

# Vishay Semiconductors

# **Small Signal Fast Switching Diode**



#### **FEATURES**

- Silicon epitaxial planar diodes
- · Low forward voltage drop
- · High forward current capability
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912







### **APPLICATIONS**

 High speed switch and general purpose use in computer and industrial applications

## **LINKS TO ADDITIONAL RESOURCES**



#### **MECHANICAL DATA**

Case: MiniMELF (SOD-80)
Weight: approx. 31 mg
Cathode band color: black
Packaging codes / options:

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

PARTS TABLE						
PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS		
LL4150	LL4150GS08 or LL4150GS18	-	Single	Tape and reel		

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Repetitive peak reverse voltage		V <sub>RRM</sub>	50	V		
Reverse voltage		$V_{R}$	50	V		
Peak forward surge current	t <sub>p</sub> = 1 μs	I <sub>FSM</sub>	4	Α		
Forward continuous current		l <sub>F</sub>	600	mA		
Average forward current	V <sub>R</sub> = 0	I <sub>F(AV)</sub>	300	mA		
Power dissipation		P <sub>tot</sub>	500	mW		

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 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 <sub>thJA</sub>	300	K/W	
Junction temperature		Tj	175	°C	
Storage temperature range		T <sub>stg</sub>	-65 to +175	°C	
Operating temperature range		T <sub>op</sub>	-55 to +175	°C	

### www.vishay.com

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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I <sub>F</sub> = 1 mA	V <sub>F</sub>	0.540		0.620	V
	I <sub>F</sub> = 10 mA	V <sub>F</sub>	0.660		0.740	V
Forward voltage	I <sub>F</sub> = 50 mA	V <sub>F</sub>	0.760		0.860	V
	I <sub>F</sub> = 100 mA	V <sub>F</sub>	0.820		0.920	V
	I <sub>F</sub> = 200 mA	V <sub>F</sub>	0.870		1	V
Reverse current	V <sub>R</sub> = 50 V	I <sub>R</sub>			100	nA
heverse current	$V_R = 50 \text{ V}, T_j = 150 ^{\circ}\text{C}$	I <sub>R</sub>			100	μΑ
Diode capacitance	$V_R = 0$ , $f = 1$ MHz, $V_{HF} = 50$ mV	C <sub>D</sub>			2.5	pF
Reverse recovery time	$I_F = I_R = 10 \text{ mA to } 100 \text{ mA},$ $I_R = 0.1 \text{ x } I_R, R_L = 100 \Omega$	t <sub>rr</sub>			4	ns

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

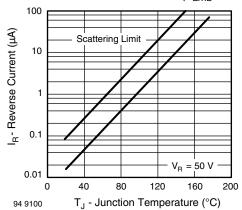


Fig. 1 - Reverse Current vs. Junction Temperature

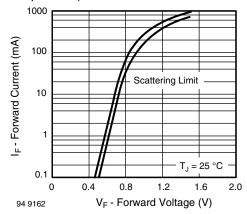
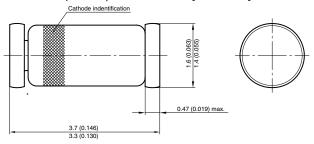
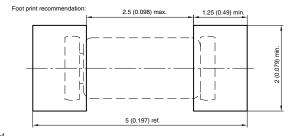


Fig. 2 - Forward Current vs. Forward Voltage

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



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



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