

200mW Fast Switching Diode

Product Summary

Parameter	Rating
V_{BR}	80 V
$t_{rr} \text{ Max}$	4 ns
$I_R \text{ Max @ } V_R = \text{XX V}$	0.1 μA



Features

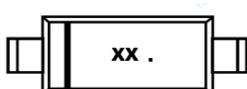
- Fast Switching Speed
- For General Purpose Switching Applications

SOD-323

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
 <p>XX: Device Marking Code¹ Bar: Cathode Pin indicator Dot(optional): Manufacturing Site Marking</p> <p>¹ Refer to the ordering information for the specific device code.</p>	

Ordering Information

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

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

Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	80	V
RMS Reverse Voltage	$V_{R(RMS)}$	63	V
Reverse Voltage	V_R	80	V
Average Forward Current	$I_{F(AV)}$	150	mA
Non-Repetitive Peak Surge Current	I_{FSM}	0.5	A
$t_p= 8.3\text{ms Half Sine Wave, } T_J = 25^\circ\text{C}$			
Power Dissipation ^(Note 2)	P_D	200	mW
Operating Junction Temperature Range	T_J	-65 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^\circ\text{C}$

- Note:
- Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 - 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 ^(Note 2)	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$

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}	80			V
Forward Voltage	$I_F = 100 \text{mA}$	V_F			1.2	V
Reverse Current	$V_R = 80 \text{V}$	I_R			0.1	μA
Junction Capacitance	$V_R=0 \text{V}$, $f=1.0\text{MHz}$	C_J			5	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}			4	ns

Curve Characteristics

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

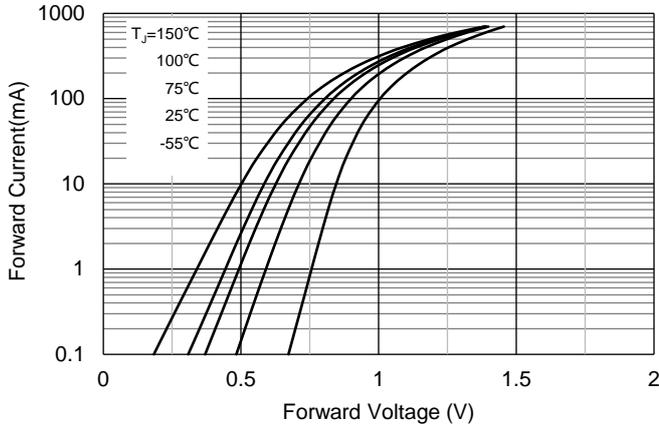


Fig.2 - Typical Reverse Leakage Characteristics (per diode)

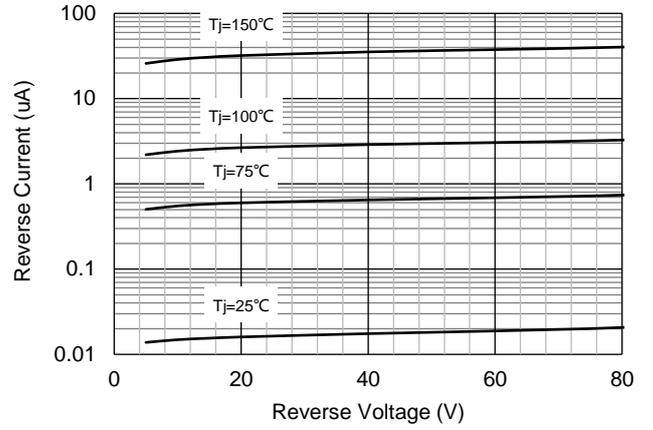


Fig.3 - Typical Capacitance Characteristics (per diode)

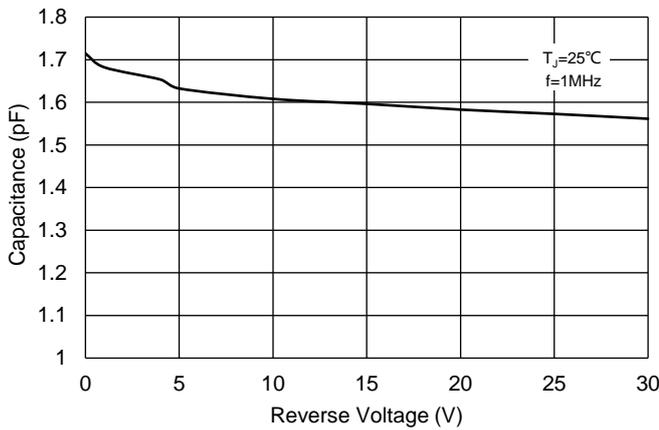
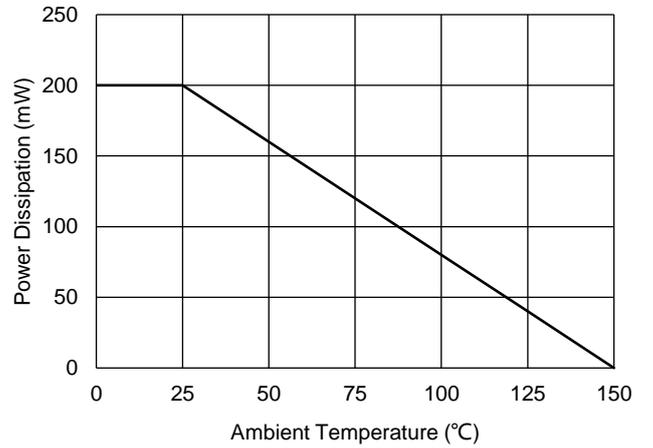
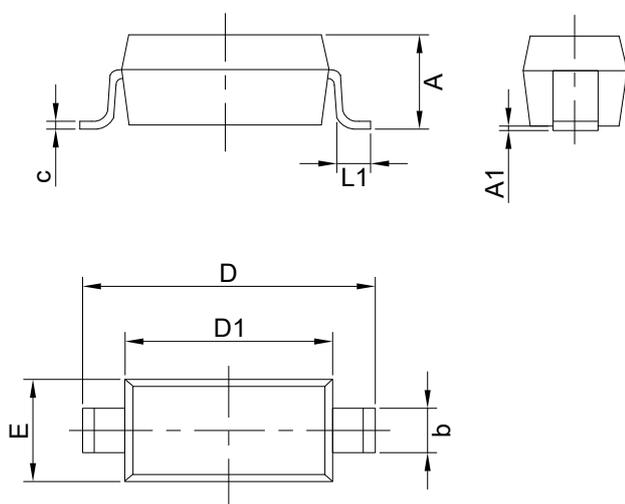


Fig.4 - Power Derating Curve



Package Outline

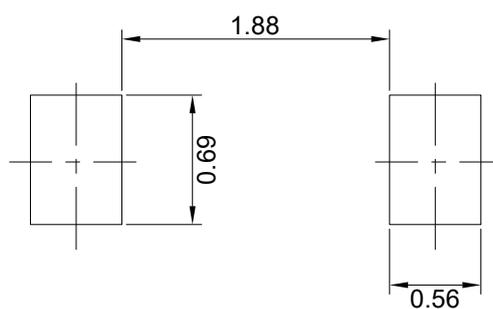


DIM	INCH		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.031	0.045	0.80	1.15*	Note 1
A1	0.000	0.006	0.00	0.15	
b	0.010	0.016	0.25	0.40	
c	0.003	0.010	0.08	0.25	
D	0.090	0.107	2.30	2.70	
D1	0.063	0.071	1.60	1.80	
E	0.045	0.055	1.15	1.40	
L1	0.004	0.018	0.10	0.45	

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.

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