



Small Signal Schottky Diodes



DESIGN SUPPORT TOOLS

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MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.3 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

FEATURES

- For general purpose applications
- 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
- The SD101 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guarding
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

PARTS TABLE				
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
SD101AW	SD101AW-E3-08 or SD101AW-E3-18	Single	SA	Tape and reel
	SD101AW-HE3-08 or SD101AW-HE3-18			
SD101BW	SD101BW-E3-08 or SD101BW-E3-18	Single	SB	
	SD101BW-HE3-08 or SD101BW-HE3-18			
SD101CW	SD101CW-E3-08 or SD101CW-E3-18	Single	SC	
	SD101CW-HE3-08 or SD101CW-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD101AW	V _{RRM}	60	V
		SD101BW	V _{RRM}	50	V
		SD101CW	V _{RRM}	40	V
Power dissipation (infinite heatsink) ⁽¹⁾			P _{tot}	400	mW
Forward continuous current			I _F	30	mA
Maximum single cycle surge	10 μs square wave		I _{FSM}	2	A

Note

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

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R _{thJA}	300	K/W
Junction temperature ⁽¹⁾		T _j	125	°C
Storage temperature range		T _{stg}	-65 to +150	°C
Operating temperature range		T _{op}	-55 to +125	°C

Note

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



ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I _R = 10 μA	SD101AW	V _(BR)	60			V
		SD101BW	V _(BR)	50			V
		SD101CW	V _(BR)	40			V
Leakage current	V _R = 50 V	SD101AW	I _R			200	nA
	V _R = 40 V	SD101BW	I _R			200	nA
	V _R = 30 V	SD101CW	I _R			200	nA
Forward voltage drop	I _F = 1 mA	SD101AW	V _F			410	mV
		SD101BW	V _F			400	mV
		SD101CW	V _F			390	mV
	I _F = 15 mA	SD101AW	V _F			1000	mV
		SD101BW	V _F			950	mV
		SD101CW	V _F			900	mV
Diode capacitance	V _R = 0 V, f = 1 MHz	SD101AW	C _D			2	pF
		SD101BW	C _D			2.1	pF
		SD101CW	C _D			2.2	pF
Reverse recovery time	I _F = I _R = 5 mA, recover to 0.1 I _R		t _{rr}			1	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

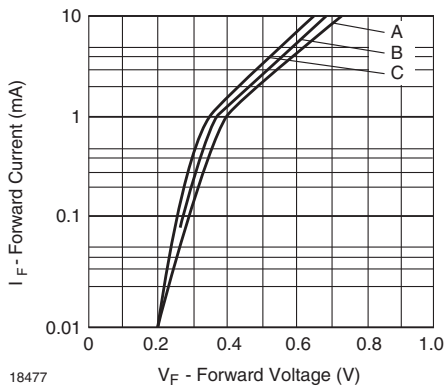


Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

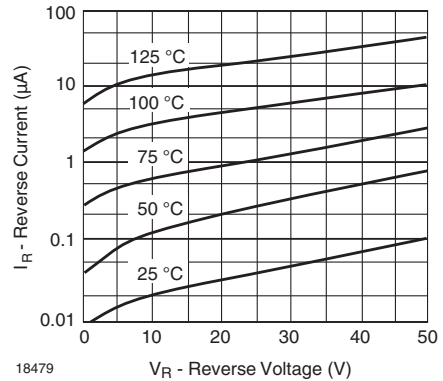


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

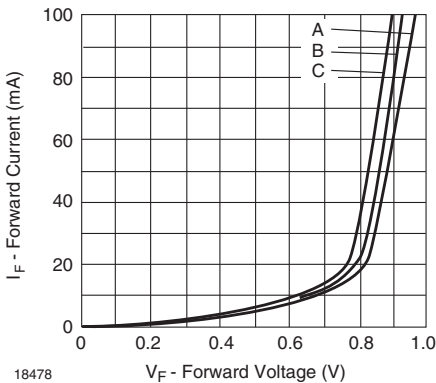


Fig. 2 - Typical Forward Conduction Curve

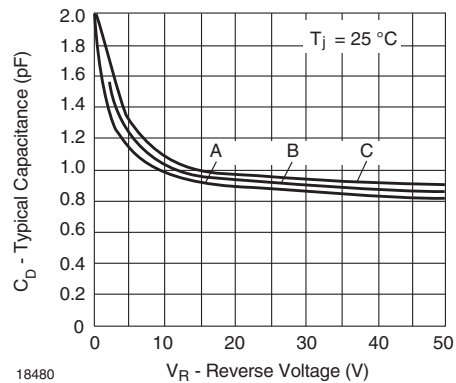
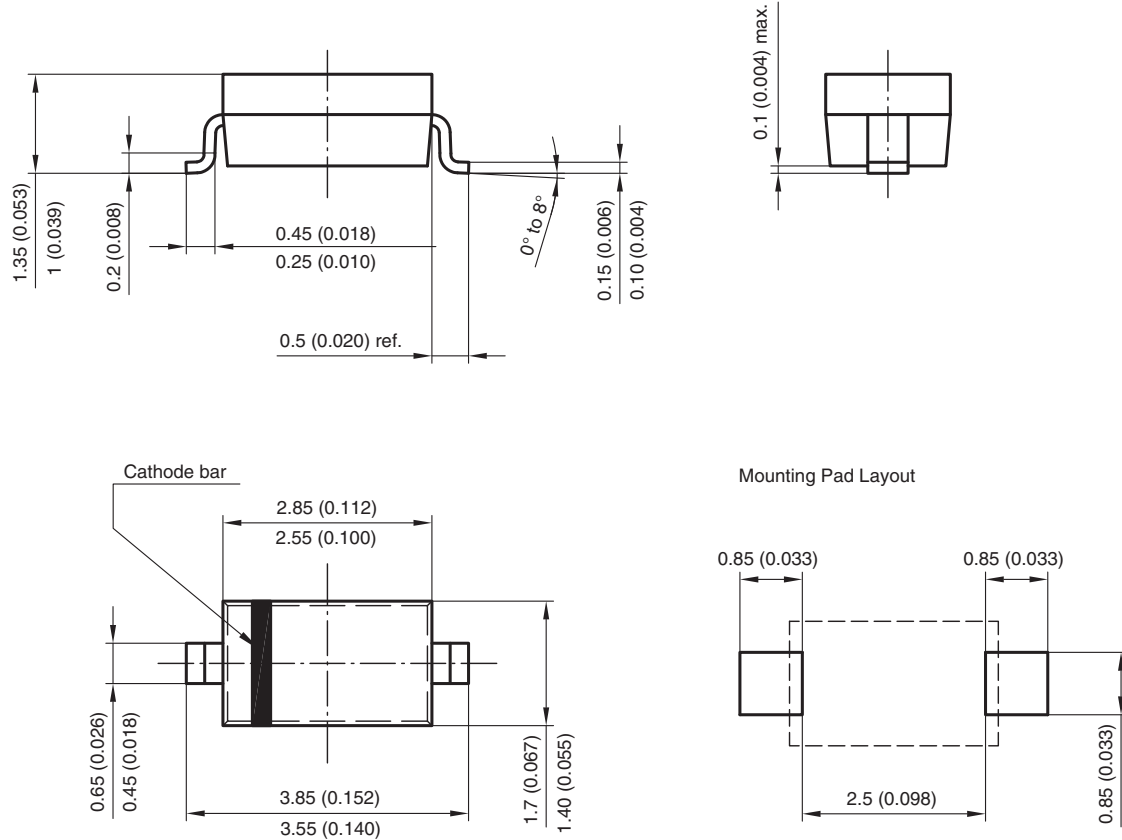


Fig. 4 - Typical Capacitance Curve as a Function of Reverse Voltage



PACKAGE DIMENSIONS in millimeters (inches): SOD-123



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