

CMDSH-3 SCHOTTKY BARRIER DIODE



Features

CMDSH-3 type is a silicon Schottky diode, manufactured in a surface mount package, designed for fast switching applications requiring a low forward voltage drop.

Schematic & Pin Configuration



Mechanical Characteristics

- Case: SOD-323, Molded plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.04 grams(approx)

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

Characteristic	Symbol	Value	Units
Peak Reverse Voltage	V_{RRM}	30	V
Average Forward Current	I_o	100	mA
Power Dissipation	P_D	250	mW
Power Dissipation($T_L = 25^{\circ}\text{C}$)	P_D	833	mW
Peak Forward Surge Current (tp=8.3ms)	IFSM	750	mA
Operating Junction Temperature Range	T_J	-65 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Thermal Resistance	$R_{\theta JL}$	150	$^{\circ}\text{C}/\text{W}$

Note: 1. Valid provided that terminals are kept at ambient temperature.

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

Characteristics	Symbol	Condition	Min	Typ.	Max.	Units
Forward Voltage Drop*	V_F	@ $I_F = 50\text{mA}, T_A = 25^{\circ}\text{C}$ @ $I_F = 100\text{mA}, T_A = 25^{\circ}\text{C}$	-	-	0.55 0.80	V
Reverse Recovery Voltage*	V_{BR}	@ $I_F = 100\mu\text{A}$	30	-	-	V
Reverse Current*	I_R	@ $V_R = 25\text{V}, T_J = 25^{\circ}\text{C}$	-	-	10	μA
Typical Junction Capacitance	C_j	@ $V_R = 10.0\text{V}, T_C = 25^{\circ}\text{C}, f_{SIG} = 1\text{MHz}$	-	7.0	-	pF

* Pulse width < 300 μs , duty cycle < 2%

Ratings and Characteristics Curves

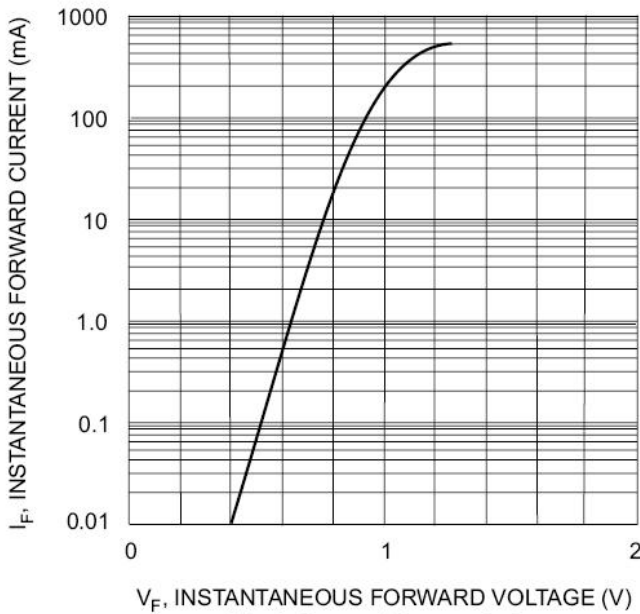


Fig. 1 Forward Characteristics

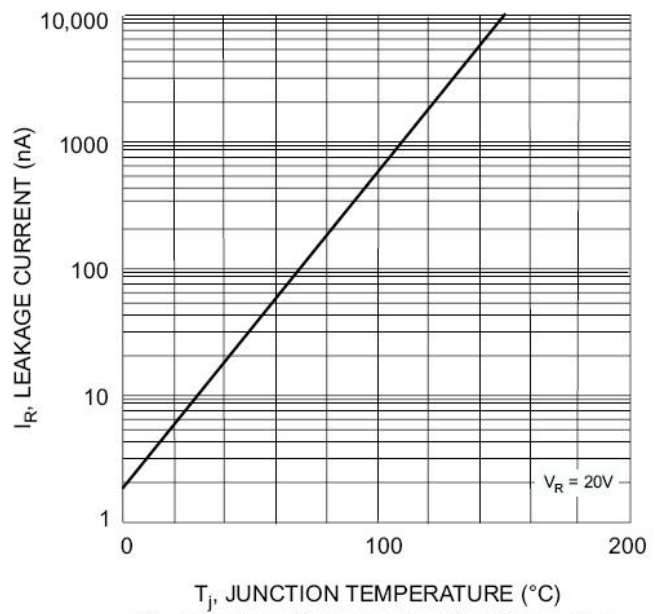
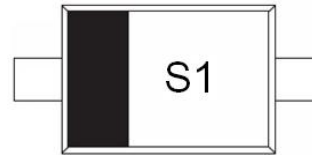


Fig. 2 Leakage Current vs Junction Temperature

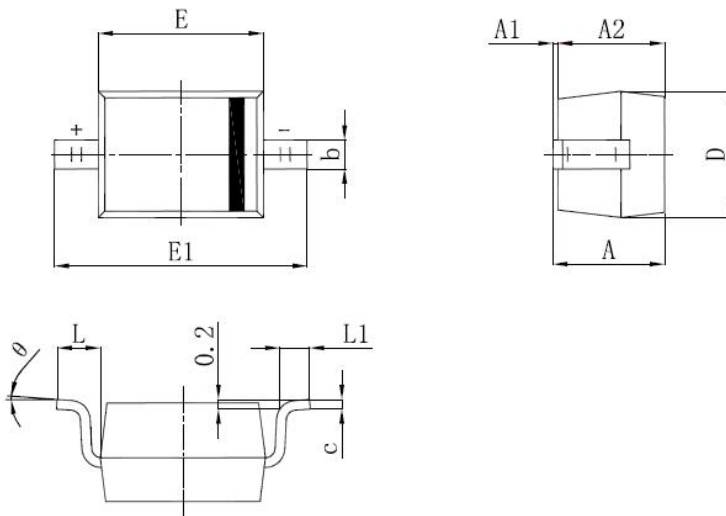
Ordering Information

Device	Package	Shipping
CMDSH-3	SOD-323 (Pb-Free)	3000pcs / reel

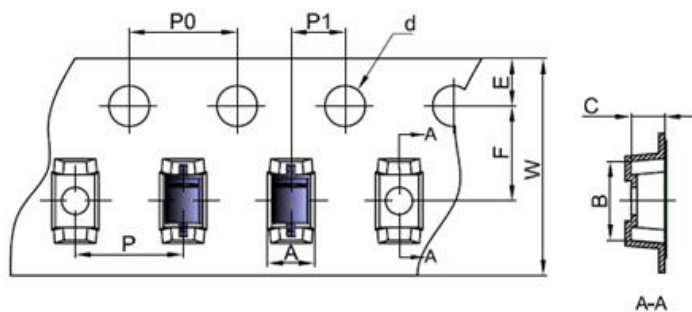
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram


S1 = Marking Code

Mechanical Dimensions SOD-323


SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	-	1.000	-	0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.500	2.700	0.098	0.106
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

Carrier Tape Specification SOD-323


SYMB OL	Millimeters	
	Min.	Max.
B	2.85	2.95
C	1.20	1.30
d	1.40	1.60
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC Diode Solutions sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.

3- In no event shall SMC Diode Solutions be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC Diode Solution assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC Diode Solutions be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC Diode Solutions.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..