

## 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.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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### 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:**

08/2.5K per 7" reel (8 mm tape), 12.5K/box

18/10K per 13" reel (8 mm tape), 10K/box

### PARTS TABLE

PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
LL4150-M	LL4150-M-08 or LL4150-M-18	-	Single	Tape and reel

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		$V_{RRM}$	50	V
Reverse voltage		$V_R$	50	V
Peak forward surge current	$t_p = 1 \mu\text{s}$	$I_{FSM}$	4	A
Forward continuous current		$I_F$	600	mA
Average forward current	$V_R = 0$	$I_{F(AV)}$	300	mA
Power dissipation		$P_{tot}$	500	mW

### THERMAL CHARACTERISTICS ( $T_{amb} = 25^{\circ}\text{C}$ , 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	$R_{thJA}$	300	K/W
Junction temperature		$T_j$	175	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-65 to +175	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	-55 to +175	$^{\circ}\text{C}$

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ mA}$	$V_F$	0.540		0.620	V
	$I_F = 10\text{ mA}$	$V_F$	0.660		0.740	V
	$I_F = 50\text{ mA}$	$V_F$	0.760		0.860	V
	$I_F = 100\text{ mA}$	$V_F$	0.820		0.920	V
	$I_F = 200\text{ mA}$	$V_F$	0.870		1	V
Reverse current	$V_R = 50\text{ V}$	$I_R$			100	nA
	$V_R = 50\text{ V}$ , $T_J = 150\text{ }^{\circ}\text{C}$	$I_R$			100	$\mu\text{A}$
Diode capacitance	$V_R = 0$ , $f = 1\text{ MHz}$ , $V_{HF} = 50\text{ mV}$	$C_D$			2.5	pF
Reverse recovery time	$I_F = I_R = 10\text{ mA}$ to $100\text{ mA}$ , $i_R = 0.1 \times I_R$ , $R_L = 100\text{ }\Omega$	$t_{rr}$			4	ns

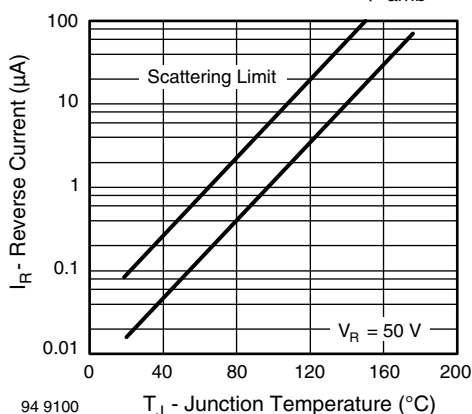
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Reverse Current vs. Junction Temperature

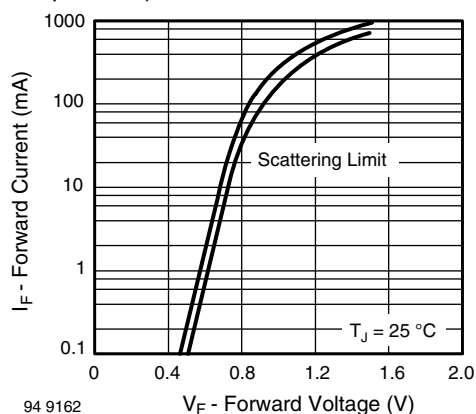
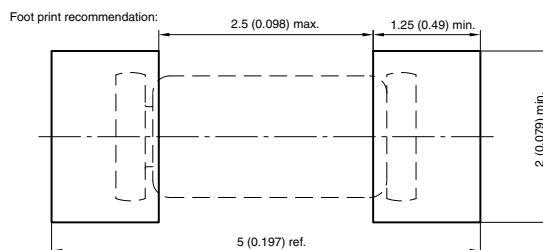
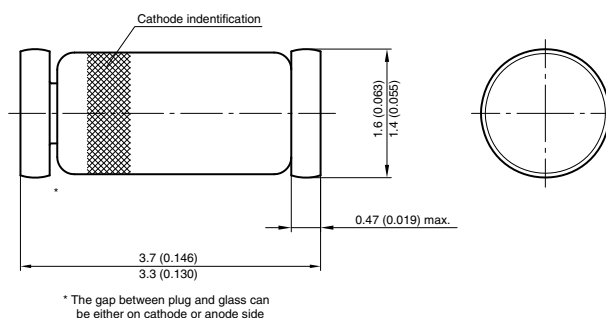


Fig. 2 - Forward Current vs. Forward Voltage

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


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