

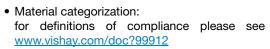
## Vishay Semiconductors

# **Small Signal Fast Switching Diode**



#### **FEATURES**

- Silicon epitaxial planar diodes
- · Electrical data identical with the device 1N4154







### **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:

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

PARTS TABLE					
PART	PART ORDERING CODE		CIRCUIT CONFIGURATION	REMARKS	
LL4154	LL4154-GS18 or LL4154-GS08	-	Single	Tape and reel	

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Repetitive peak reverse voltage		$V_{RRM}$	35	V	
Reverse voltage		V <sub>R</sub>	25	V	
Peak forward surge current	t <sub>p</sub> = 1 μs	I <sub>FSM</sub>	2	Α	
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	



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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
Forward voltage	I <sub>F</sub> = 30 mA	V <sub>F</sub>			1	V
Reverse current	V <sub>R</sub> = 25 V	I <sub>R</sub>			100	nA
neverse current	V <sub>R</sub> = 25 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			100	μA
Breakdown voltage	$I_R = 5 \mu A, t_p/T = 0.01,$ $t_p = 0.3 \text{ ms}$	V <sub>(BR)</sub>	35			V
Diode capacitance	$V_R = 0$ , $f = 1$ MHz, $V_{HF} = 50$ mV	C <sub>D</sub>			4	pF
Reverse recovery time	$I_F = I_R = 10 \text{ mA},$ $I_R = 1 \text{ mA}$	t <sub>rr</sub>			4	ns
neverse recovery time	$I_F = 10 \text{ mA}, V_R = 6 \text{ V},$ $I_R = 0.1 \text{ x } I_R, R_L = 100 \Omega$	t <sub>rr</sub>			2	ns

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

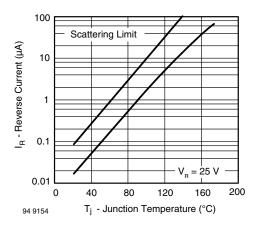


Fig. 1 - Reverse Current vs. Junction Temperature

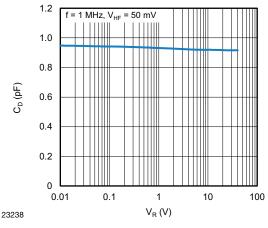


Fig. 3 - Typical Capacitance vs. Reverse Voltage

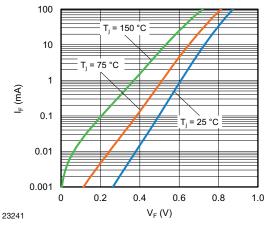
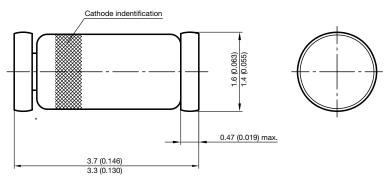


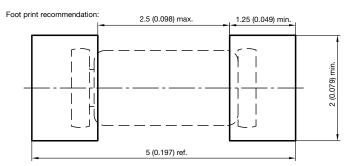
Fig. 2 - Forward Current vs. Forward Voltage

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



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



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