

# MCL4148

## FAST SWITCHING SURFACE MOUNT DIODES

**VOLTAGE** 100 Volt **POWER** 500 mWatt

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

### FEATURES

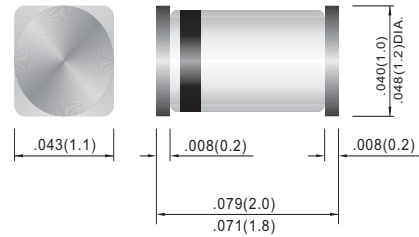
- Fast switching Speed.
- Surface Mount Package Ideally Suited For Automatic Insertion.
- Silicon Epitaxial Planar Construction.
- Lead free in compliance with EU RoHS 2.0

### 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 at V <sub>R</sub> = 20V at V <sub>R</sub> = 75V at V <sub>R</sub> = 20V, T <sub>J</sub> = 150°C	I <sub>R</sub>	25 5 50	nA μA μA
Maximum Capacitance at V <sub>F</sub> = V <sub>R</sub> = 0	C <sub>J</sub>	4	pF
Maximum Reverse Recovery Time From I <sub>F</sub> = I <sub>RM</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

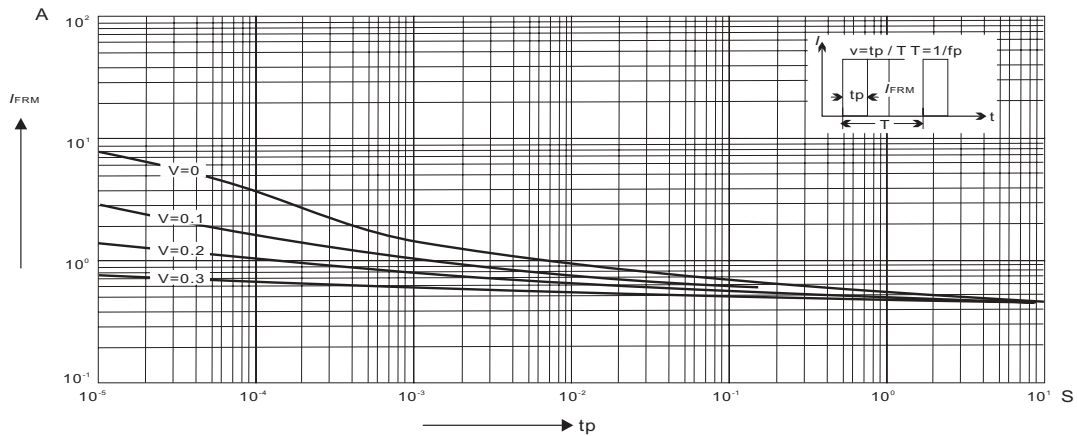


Fig.1 ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

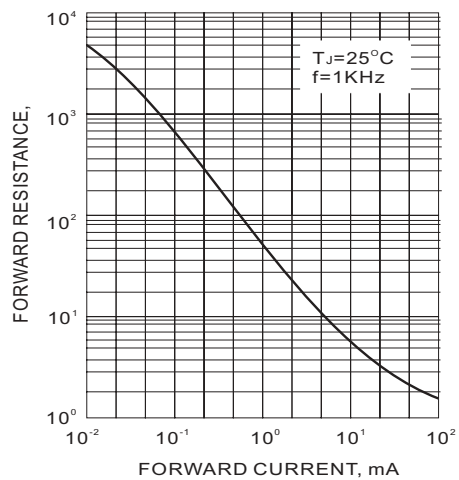


Fig.2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

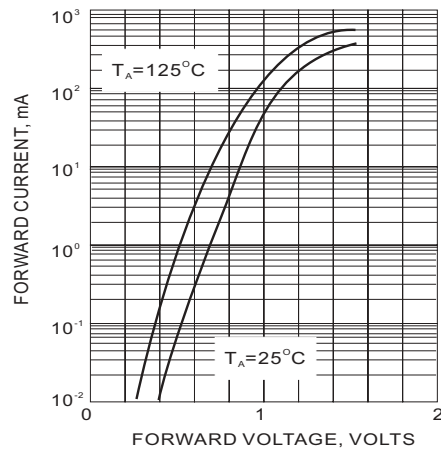


Fig.3 FORWARD CHARACTERISTICS

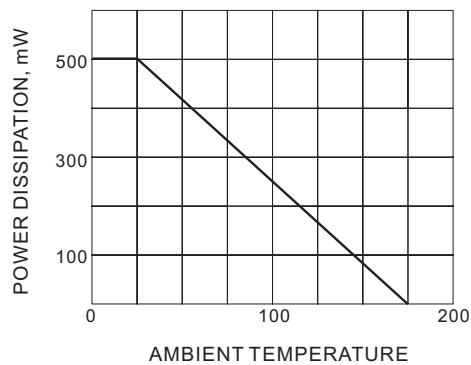


Fig.4 DERATING CURVE

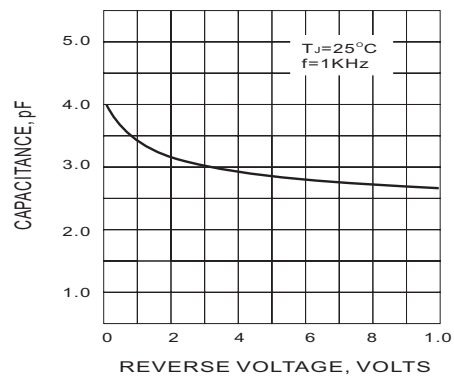


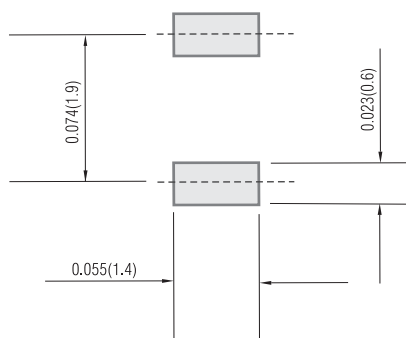
Fig.5 TYPICAL JUNCTION CAPACITANCE

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## MOUNTING PAD LAYOUT

**MICRO-MELF**

Unit: inch ( mm )



## ORDER INFORMATION

- Packing information

T/R - 10K per 13" plastic Reel

T/R - 2.5K per 7" plastic Reel



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## Part No\_packing code\_Version

MCL4148\_R1\_10001

MCL4148\_R2\_10001

For example :

**RB500V-40\_R2\_00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code <b>XX</b>				Version Code <b>XXXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	HF	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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