

Small Signal Schottky Diodes



MECHANICAL DATA

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

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 www.vishay.com/doc?99912



RoHS
COMPLIANT

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

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage		LS101A	V_R	60	V
		LS101B	V_R	50	V
		LS101C	V_R	40	V
Peak forward surge current	$t_p = 10\text{ }\mu\text{s}$		I_{FSM}	2	A
Repetitive peak forward current			I_{FRM}	150	mA
Forward continuous current			I_F	30	mA

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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_{thJA}	320	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)							
PARAMETER	TEST CONDITION	SYMBOL	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 10\text{ }\mu\text{A}$	LS101A	$V_{(BR)}$	60			V
		LS101B	$V_{(BR)}$	50			V
		LS101C	$V_{(BR)}$	40			V
Leakage current	$V_R = 50\text{ V}$	LS101A	I_R			200	nA
	$V_R = 40\text{ V}$	LS101B	I_R			200	nA
	$V_R = 30\text{ V}$	LS101C	I_R			200	nA
Forward voltage drop	$I_F = 1\text{ mA}$	LS101A	V_F			410	mV
		LS101B	V_F			400	mV
		LS101C	V_F			390	mV
	$I_F = 15\text{ mA}$	LS101A	V_F			1000	mV
		LS101B	V_F			950	mV
		LS101C	V_F			900	mV
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$	LS101A	C_D			2	pF
		LS101B	C_D			2.1	pF
		LS101C	C_D			2.2	pF

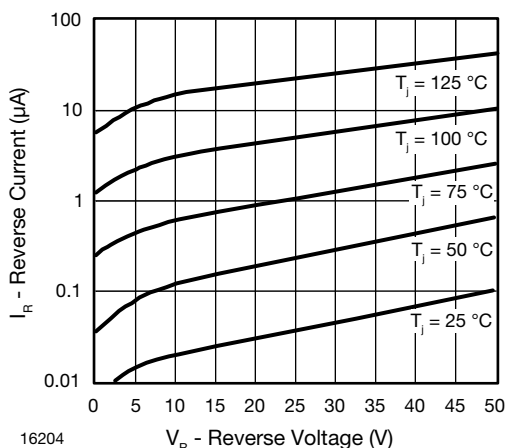
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Reverse Current vs. Reverse Voltage

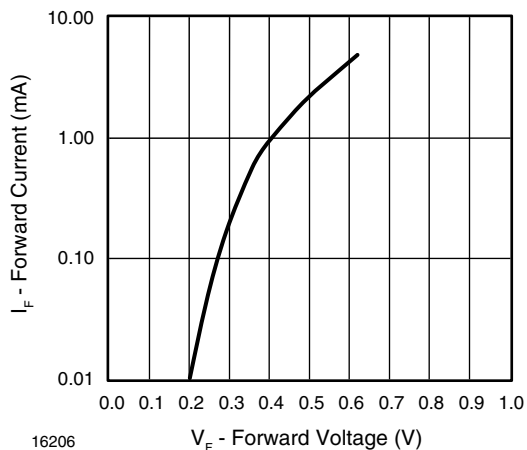


Fig. 3 - Forward Current vs. Forward Voltage

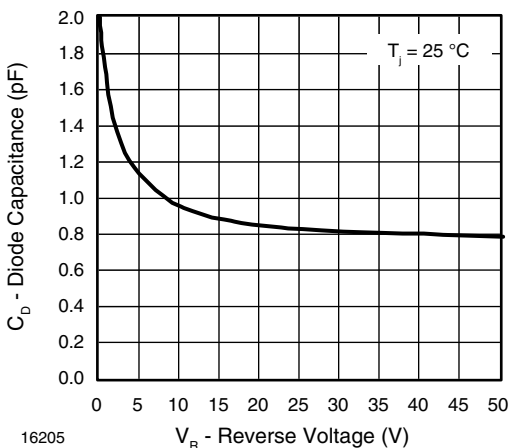
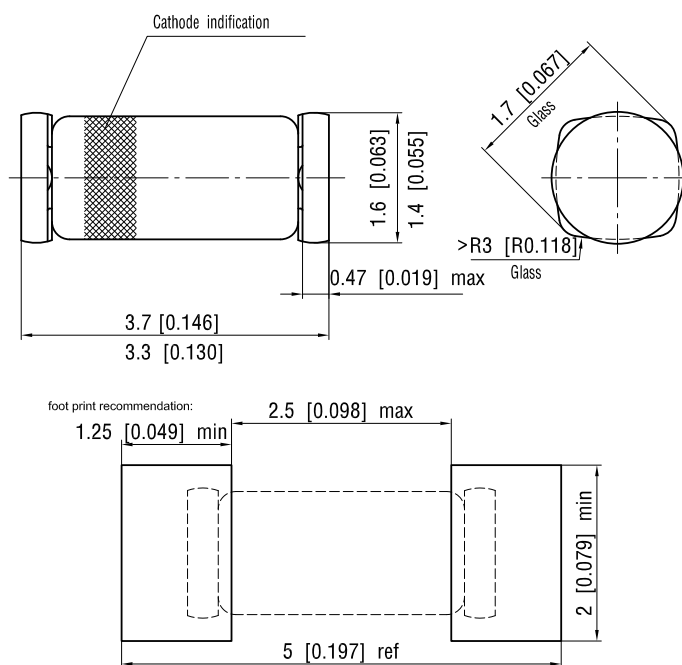


Fig. 2 - Diode Capacitance vs. Reverse Voltage



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



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