MCL4448

500mW 100 Volt Silicon Epitaxial Diode

Features

- Silicon epitaxial planar diode
- Fast Switching diodes
- 500mW power dissipation
- This diode is also available in the DO-35 case with the type designation 1N4448, in the Minimelf case with the type designation DL4448

Maximum Ratings

- Operating Temperature: $-55\,^{\circ}C$ to $+150\,^{\circ}C$
- Storage Temperature: $-55\,^{\circ}C$ to $+150\,^{\circ}C$
- Maximum Thermal Resistance; 350K/W Junction To Ambient

Electrical Characteristics @ $25\,^{0}C$ Unless Otherwise Specified

|			
Reverse Voltage	V_R	75V	
Peak Reverse Voltage	V_{RM}	100V	
Average Rectified Current	I_{AV}	150mA	Resistive Load $f > 50Hz$
Power Dissipation	P_{TOT}	500mW[1]	$T_A=25\,^{\circ}C$
Junction Temperature	T_J	$150\,^{\circ}C$	
Surge Forward Current	I_{FSM}	500mA	t<1S, $T_J=25\,^{\circ}C$
Instantaneous Forward Voltage	V_F	1.0V(MAX) 0.62-0.72V	$I_{FM} = 100mA;$ $I_{FM} = 5.0mA$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	25nA 5.0uA 50uA	$T_J=25\,^{\circ}C$, $V_R=20V$ $V_R=75V$, $V_R=20V$ $T_J=150\,^{\circ}C$
Minimum Reverse Breakdown Voltage	$V_{(BR)R}$	100V	Tested with 100uA puse
Typical Junction Capacitance	C_J	4.0pF	Measured at $V_R=V_F=0V$
Reverse Recovery Time	T_{rr}	4.0nS	$I_F=10mA,$ $V_R = 6.0V$ $R_L=100 OHMS$

1) Valid provided that leads at a distance of 8mm from case are kept at ambient temperature(DO-35)
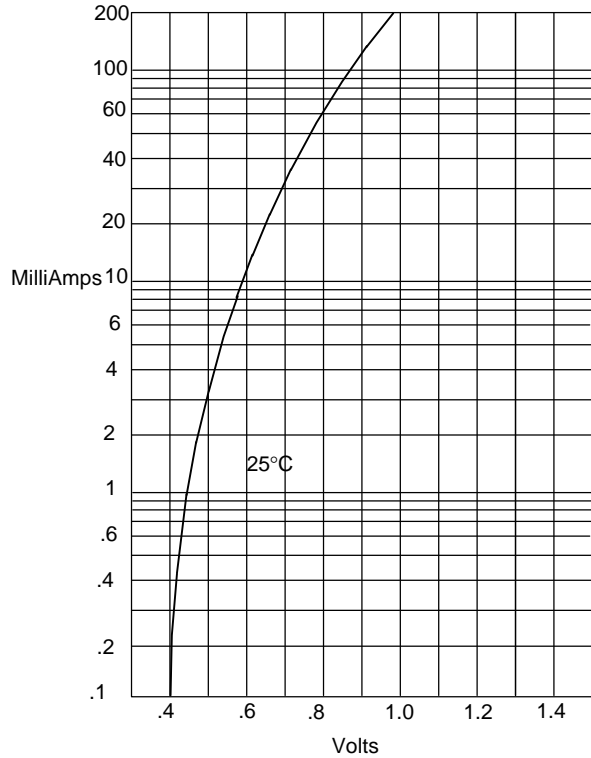
MICROMELF

Cathode Mark

C

B

A

DIMENSIONS
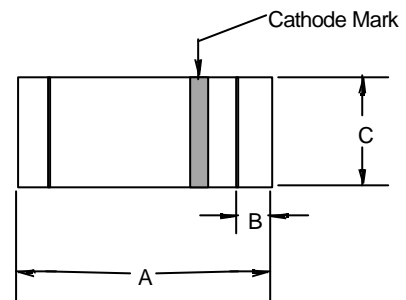
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.079	1.8	2.0	
B	.004	.008	.10	.20	
C	.047	.051	1.20	1.30	∅

SUGGESTED SOLDER PAD LAYOUT
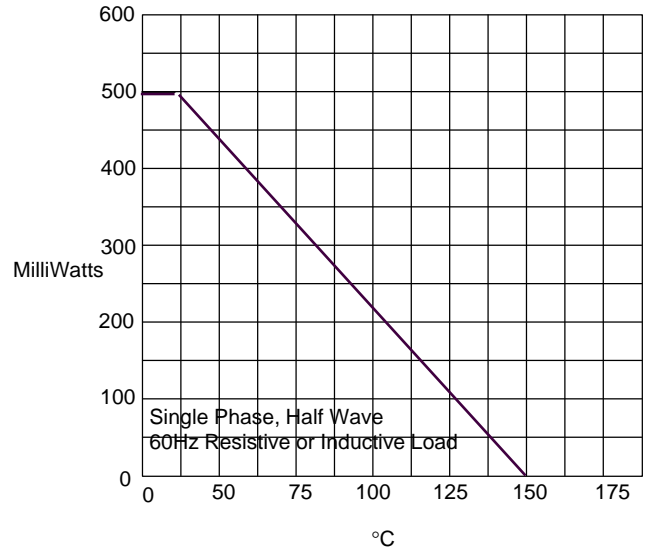

0.039

0.055"

0.030"
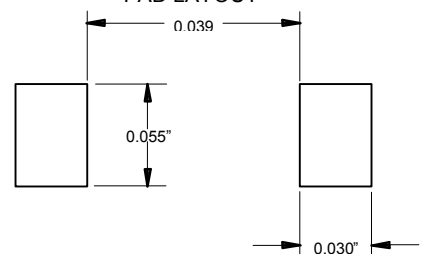
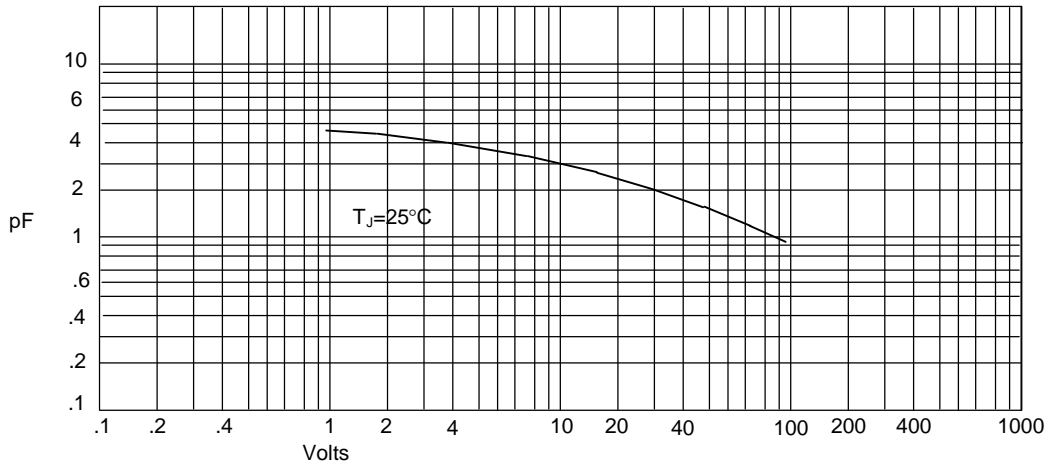# MCL4448

Figure 1
Typical Forward Characteristics

MilliAmps

25°C

Volts

Instantaneous Forward Current - Amperes*versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve

MilliWatts

Single Phase, Half Wave
60Hz Resistive or Inductive Load

°C

Admissable Power Dissipation - MilliWatts*versus*
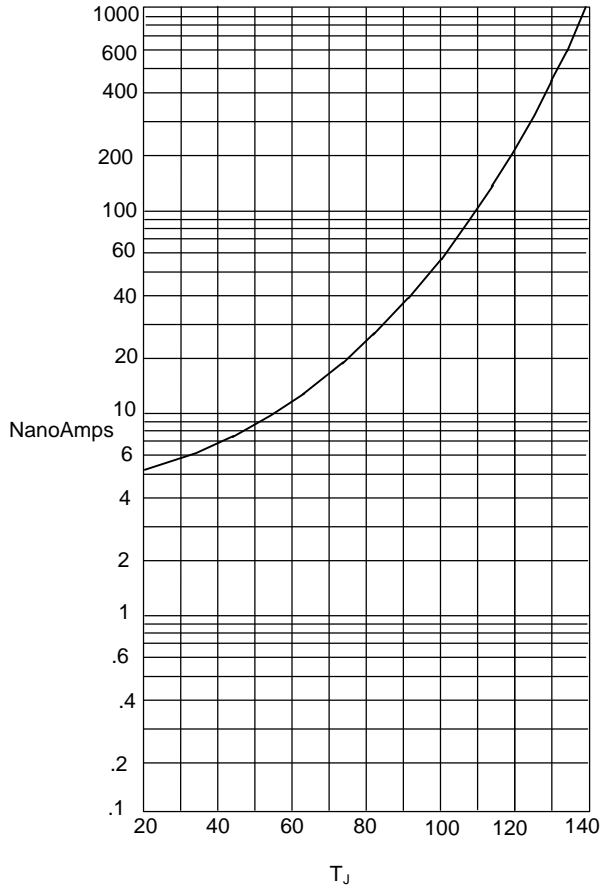Ambient Temperature - °C

Figure 3
Junction Capacitance

pF

T_J=25°C

Volts

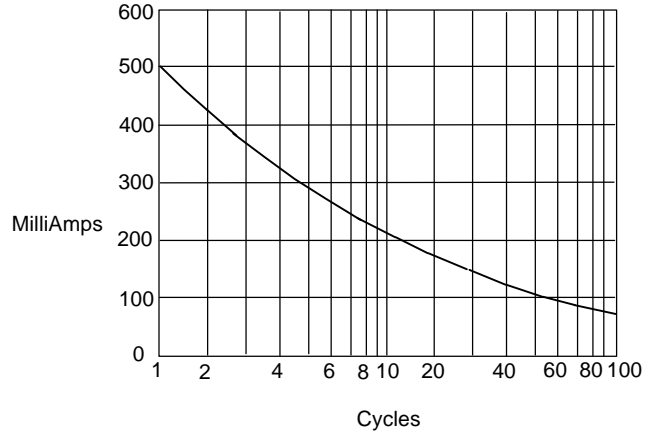Junction Capacitance - pF*versus*
Reverse Voltage - Volts

MCL4448

Figure 4
Typical Reverse Characteristics

NanoAmps

T_J

T_A=25°C
T_A=100°C

Instantaneous Reverse Leakage Current - NanoAmperes *versus*
Junction Temperature - °C

Figure 5
Peak Forward Surge Current

MilliAmps

Cycles

Peak Forward Surge Current - Amperes *versus*
Number Of Cycles At 60Hz - Cycles