

Vishay Semiconductors

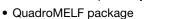
Small Signal Fast Switching Diodes



FEATURES

APPLICATIONS• Extremely fast switches

- Silicon epitaxial planar diodes
- Electrical data identical with the devices 1N4148 and 1N4448 respectively



 Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Single

Tape and reel





ADDITIONAL RESOURCES



LS4448

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

 $V_F = max. 1000 \text{ mV}$ at $I_F = 100 \text{ mA}$

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PARTS TABLE							
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS		
1 9/1/18	$V_{-} = max + 1000 \text{ m}V \text{ at } I_{-} = 50 \text{ m}A$	1 S/11/8_GS18 or 1 S/11/8_GS08	_	Single	Tane and reel		

LS4448GS18 or LS4448GS08

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	Α		
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			



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

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

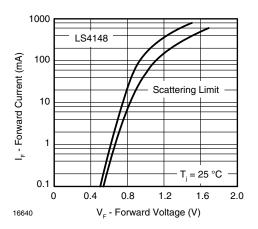


Fig. 1 - Forward Current vs. Forward Voltage

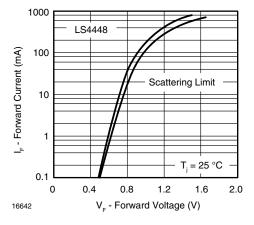


Fig. 2 - Forward Current vs. Forward Voltage

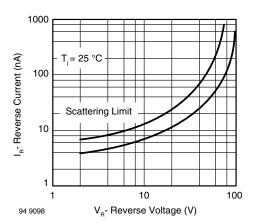


Fig. 3 - Reverse Current vs. Reverse Voltage

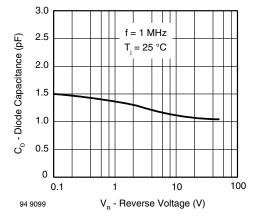
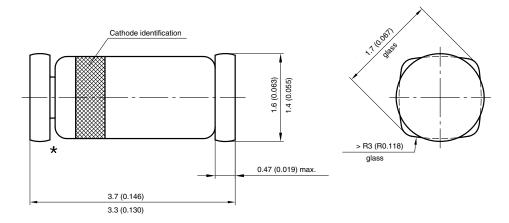


Fig. 4 - Diode Capacitance vs. Reverse Voltage

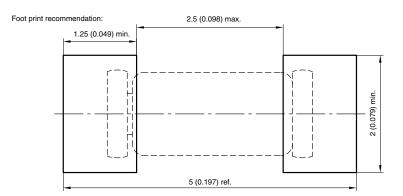


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PACKAGE DIMENSIONS in millimeters (inches): QuadroMELF (SOD-80)



★ 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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