

# MCL4148

## FAST SWITCHING SURFACE MOUNT DIODES

**VOLTAGE** 100 Volts **POWER** 500 mWatts

**MICRO-MELF** Unit : inch (mm)

### FEATURES

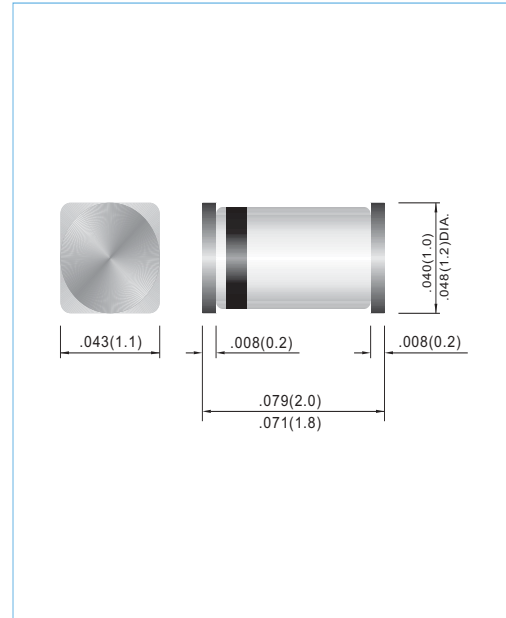
- Fast switching Speed.
- Surface Mount Package Ideally Suited For Automatic Insertion.
- Silicon Epitaxial Planar Construction.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: MICRO MELF, Glass
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Marking: Cathode Band Only
- Weight: 0.011 grams
- Packing information

T/R - 2.5K per 7" plastic reel

T/R - 10K per 13" plastic reel



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>J</sub>=25°C unless otherwise noted)

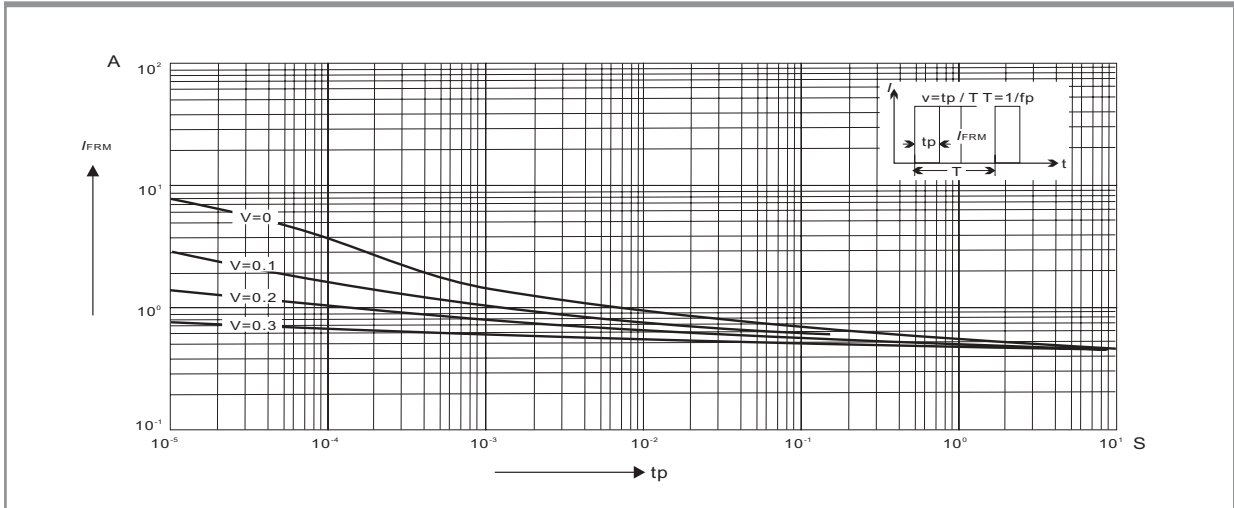
| PARAMETER  | SYMBOL                          | MCL4148       | UNITS          |
|--|---------------------------------|---------------|----------------|
| Peak Reverse Voltage   | V <sub>RM</sub>                 | 100           | V              |
| Maximum Average Forward Current at Ta=25 °C And f ≥50Hz  | I <sub>F(AV)</sub>              | 150           | mA             |
| Surge Forward Current at t < 1s and T <sub>J</sub> = 25 °C   | I <sub>FSM</sub>                | 500           | mA             |
| Power Dissipation at Tamb= 25 °C   | P <sub>TOT</sub>                | 500           | mW             |
| Maximum Forward Voltage at I <sub>F</sub> =10mA  | V <sub>F</sub>                  | 1.0           | V              |
| Maximum Leakage Current<br>at V <sub>R</sub> =20V<br>at V <sub>R</sub> =75V<br>at V <sub>R</sub> =20V, T <sub>J</sub> = 150°C                  | I <sub>R</sub>                  | 25<br>5<br>50 | nA<br>μA<br>μA |
| Maximum Capacitance at V <sub>F</sub> =V <sub>R</sub> =0   | C <sub>J</sub>                  | 4             | pF             |
| Maximum Reverse Recovery Time From<br>I <sub>F</sub> =-I <sub>R</sub> =10mA to I <sub>RR</sub> =-1mA, V <sub>R</sub> =6V R <sub>L</sub> =100 Ω | t <sub>rr</sub>                 | 4             | ns             |
| Typical Thermal Resistance   | R <sub>θJA</sub>                | 300           | °C / W         |
| Junction Temperature and Storage Temperature Range   | T <sub>J</sub> , T <sub>S</sub> | -65 to +175   | °C             |

### NOTE:

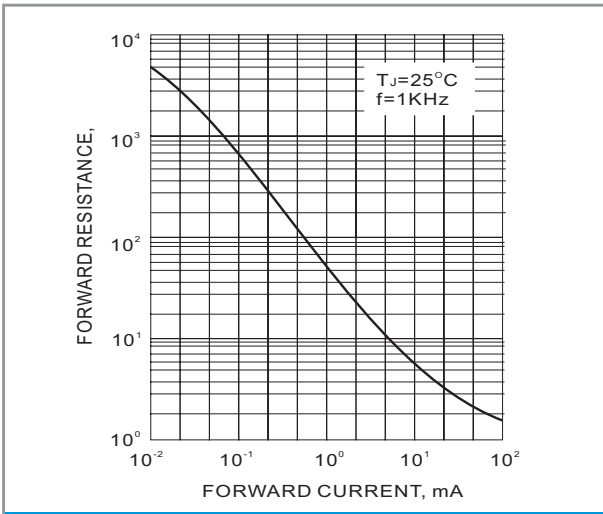
1. C<sub>J</sub> at V<sub>R</sub>=0, f=1MHZ
2. From I<sub>F</sub>=10mA to I<sub>R</sub>=1mA, V<sub>R</sub>=6Volts, R<sub>L</sub>=100Ω

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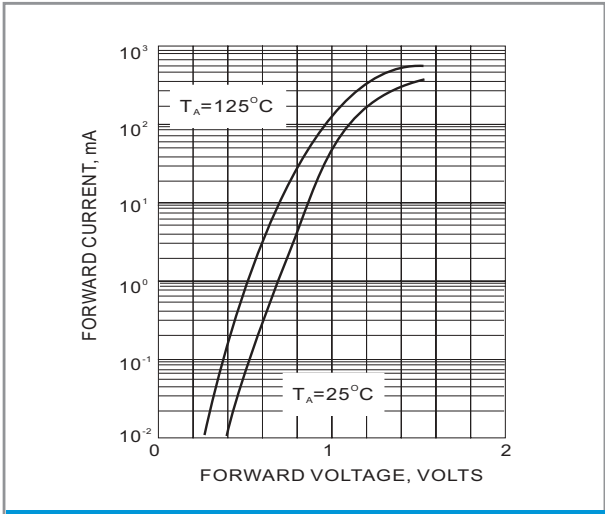
## RATING AND CHARACTERISTIC CURVES



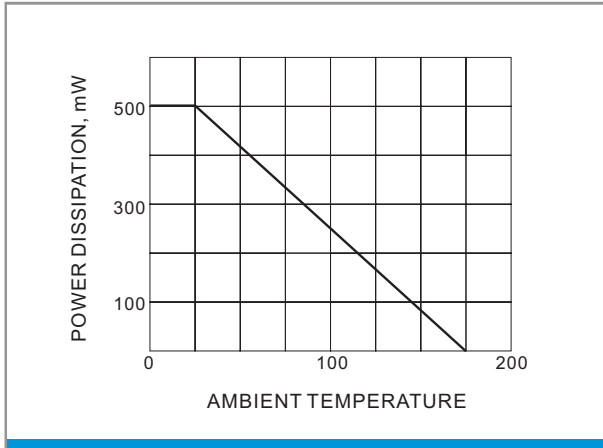
**Fig.1 ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION**



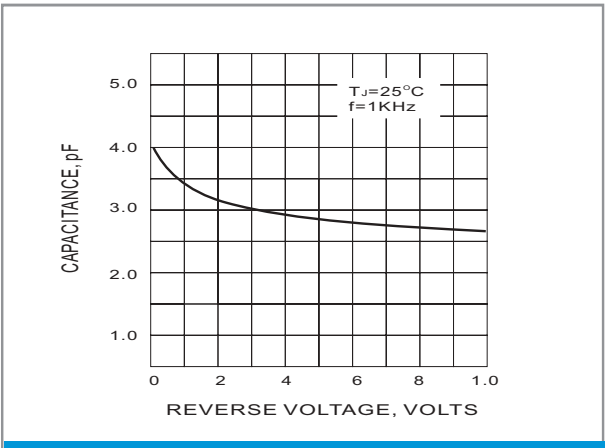
**Fig.2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT**



**Fig.3 FORWARD CHARACTERISTICS**



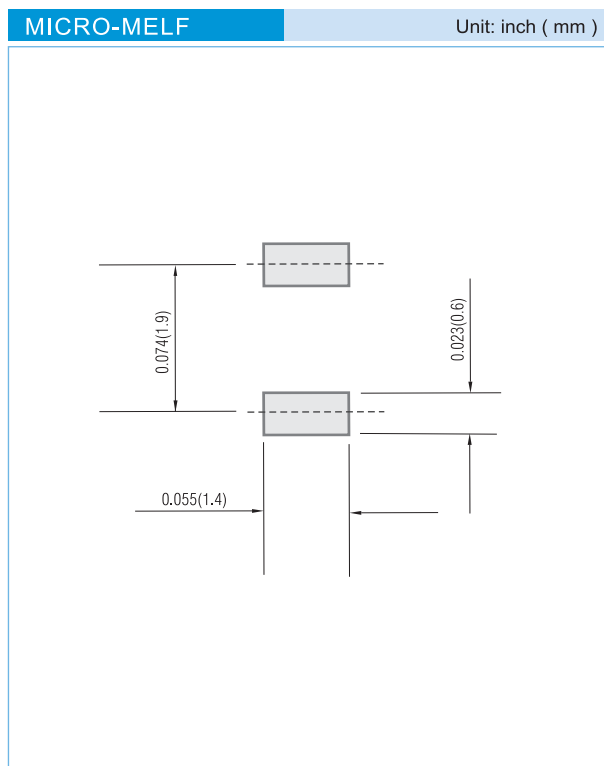
**Fig.4 DERATING CURVE**



**Fig.5 TYPICAL JUNCTION CAPACITANCE**

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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information

T/R - 10K per 13" plastic Reel

T/R - 2.5K per 7" plastic Reel

## LEGAL STATEMENT

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