# LS101A, LS101B, LS101C

**Vishay Semiconductors** 

## **Small Signal Schottky Diodes**

#### FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>
- APPLICATIONS
  HF-detector
- Protection circuit
- Diode for low currents with a low supply voltage
- Small battery charger
- Power supplies
- DC/DC converter for notebooks

PARTS TABLE						
PART	TYPE DIFFERENTATION	ORDERING CODE	INTERNAL CONSTRUCTION	REMARKS		
LS101A	$V_R = 60 \text{ V}, V_F \text{ at } I_F = 1 \text{ mA max}. 410 \text{ mV}$	LS101A-GS18 or LS101A-GS08	Single diode	Tape and reel		
LS101B	$V_R = 50 \text{ V}, V_F \text{ at } I_F = 1 \text{ mA max}. 400 \text{ mV}$	LS101B-GS18 or LS101B-GS08	Single diode	Tape and reel		
LS101C	$V_R = 40 \text{ V}, V_F \text{ at } I_F = 1 \text{ mA max}. 390 \text{ mV}$	LS101C-GS18 or LS101C-GS08	Single diode	Tape and reel		

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		LS101A	V <sub>R</sub>	60	V	
Reverse voltage		LS101B	V <sub>R</sub>	50	V	
		LS101C	V <sub>R</sub>	40	V	
Peak forward surge current	t <sub>p</sub> = 10 μs		I <sub>FSM</sub>	2	A	
Repetitive peak forward current			I <sub>FRM</sub>	150	mA	
Forward continuous current			l <sub>F</sub>	30	mA	

<b>THERMAL CHARACTERISTICS</b> ( $T_{amb} = 25 \text{ °C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Thermal resistance junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R <sub>thJA</sub>	320	K/W		
Junction temperature		Тj	125	°C		
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°C		

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Case: QuadroMELF SOD-80

Weight: approx. 34 mg

Cathode band color: black

#### Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box GS08/2.5K per 7" reel (8 mm tape), 12.5K/box







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ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	SYMBOL	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I <sub>R</sub> = 10 μA	LS101A	V <sub>(BR)</sub>	60			V
Reverse breakdown voltage		LS101B	V <sub>(BR)</sub>	50			V
		LS101C	V <sub>(BR)</sub>	40			V
	V <sub>R</sub> = 50 V	LS101A	I <sub>R</sub>			200	nA
Leakage current	$V_{R} = 40 V$	LS101B	I <sub>R</sub>			200	nA
	V <sub>R</sub> = 30 V	LS101C	I <sub>R</sub>			200	nA
	I <sub>F</sub> = 1 mA	LS101A	V <sub>F</sub>			410	mV
		LS101B	V <sub>F</sub>			400	mV
Forward voltage drop		LS101C	V <sub>F</sub>			390	mV
r orward voltage drop		LS101A	V <sub>F</sub>			1000	mV
	I <sub>F</sub> = 15 mA	LS101B	V <sub>F</sub>			950	mV
		LS101C	V <sub>F</sub>			900	mV
	V <sub>R</sub> = 0 V, f = 1 MHz	LS101A	CD			2	pF
Diode capacitance		LS101B	CD			2.1	pF
		LS101C	CD			2.2	pF

TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

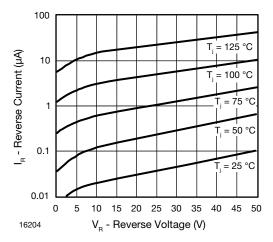


Fig. 1 - Reverse Current vs. Reverse Voltage

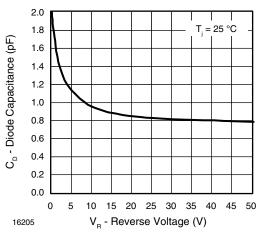
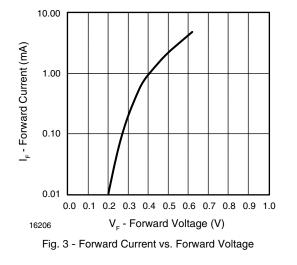


Fig. 2 - Diode Capacitance vs. Reverse Voltage



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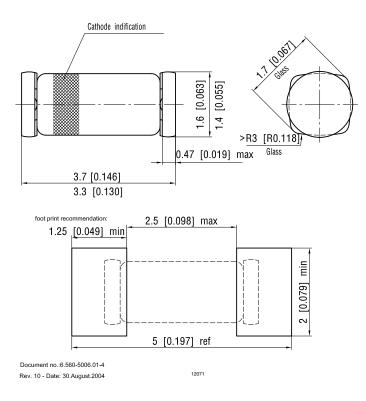
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#### PACKAGE DIMENSIONS in millimeters (inches): QuadroMELF SOD-80





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