



Small Signal Fast Switching Diodes



FEATURES

- Silicon epitaxial planar diodes
- Electrical data identical with the devices 1N4148 and 1N4448 respectively
- QuadroMELF package
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

APPLICATIONS

- Extremely fast switches

DESIGN SUPPORT TOOLS click logo to get started



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

PARTS TABLE					
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
LS4148	V _F = max. 1000 mV at I _F = 50 mA	LS4148-GS18 or LS4148-GS08	-	Single	Tape and reel
LS4448	V _F = max. 1000 mV at I _F = 100 mA	LS4448GS18 or LS4448GS08	-	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		V _{RRM}	100	V
Reverse voltage		V _R	75	V
Peak forward surge current	t _p = 1 μs	I _{FSM}	2	A
Repetitive peak forward current		I _{FRM}	500	mA
Forward continuous current		I _F	300	mA
Average forward current	V _R = 0	I _{F(AV)}	150	mA
Power dissipation		P _{tot}	500	mW

THERMAL CHARACTERISTICS (T _{amb} = 25 °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}	300	K/W
Junction temperature		T _j	175	°C
Storage temperature range		T _{stg}	-65 to +175	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 5\text{ mA}$	LS4448	V_F	0.620		0.720	V
	$I_F = 50\text{ mA}$	LS4148	V_F		0.860	1	V
	$I_F = 100\text{ mA}$	LS4448	V_F		0.930	1	V
Reverse current	$V_R = 20\text{ V}$		I_R			25	nA
	$V_R = 20\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$		I_R			50	μA
	$V_R = 75\text{ V}$		I_R			5	μA
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}, t_p/T = 0.01,$ $t_p = 0.3\text{ ms}$		$V_{(BR)}$	100			V
Diode capacitance	$V_R = 0, f = 1\text{ MHz}, V_{HF} = 50\text{ mV}$		C_D			4	pF
Reverse recovery time	$I_F = I_R = 10\text{ mA}, i_R = 1\text{ mA}$		t_{rr}			8	ns
	$I_F = 10\text{ mA}, V_R = 6\text{ V},$ $i_R = 0.1 \times I_R, R_L = 100\text{ }\Omega$		t_{rr}			4	ns

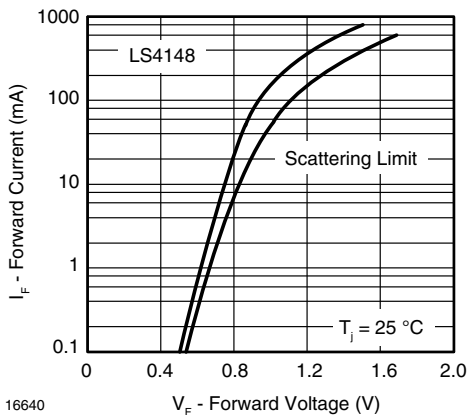
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Current vs. Forward Voltage

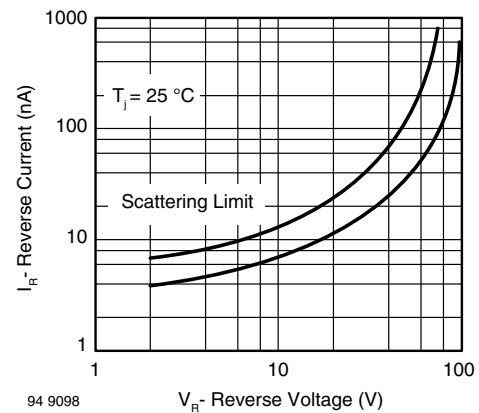


Fig. 3 - Reverse Current vs. Reverse Voltage

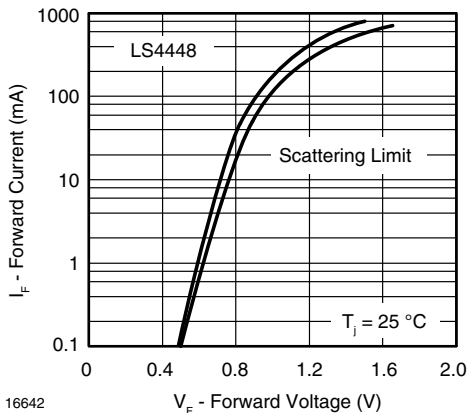


Fig. 2 - Forward Current vs. Forward Voltage

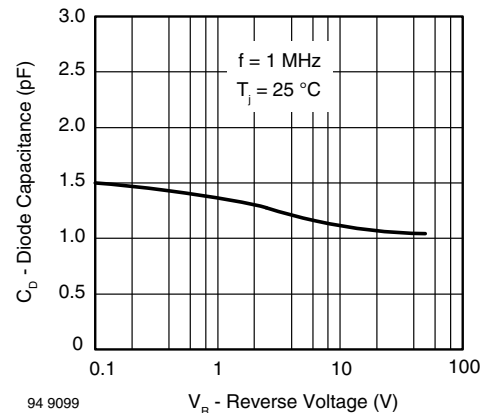
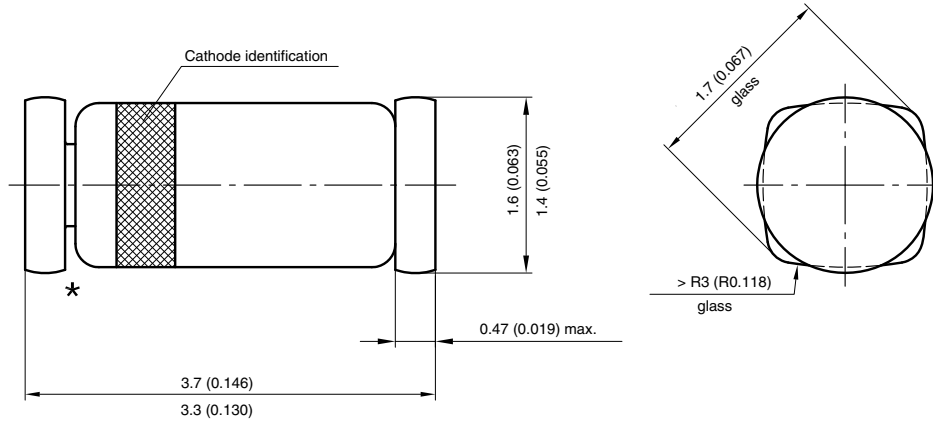


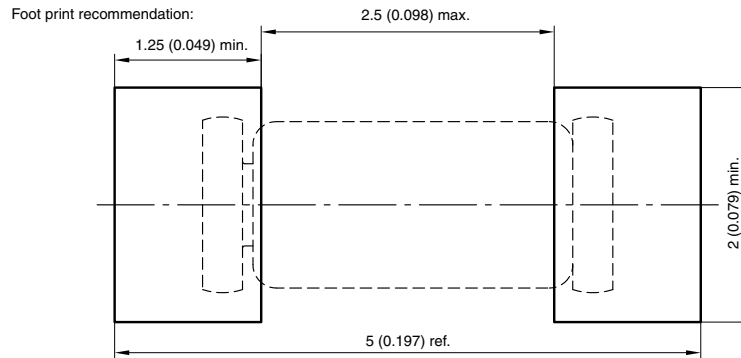
Fig. 4 - Diode Capacitance vs. Reverse Voltage



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



* The gap between plug and glass can be either on cathode or anode side



Created - Date: 03.November.2003
 Rev. 11 - Date: 07.June 2006
 Document no.:6.560-5006.01-4
 96 12071



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