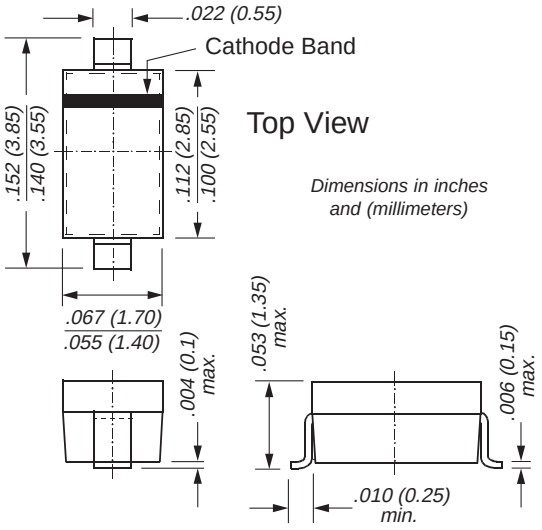
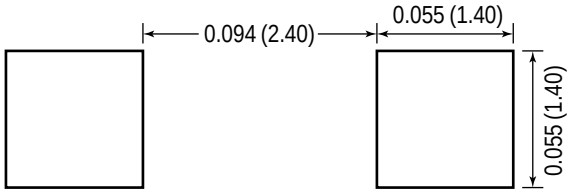
Schottky Diodes

SOD-123



Mounting Pad Layout



Features

- For general purpose applications
- The SD101 series is a Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring.
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications.
- These diodes are also available in the Mini-MELF case with type designations LL101A thru LL101C, in the DO-35 case with type designations SD101A through SD101C and in the SOD-323 case with type designations SD101AWS through SD101CWS.

Mechanical Data

Case: SOD-123 Plastic Case

Weight: approx. 0.01g

Marking Code: SD101AW = SA
SD101BW = SB
SD101CW = SC

Packaging Codes/Options:
D3/10K per 13” reel (8mm tape), 30K/box
D4/3K per 7” reel (8mm tape), 30K/box

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Inverse Voltage SD101AW	V_{RRM}	60	V
Peak Inverse Voltage SD101BW		50	
Peak Inverse Voltage SD101CW		40	
Power Dissipation (Infinite Heatsink)	P_{tot}	400(1)	mW
Maximum Single Cycle Surge 10 μs Square Wave	I_{FSM}	2	A
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	300(1)	°C/W
Junction Temperature	T_j	125(1)	°C
Storage Temperature Range	T_S	–65 to +150	°C

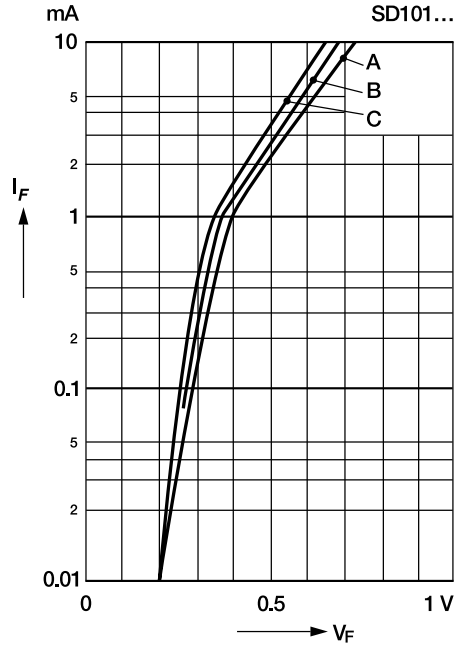
Note: (1) Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics (T_J = 25°C unless otherwise noted)

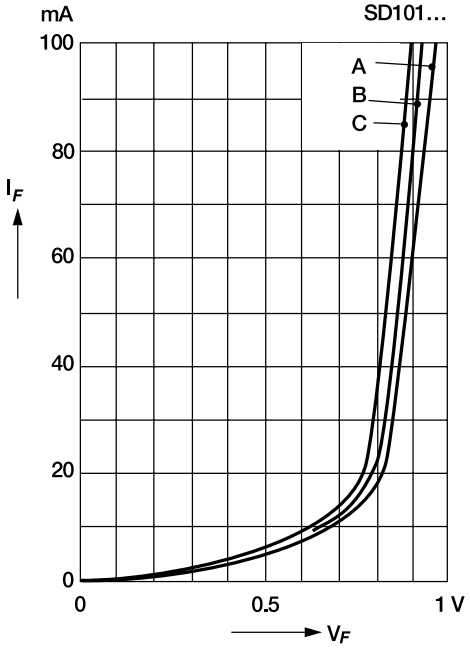
Parameter		Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	SD101AW	$V_{(BR)R}$	I_R = 10μA	60	—	—	V
	SD101BW			50	—	—	
	SD101CW			40	—	—	
Leakage Current	SD101AW	I_R	V_R = 50V	—	—	200	nA
	SD101BW		V_R = 40V	—	—	200	
	SD101CW		V_R = 30V	—	—	200	
Forward Voltage Drop	SD101AW	V_F	I_F = 1mA	—	—	0.41	V
	SD101BW			—	—	0.40	
	SD101CW			—	—	0.39	
	SD101AW		I_F = 15mA	—	—	1.0	
	SD101BW			—	—	0.95	
	SD101CW			—	—	0.90	
Junction Capacitance	SD101AW	C_{tot}	V_R = 0V, f = 1MHz	—	—	2.0	pF
	SD101BW			—	—	2.1	
	SD101CW			—	—	2.2	
Reverse Recovery Time		t_{rr}	I_F = I_R = 5mA, recover to 0.1I_R	—	—	1	ns

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Typical variation of fwd. current vs. fwd. voltage for primary conduction through the Schottky barrier

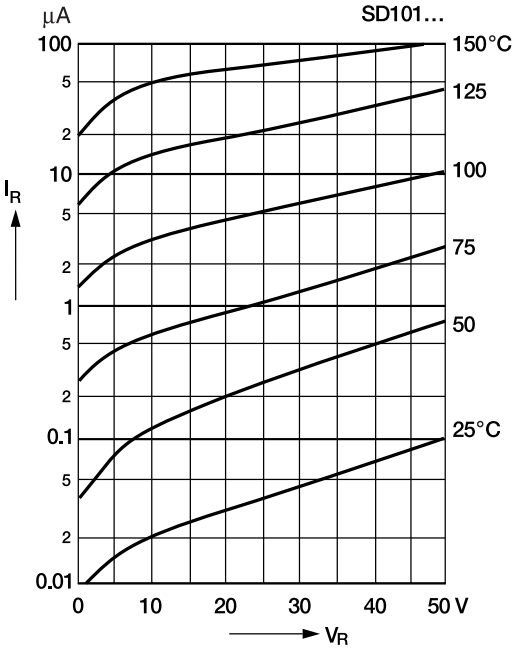


Typical forward conduction curve of combination Schottky barrier and PN junction guard ring



Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Typical variation of reverse current at various temperatures



Typical capacitance curve as a function of reverse voltage