RoHS

COMPLIANT



Vishay Semiconductors

Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diodes
- Electrical data identical with the device 1N4151
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see <u>www.vishav.com/doc?99912</u>

APPLICATIONS

• Extreme fast switches

DESIGN SUPPORT TOOLS click logo to get started



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

PARTS TABLE						
PART	ORDERING CODE TYPE MARKING CIRCUIT CONFIGURATIO		CIRCUIT CONFIGURATION	REMARKS		
LL4151	LL4151-GS18 or LL4151-GS08	-	Single	Tape and reel		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Repetitive peak reverse voltage		V _{RRM}	75	V		
Reverse voltage		V _R	50	V		
Peak forward surge current	t _p = 1 μs	I _{FSM}	2	A		
Repetitive peak forward current		I _{FRM}	500	mA		
Forward continuous current		l _F	300	mA		
Average forward current	V _R = 0	I _{F(AV)}	150	mA		
Power dissipation		P _{tot}	500	mW		

THERMAL CHARACTERISTICS (T _{amb} = 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 _{thJA}	500	K/W		
Junction temperature		Tj	175	°C		
Storage temperature range		T _{stg}	-65 to +175	°C		

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LL4151

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 50 mA	V _F		0.880	1	V
Reverse current	V _R = 50 V	I _R			50	nA
neverse current	$V_R = 50 \text{ V}, \text{ T}_j = 150 ^\circ\text{C}$	I _R			50	μA
Breakdown voltage	$I_{R} = 5 \ \mu A, t_{p}/T = 0.01, t_{p} = 0.3 \ ms$	V _(BR)	75			V
Diode capacitance	V_{R} = 0, f = 1 MHz, V_{HF} = 50 mV	CD			2	pF
Reverse recovery time	I _F = I _R = 10 mA, i _R = 1 mA	t _{rr}			4	ns
neverse recovery lime	$I_{F} = 10 \text{ mA}, V_{R} = 6 \text{ V}, \\ i_{R} = 0.1 \text{ x } I_{R}, R_{L} = 100 \Omega$	t _{rr}			2	ns

TYPICAL CHARACTERISTICS (Tamb = 25 °C, unless otherwise specified)

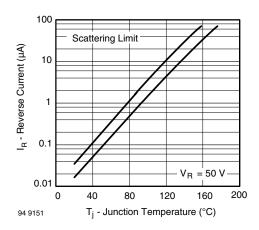
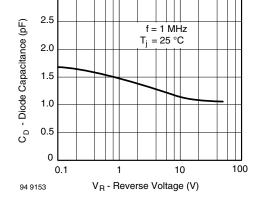


Fig. 1 - Reverse Current vs. Junction Temperature



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Fig. 3 - Diode Capacitance vs. Reverse Voltage

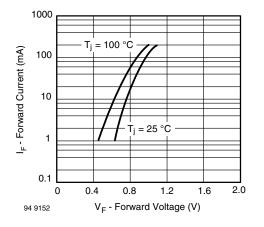


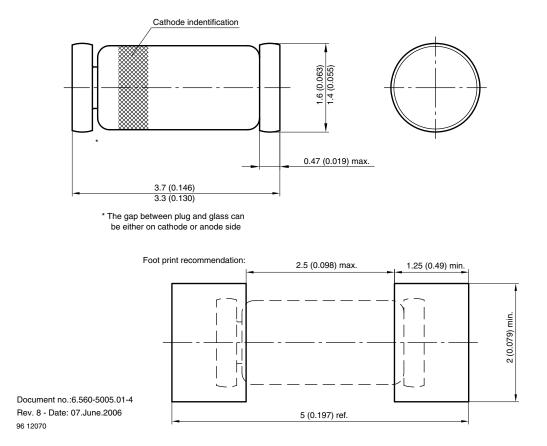
Fig. 2 - Forward Current vs. Forward Voltage

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





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