

Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diodes
- Low forward voltage drop
- High forward current capability
- AEC-Q101 qualified
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

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

MECHANICAL DATA

Case: MiniMELF SOD-80

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box

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

PARTS TABLE				
PART	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
LL4150	LL4150GS18 or LL4150GS08	-	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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	$t_p = 1\text{ }\mu\text{s}$	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 ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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}	300	K/W
Junction temperature		T_j	175	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 175	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ mA}$	V_F	540		620	mV
	$I_F = 10\text{ mA}$	V_F	660		740	mV
	$I_F = 50\text{ mA}$	V_F	760		860	mV
	$I_F = 100\text{ mA}$	V_F	820		920	mV
	$I_F = 200\text{ mA}$	V_F	870		1000	mV
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	μA
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

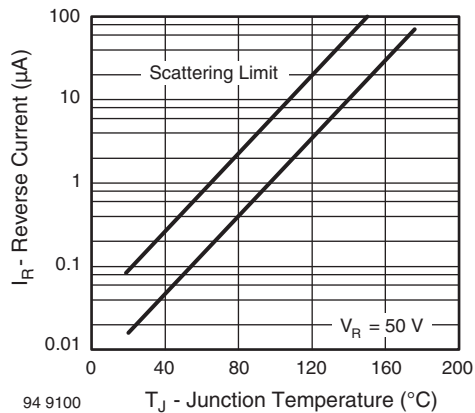
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Reverse Current vs. Junction Temperature

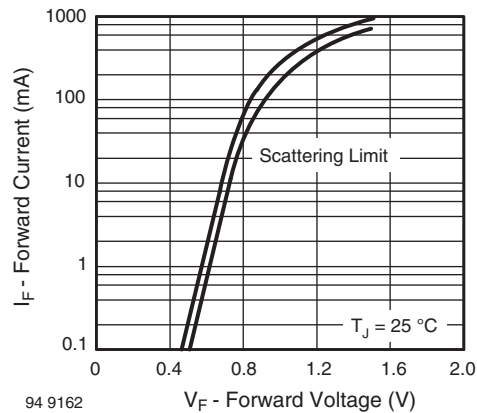
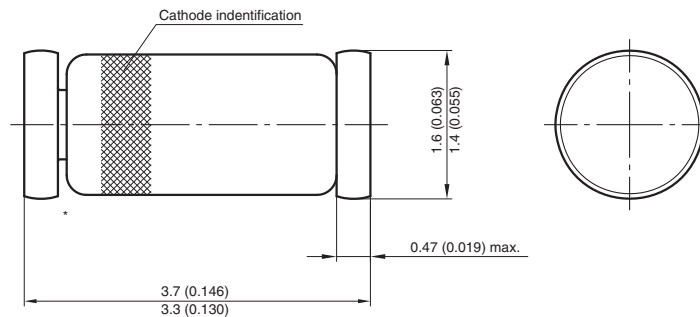
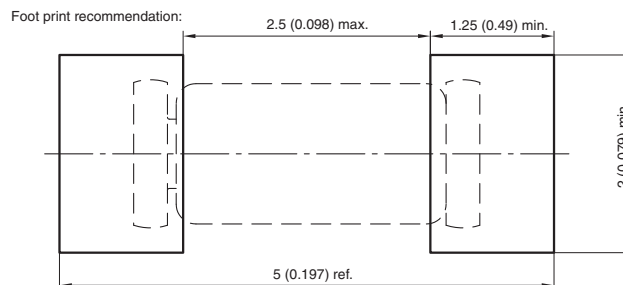


Fig. 2 - Forward Current vs. Forward Voltage

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


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



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