016	0.25	0.40	
c	0.003	0.010	0.08	0.25	
D	0.090	0.107	2.30	2.70	
D1	0.063	0.071	1.60	1.80	
E	0.045	0.055	1.15	1.40	
L1	0.004	0.018	0.10	0.45	

Notes:

1. Dimension A for products from manufacturing site VN is controlled at max 1.10 mm.

Suggested Pad Layout (Unit:mm)



Notes:

1. The suggested land pattern dimensions have been provided for reference only.
2. For further information, please refer to document IPC-7351A.

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