



# Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diodes
- Electrical data identical with the device 1N4151
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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### APPLICATIONS

- Extreme fast switches

### LINKS TO ADDITIONAL RESOURCES



### MECHANICAL DATA

**Case:** MiniMELF (SOD-80)

**Weight:** approx. 31 mg

**Cathode band color:** black

**Packaging codes / options:**

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

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

PARTS TABLE				
PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
LL4151-M	LL4151-M-18 or LL4151-M-08	-	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>	75	V
Reverse voltage		V <sub>R</sub>	50	V
Peak forward surge current	t <sub>p</sub> = 1 μs	I <sub>FSM</sub>	2	A
Repetitive peak forward current		I <sub>FRM</sub>	500	mA
Forward continuous current		I <sub>F</sub>	300	mA
Average forward current	V <sub>R</sub> = 0	I <sub>F(AV)</sub>	150	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>	500	K/W
Junction temperature		T <sub>j</sub>	175	°C
Storage temperature range		T <sub>stg</sub>	-65 to +175	°C



ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 50 mA	V <sub>F</sub>		0.880		V
Reverse current	V <sub>R</sub> = 50 V	I <sub>R</sub>			50	nA
	V <sub>R</sub> = 50 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			50	μA
Breakdown voltage	I <sub>R</sub> = 5 μA, t <sub>p</sub> /T = 0.01, t <sub>p</sub> = 0.3 ms	V <sub>(BR)</sub>	75			V
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz, V <sub>HF</sub> = 50 mV	C <sub>D</sub>			2	pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 10 mA, i <sub>R</sub> = 1 mA	t <sub>rr</sub>			4	ns
	I <sub>F</sub> = 10 mA, V <sub>R</sub> = 6 V, i <sub>R</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			2	ns

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

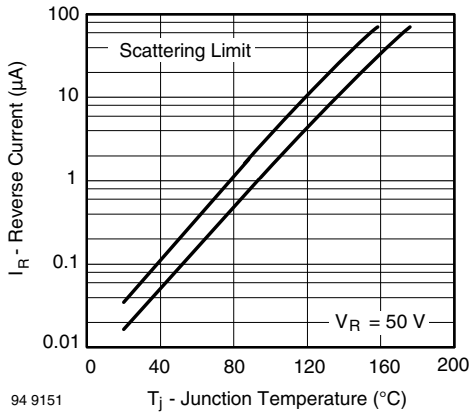


Fig. 1 - Reverse Current vs. Junction Temperature

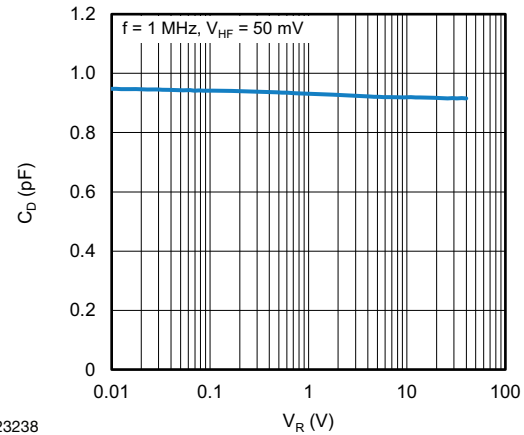


Fig. 3 - Typical Capacitance vs. Reverse Voltage

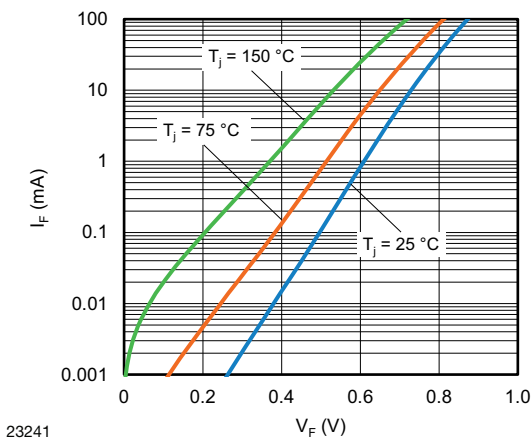
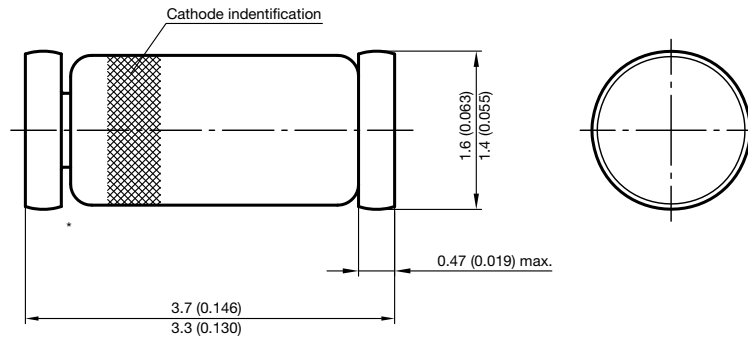


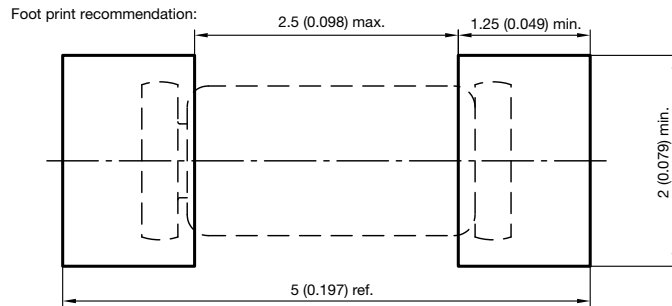
Fig. 2 - Forward Current vs. Forward Voltage



**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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