30V, 0.5A Schottky Barrier Diode

Product Summary

Parameter	Rating
V_{RRM}	30 V
V_F Max @ 500mA	470 mV
$I_{F(AV)}$	500 mA
I_R Max @ V_F = 20 V	100 µA

RoHS Compliant Lead Free Halogen Free

SOD-323

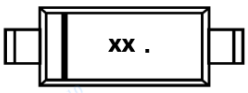
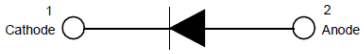
Features

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

Mechanical Data

- Package: SOD-323 package name
- Moisture Sensitivity: Level 1, per J-STD-020
- Halogen Free. “Green” Device (Note1)
- 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
 **XX**: Device Marking Code[1] **Bar**: Cathode Pin indicator **Dot**(optional): Manufacturing Site Marking [1] | Refer to the ordering information for the specific device code.	

Ordering Information

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

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

Maximum Ratings (T_A=25℃ unless otherwise specified)

Parameter		Symbol	Rating	Unit
Peak Repetitive Reverse Voltage		V_{RRM}	30	V
RMS Reverse Voltage		$V_{R(RMS)}$	21	V
Reverse Voltage		V_R	30	V
Average Forward Current		$I_{F(AV)}$	500	mA
Non-Repetitive Peak Surge Current	t_p= 8.3ms Half Sine Wave, T_J = 25℃	I_{FSM}	2	A
Power Dissipation (Note 2)		P_D	200	mW
Operating Junction Temperature Range		T_J	-55 to +125	℃
Storage Temperature Range		T_{STG}	-55 to +150	℃

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℃ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Thermal Resistance from Junction to Ambient (Note 2)	$R_{\theta JA}$	500	℃/W

Electrical Characteristics (T_A=25℃ unless otherwise specified)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage	I_R=100 μA (pulse test)	V_{BR}	30			V
Forward Voltage	I_F = 100 mA	V_F			0.36	V
	I_F = 500 mA				0.47	
Reverse Current	V_R = 20 V	I_R			100	μA
Junction Capacitance	V_R=1 V, f=1.0MHz	C_J			100	pF
Reverse Recovery Time	I_F=10mA, I_R=10mA, I_{rr}=0.1 x I_R, R_L=100Ω	t_{rr}			50	ns

Curve Characteristics

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

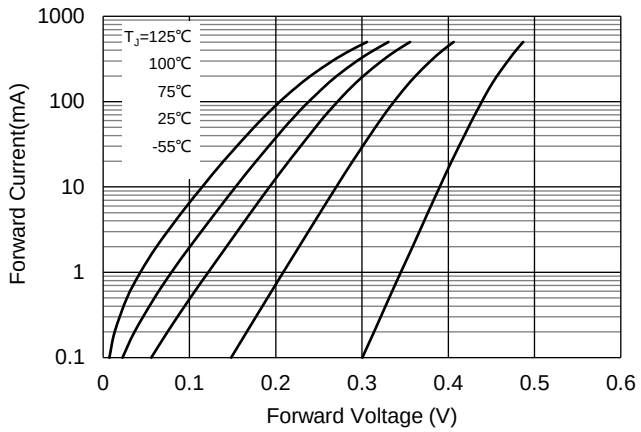


Fig.2 - Typical Reverse Leakage Characteristics (per diode)

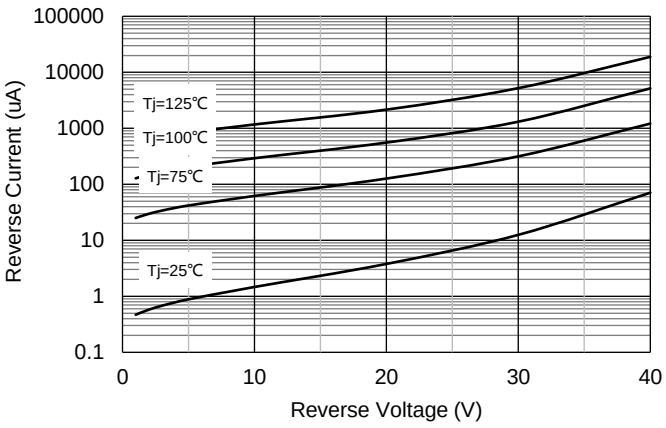


Fig.3 - Typical Capacitance Characteristics (per diode)

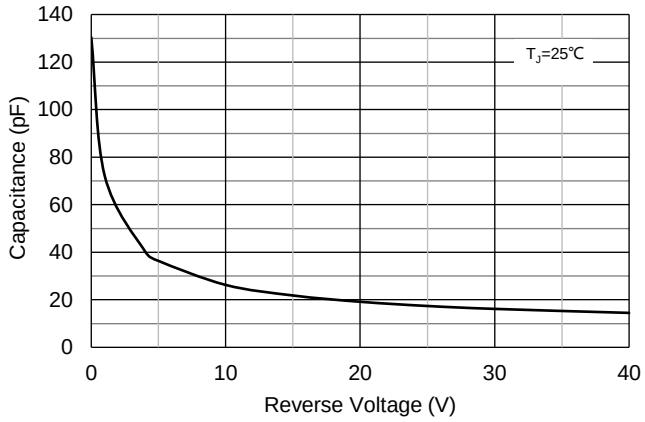
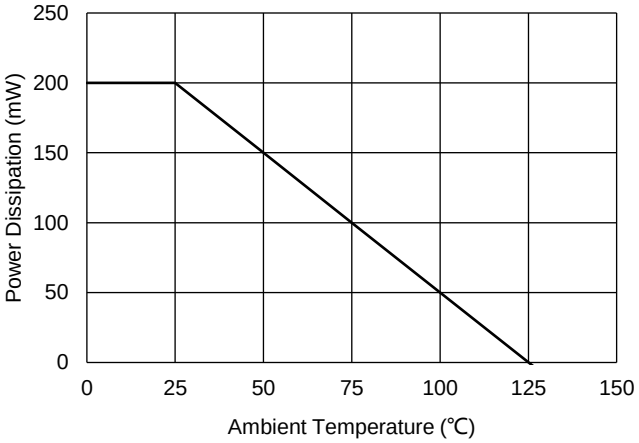
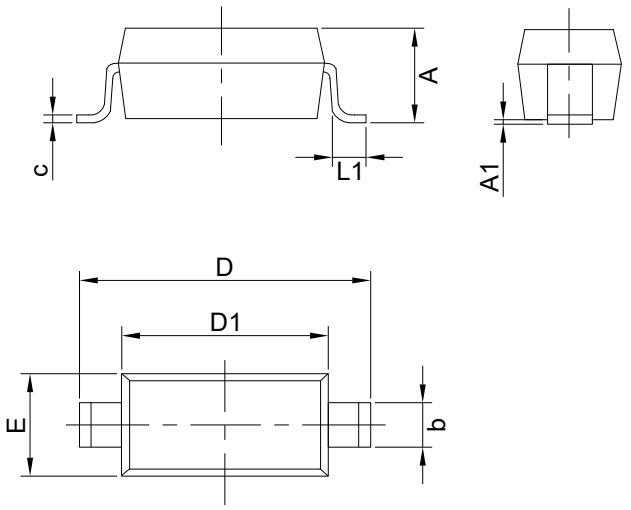


Fig.4 - Power Derating Curve



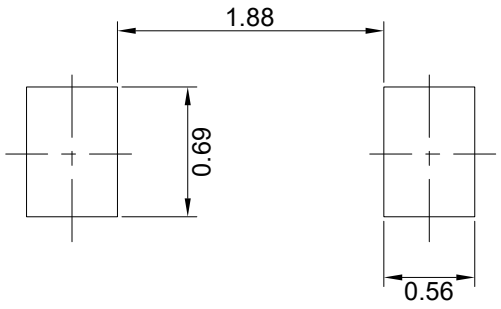
Package Outline



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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