



MCL4148 / MCL4448

SMALL SIGNAL SWITCHING DIODE

FEATURES

- Silicon epitaxial planar diode
- Fast switching diodes
- 500mw power dissipation
- High temperature soldering guaranteed
250 °C/10S at terminals

MECHANICAL DATA

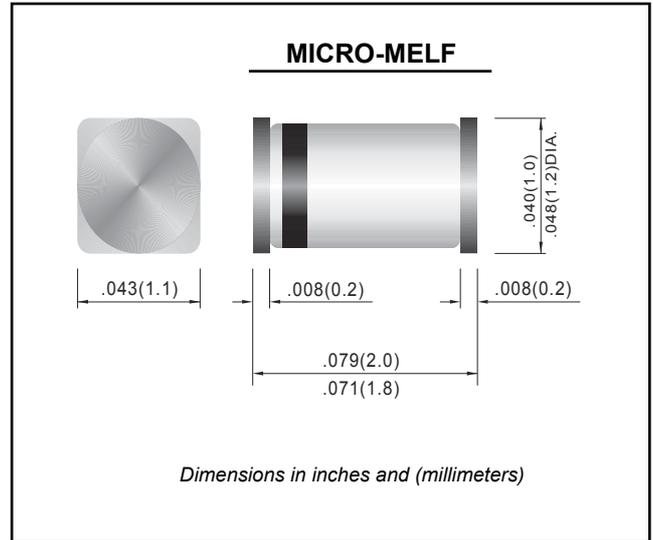
Case: MICRO MELF, Glass

Terminals: Solderable per MIL-STD-750, Method 2026

Polarity : Color band denotes cathode end

Mounting Position: Any

Weight : 0.011 grams



Maximum Ratings ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

PARAMETER	SYMBOL	MCL4148 / MCL4448	UNITS
Peak Reverse Voltage	V_{RM}	100	V
Maximum Average Forward Current at $T_a=25^{\circ}\text{C}$ And $f \geq 50\text{Hz}$	$I_{F(AV)}$	150	mA
Surge Forward Current at $t < 1\text{s}$ and $T_j = 25^{\circ}\text{C}$	I_{FSM}	500	mA
Power Dissipation at $T_{amb} = 25^{\circ}\text{C}$	P_{TOT}	500	mW
Maximum Forward Voltage at $I_F = 10\text{mA}$	V_F	1.0	V
Maximum Leakage Current at $V_R = 20\text{V}$ at $V_R = 75\text{V}$ at $V_R = 20\text{V}, T_j = 150^{\circ}\text{C}$	I_R	25 5 50	nA μA μA
Maximum Capacitance at $V_F = V_R = 0$	C_J	4	pF
Maximum Reverse Recovery Time From $I_F = -I_R = 10\text{mA}$ to $I_{RR} = -1\text{mA}, V_R = 6\text{V}, R_L = 100\ \Omega$	t_{rr}	4	ns
Typical Thermal Resistance	$R_{\theta JA}$	300	$^{\circ}\text{C} / \text{W}$
Junction Temperature and Storage Temperature Range	T_j, T_s	-65 to +175	$^{\circ}\text{C}$

NOTE:

1. C_J at $V_R = 0, f = 1\text{MHz}$
2. From $I_F = 10\text{mA}$ to $I_R = 1\text{mA}, V_R = 6\text{Volts}, R_L = 100\ \Omega$



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RATINGS AND CHARACTERISTIC CURVES

FIG. 1-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

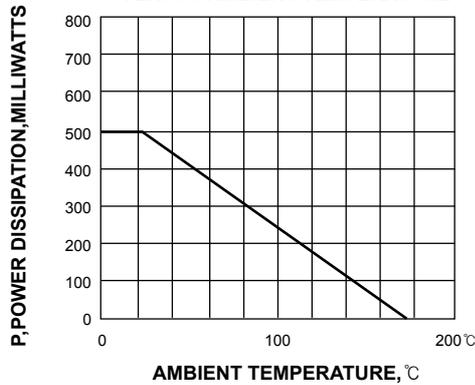


FIG. 2-REVERSE CURRENT VERSUS CONTINUOUS REVERSE VOLTAGE (TYPICAL VALUES)

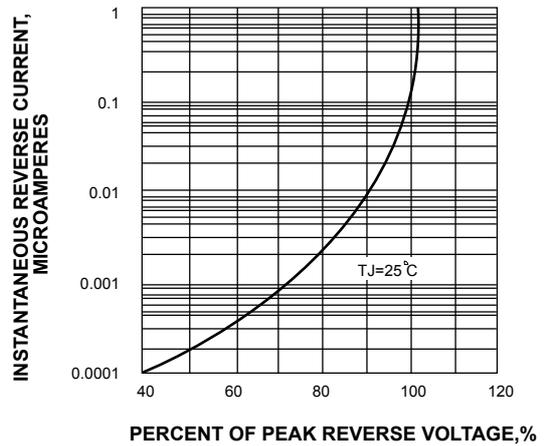


FIG. 3-FORWARD CHARACTERISTICS

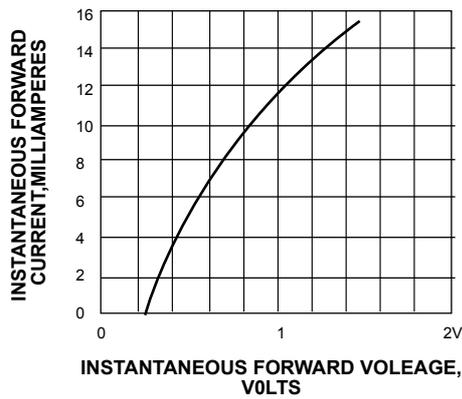


FIG. 4-RELATIVE CAPACTANCE VERSUS REVERSE VOLTAGE

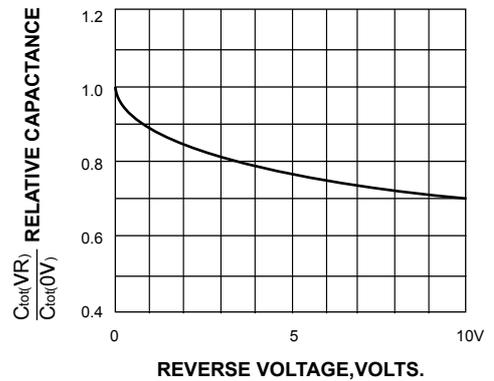


FIG. 5-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

