Small Signal Schottky Diodes

FEATRUES

- 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 guardring
- AEC-Q101 qualified
- Base P/N-G3 - green, commercial grade
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

GREEN (5-2008)

MECHANICAL DATA

Case: SOD-123

Weight: approx. 9.4 mg

Packaging codes/options:

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

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

PARTS TABLE

PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
SD101AW-G	SD101AW-G3-08 or SD101AW-G3-18	Single diode	SK	Tape and reel
SD101BW-G	SD101BW-G3-08 or SD101BW-G3-18	Single diode	SL	
SD101CW-G	SD101CW-G3-08 or SD101CW-G3-18	Single diode	SM	

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD101AW-G	V_{RRM}	60	V
		SD101BW-G	V_{RRM}	50	V
		SD101CW-G	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 ttemperature 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-G	$V_{(BR)}$	60			V
		SD101BW-G	$V_{(BR)}$	50			V
		SD101CW-G	$V_{(BR)}$	40			V
Leakage current	V_R = 50 V	SD101AW-G	I_R			200	nA
	V_R = 40 V	SD101BW-G	I_R			200	nA
	V_R = 30 V	SD101CW-G	I_R			200	nA
Forward voltage drop	I_F = 1 mA	SD101AW-G	V_F			410	mV
		SD101BW-G	V_F			400	mV
		SD101CW-G	V_F			390	mV
	I_F = 15 mA	SD101AW-G	V_F			1000	mV
		SD101BW-G	V_F			950	mV
		SD101CW-G	V_F			900	mV
Diode capacitance	V_R = 0 V, f = 1 MHz	SD101AW-G	C_D			2	pF
		SD101BW-G	C_D			2.1	pF
		SD101CW-G	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)

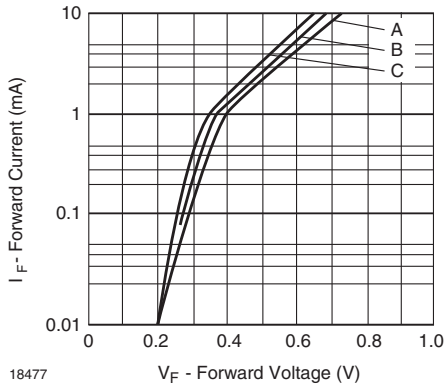


Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

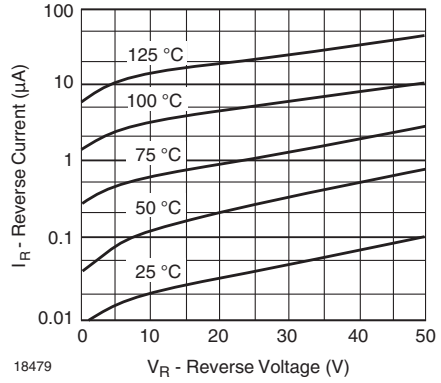


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

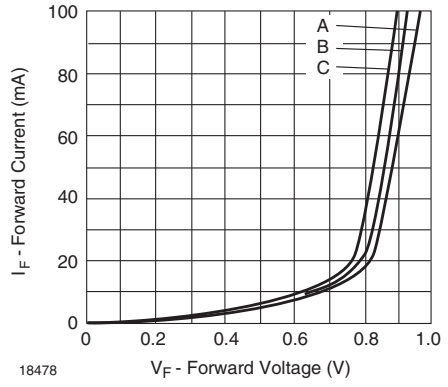


Fig. 2 - Typical Forward Conduction Curve

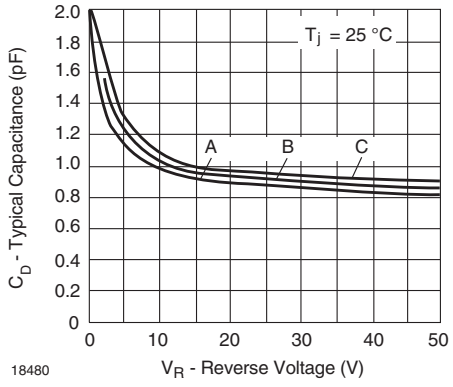
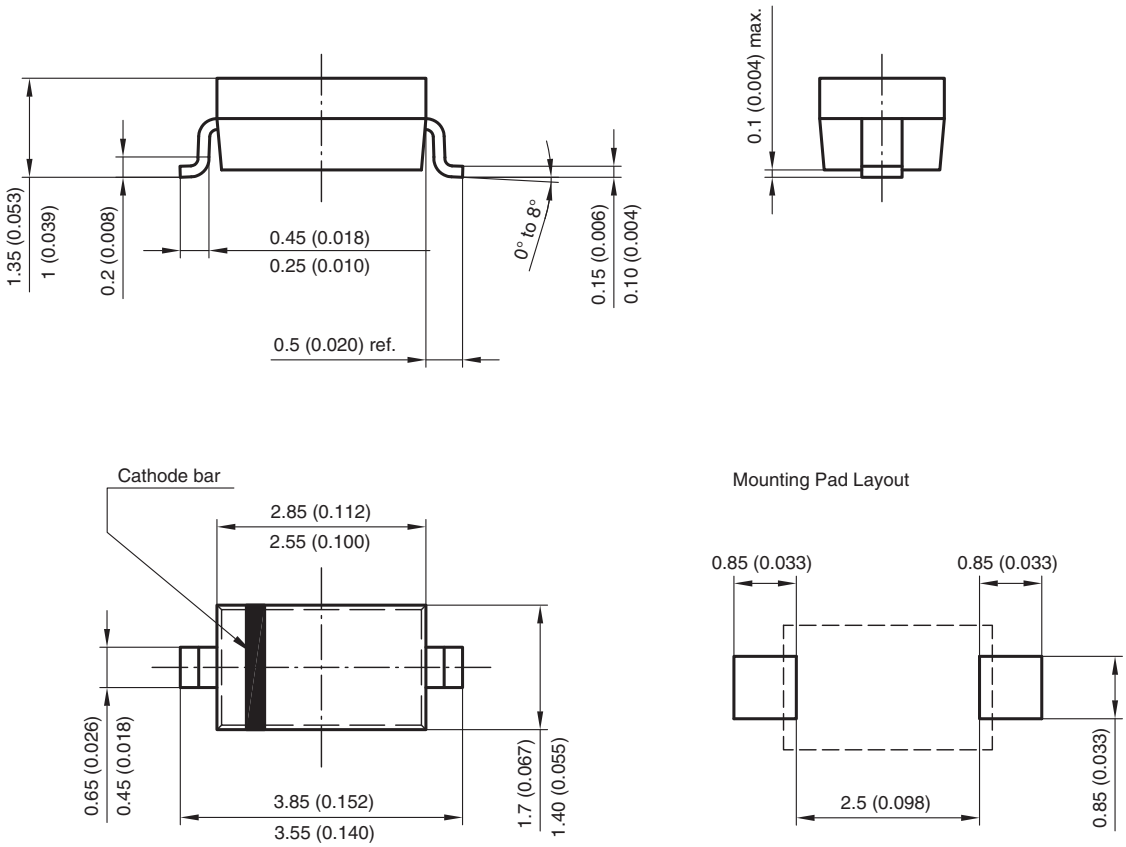


Fig. 4 - Typical Capacitance Curve as a Function of Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **SOD-123**



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