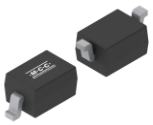
200mW High Voltage/Fast Switching Diode

Product Summary

Parameter	Rating
V_{BR}	100 V
t_{rr} Max	4 ns
I_R Max @ V_R = 75 V	1 µA



SOD-323

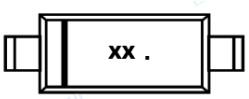
Features

- Fast Switching Speed
- High Conductance

Mechanical Data

- Package: SOD-323
- 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	T5	7”	Tape & Reel	3,000	Q1Q2
Product Name-13P	T5	13”	Tape & Reel	10,000	Q1Q2

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}	100	V
RMS Reverse Voltage		$V_{R(RMS)}$	71	V
Reverse Voltage		V_R	100	V
Average Forward Current		$I_{F(AV)}$	250	mA
Non-Repetitive Peak Surge Current	t_p= 8.3ms Half Sine Wave, T_J = 25℃	I_{FSM}	4	A
Power Dissipation (Note 2)		P_D	200	mW
Operating Junction Temperature Range		T_J	-65 to +150	℃
Storage Temperature Range		T_{STG}	-65 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}	100			V
Forward Voltage	I_F = 5 mA	V_F			0.72	V
	I_F = 10 mA				0.855	
	I_F = 100 mA				1	
	I_F = 150 mA				1.250	
Reverse Current	V_R = 20 V	I_R			0.025	μA
	V_R = 75 V				1	
	V_R = 25 V, T_J=150℃				30	
	V_R = 75 V, T_J=150℃				50	
Junction Capacitance	V_R=0 V, f=1.0MHz	C_J			4	pF
Reverse Recovery Time	I_F=10mA, I_R=10mA, I_{rr}=0.1 x I_R, R_L=100Ω	t_{rr}			4	ns

Curve Characteristics

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

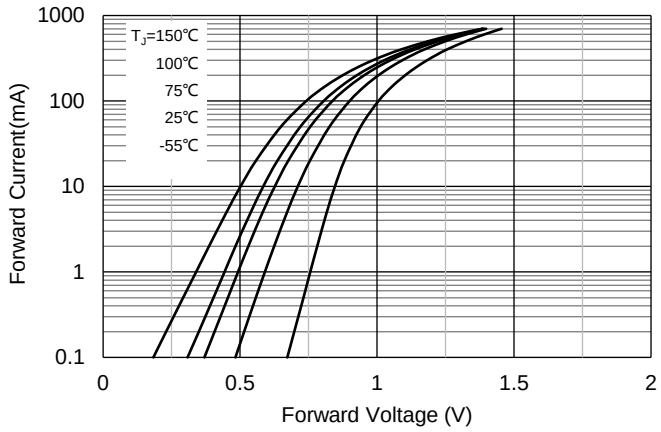


Fig.2 - Typical Reverse Leakage Characteristics (per diode)

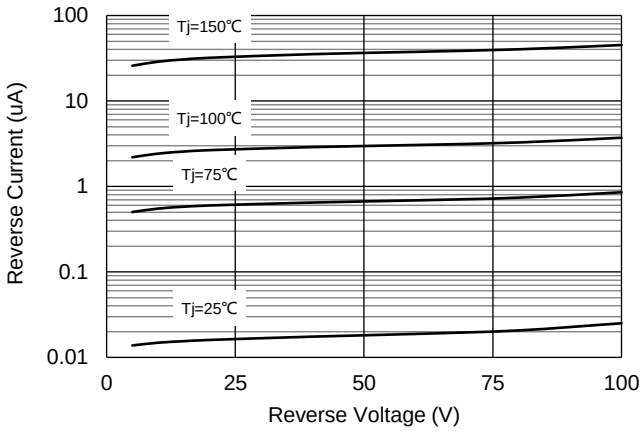


Fig.3 - Typical Capacitance Characteristics (per diode)

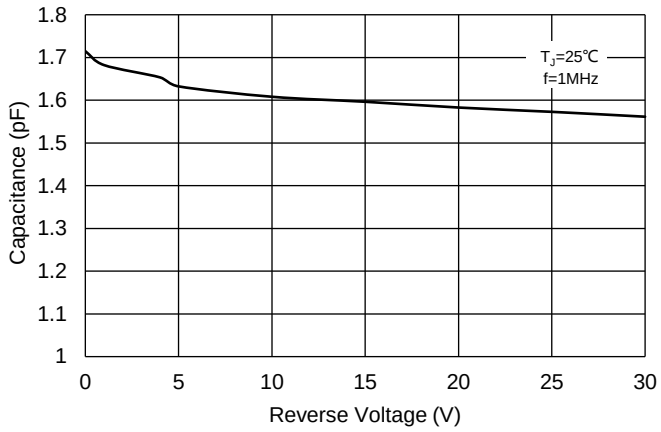
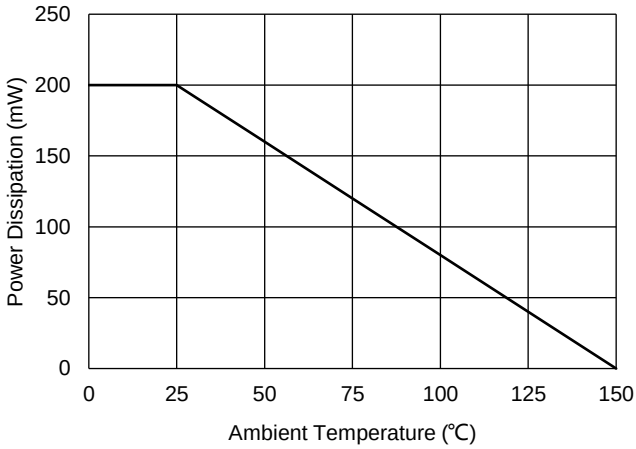
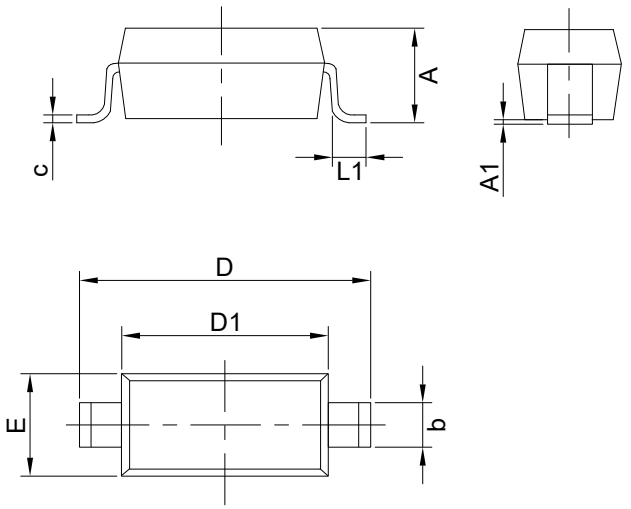


Fig.4 - Power Derating Curve



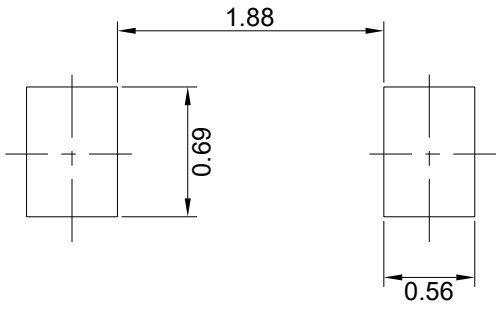
Package Outline



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.

DISCLAIMERS

Micro Commercial Components Corp. (MCC) reserves the right to make changes to any product without prior notice, including corrections, modifications, enhancements, improvements, or other changes. MCC's products are not designed, authorized, or warranted for use in medical, military, aircraft, space, or life support equipment, nor in applications where failure or malfunction of an MCC product can reasonably be expected to result in personal injury, death, or severe property or environmental damage. MCC does not assume liability for any application or use of the products described herein, nor does it convey any license under its patent rights or those of others. Users of MCC's products in any such application assume all risks associated with their use and agree to hold MCC and all companies whose products are represented on our website harmless against any damages. MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of MCC.

Counterfeiting of semiconductor parts is an increasing problem in the industry. MCC is taking strong measures to protect both ourselves and our customers from counterfeit products. We strongly encourage customers to purchase our parts either directly from MCC or through Authorized Distributors, who are listed by country on our website. Products purchased directly from MCC or from Authorized Distributors are genuine, have full traceability, and meet our quality standards for handling and storage. MCC will not provide warranty coverage or any other assistance for parts bought from Unauthorized Sources.

This document, along with the item(s) described within, may be subject to export control regulations. Exporting these items may require prior authorization from national authorities.

Terms and Conditions - MCC products are sold subject to the general terms and conditions of commercial sale, as published at https://www.mccsemi.com/Home/TermsAndConditions.