Small Signal Fast Switching Diodes

FEATURES

- Silicon epitaxial planar diode
- Electrical data identical with the devices 1N4148 and 1N4448 respectively
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

LINKS TO ADDITIONAL RESOURCES

3D Models | Marking | Parametric Search | Order Samples

APPLICATIONS

- Extreme fast switches

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), 12.5K/box

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
LL4148	V_{RRM} = 100 V, V_F = max. 1000 mV at I_F = 50 mA	LL4148-GS08 or LL4148-GS18	-	Single	Tape and reel
LL4448	V_{RRM} = 100 V, V_F = max. 1000 mV at I_F = 100 mA	LL4448-GS08 or LL4448-GS18	-	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}	100	V
Reverse voltage		V_R	75	V
Peak forward surge current	t_p = 1 µs	I_{FSM}	2	A
Repetitive peak forward current		I_{FRM}	500	mA
Forward continuous current		I_F	300	mA
Average forward current	V_R = 0	$I_{F(AV)}$	150	mA
Power dissipation (1)		P_{tot}	500	mW

Note
(1) Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air (1)		R_{thJA}	300	K/W
Junction temperature		T_J	175	°C
Storage temperature range		T_{stg}	-65 to +175	°C

Note
(1) Valid provided that electrodes are kept at ambient temperature

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 5 mA	LL4448	V_F	0.620		0.720	V
	I_F = 50 mA	LL4148	V_F		0.860	1	V
	I_F = 100 mA	LL4448	V_F		0.930	1	V
Reverse current	V_R = 20 V		I_R			25	nA
	V_R = 20 V, T_j = 150 °C		I_R			50	µA
	V_R = 75 V		I_R			5	µA
Breakdown voltage	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms		$V_{(BR)}$	100			V
Diode capacitance	V_R = 0 V, f = 1 MHz, V_{HF} = 50 mV		C_D			4	pF
Reverse recovery time	I_F = I_R = 10 mA, i_R = 1 mA		t_{rr}			8	ns
	I_F = 10 mA, V_R = 6 V, i_R = 0.1 x I_R, R_L = 100 Ω					4	

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

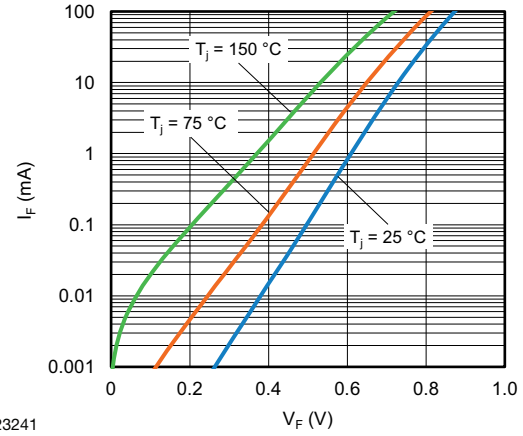


Fig. 1 - Forward Current vs. Forward Voltage

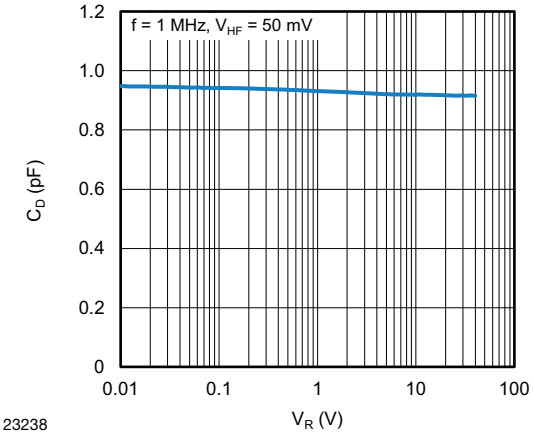


Fig. 3 - Typical Capacitance vs. Reverse Voltage

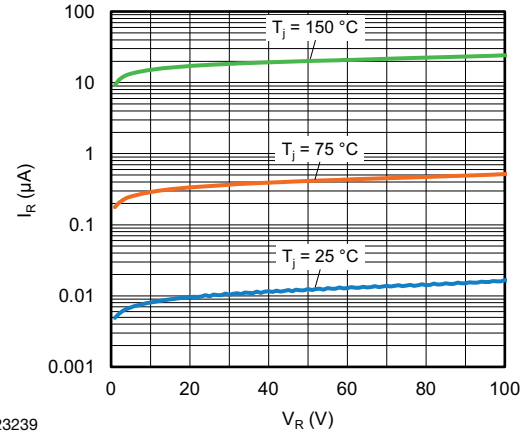
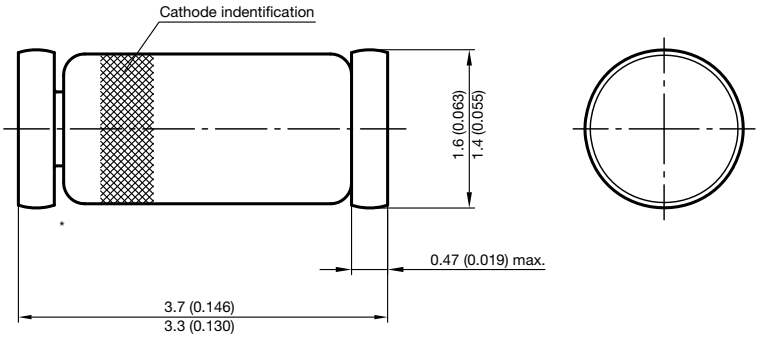
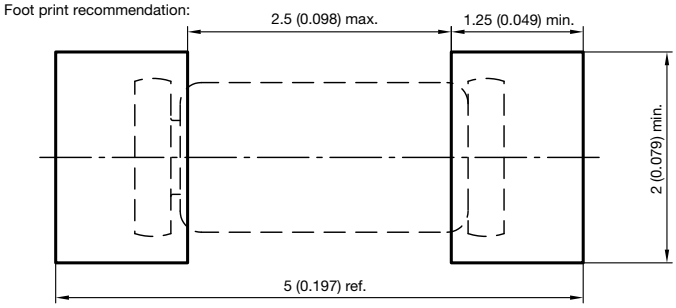


Fig. 2 - Typical Reverse Leakage Current vs. Reverse Voltage

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





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