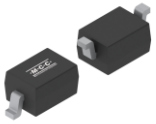
200mW High Voltage Switching Diode

Product Summary

Parameter	Rating
V_{BR}	250 V
t_{rr} Max	50 ns
I_R Max @ V_F = 200 V	0.1 μA



RoHS Compliant | Lead Free | Halogen Free

SOD-323

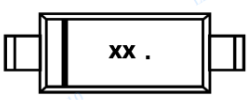
Features

- For Surface Mount Application

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 Part Number	Device Marking Code	Reel Size	Packing Type	Qty/Reel	Pin 1 Orientation
Product Name-TP	JS	7”	Tape & Reel	3,000	Q1Q2
Product Name-13P	JS	13”	Tape & Reel	10,000	Q1Q2

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

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Maximum Ratings (T_A=25℃ unless otherwise specified)

Parameter		Symbol	Rating	Unit
Peak Repetitive Reverse Voltage		V_{RRM}	250	V
RMS Reverse Voltage		$V_{R(RMS)}$	177	V
Reverse Voltage		V_R	250	V
Forward current		I_F	200	mA
Non-Repetitive Peak Surge Current	t_p= 8.3ms Half Sine Wave, T_J = 25℃	I_{FSM}	625	mA
Power Dissipation (Note 2)		P_D	200	mW
Operating Junction Temperature Range		T_J	-55 to +150	℃
Storage Temperature Range		T_{STG}	-55 to +150	℃

Note:
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)	$R_{\theta JA}$	625	℃/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}	250			V
Forward Voltage	I_F = 100 mA	V_F			1	V
	I_F = 200 mA				1.25	
Reverse Current	V_R = 200 V	I_R			0.1	μA
	V_R = 200 V,T_J=150℃				100	
Junction Capacitance	V_R=0 V, f=1.0MHz	C_J			5	pF
Reverse Recovery Time	I_F=30mA, I_R=30mA, I_{rr}=0.1 x I_R, R_L=100Ω	t_{rr}			50	ns

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Curve Characteristics

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

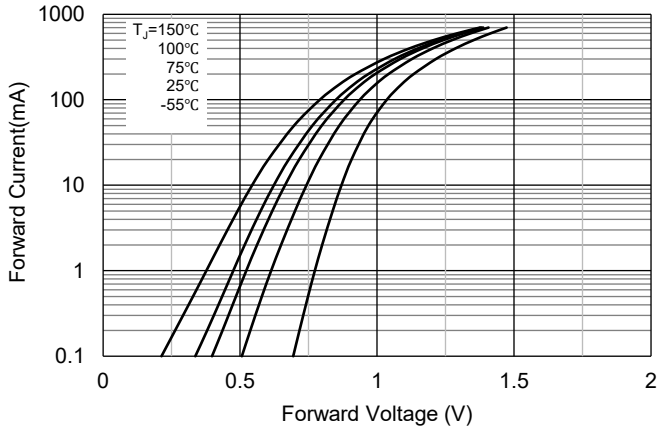


Fig.2 - Typical Reverse Leakage Characteristics (per diode)

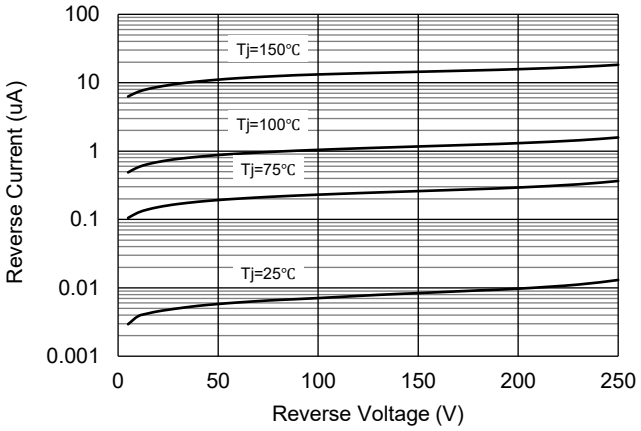


Fig.3 - Typical Capacitance Characteristics (per diode)

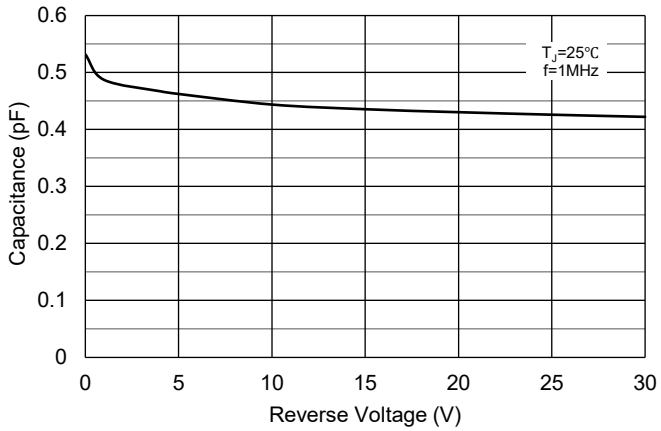
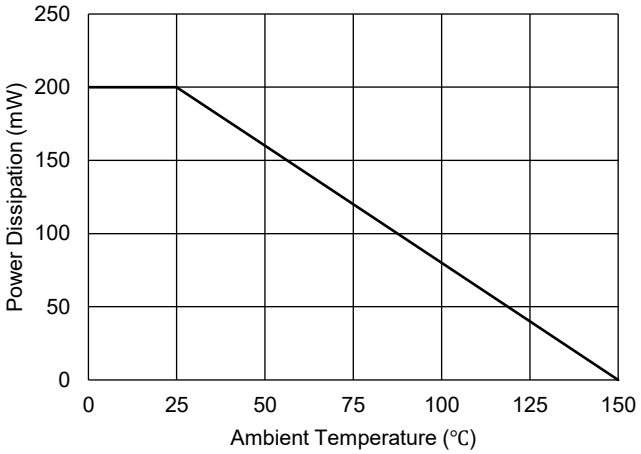


Fig.4 - Power Derating Curve



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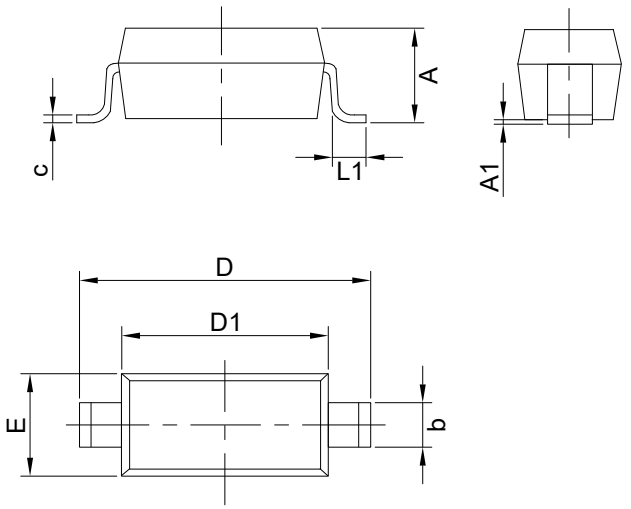
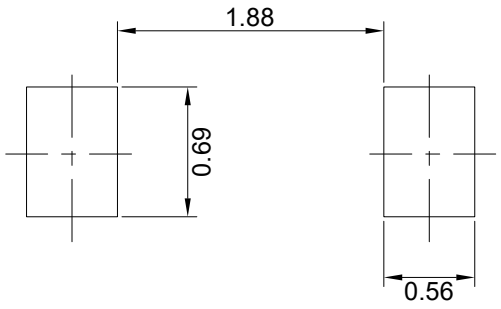
Package Outline



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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