

## VII. Switching Diode

### (a). SMD Type (Mini-MELF) LL4148

(Package: Mini-MELF)

<p><b><u>FEATURES</u></b></p> <ul style="list-style-type: none"> <li>• Silicon epitaxial planar diode</li> <li>• Fast switching diodes</li> <li>• 500mW power dissipation</li> <li>• High temperature soldering guaranteed 250 /10 seconds at terminals</li> </ul> <p><b><u>MECHANICAL DATA</u></b></p> <ul style="list-style-type: none"> <li>• Case : Mini-MELF glass sealed envelope</li> <li>• Terminals : Solder plated, solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Color band denotes cathode end</li> <li>• Mounting Position : Any</li> <li>• Weight : 0.002 ounce, 0.05 grams</li> </ul>	<p style="text-align: center;">Case: Mini-MELF Dimensions in inches and (millimeters)</p>
--	---

### Ratings & Electrical Characteristics

Ratings at 25 ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristics	Symbol	LL4148	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	Volts
Maximum RMS voltage	$V_{RMS}$	75	Volts
Maximum average forward rectified current at $T_a = 75$	$I_o$	150	mA
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	500	mA
Maximum instantaneous forward voltage at 10mA	$V_F$	1.0	Volts
Maximum DC reverse current $T_a=25$ $V_R=75V$ at rated DC blocking voltage $T_a=100$ $V_R=20V$	$I_R$	5.0 50	$\mu A$
Maximum reverse recovery time (Note 1)	$T_{rr}$	4.0	ns
Typical junction capacitance (Note 2)	$C_j$	4.0	PF
Operating junction and storage temperature range	$T_j, T_{stg}$	-65 to +200	

Note :

1. Test condition :  $I_F = 10mA$ ,  $I_R = 10mA$ ,  $I_{RR} = 1mA$ ,  $V_R = 6V$ ,  $R_L = 100\Omega$

2. Measured at 1.0MHz and applied reverse voltage of 4.0 volts

## Ratings and Characteristic Curves of LL4148

FIG. 1-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

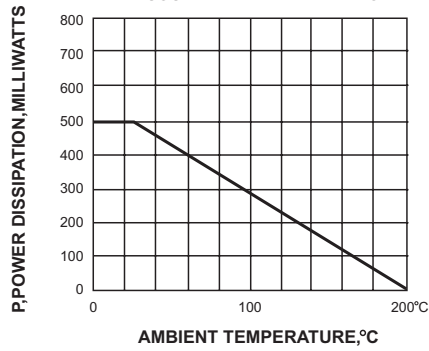


FIG. 2-REVERSE CURRENT VERSUS CONTINUOUS REVERSE VOLTAGE (TYPICAL VALUES)

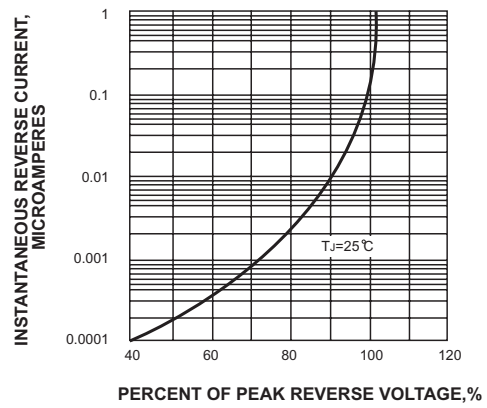


FIG. 3-FORWARD CHARACTERISTICS

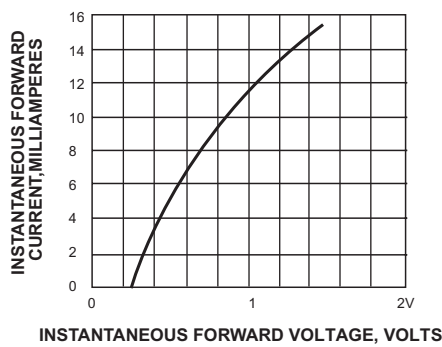


FIG. 4-RELATIVE CAPACITANCE VERSUS REVERSE VOLTAGE

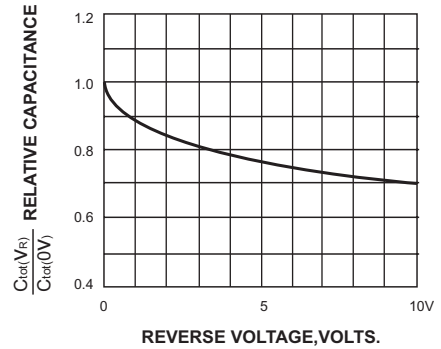


FIG. 5-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

