

# Mini Melf Switching diode

## Features

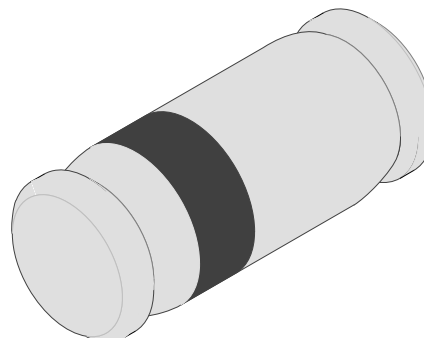
- Electrical data identical with the devices 1N4148 and 1N4448 respectively
- Weight:0.03g

## Applications

Extreme fast switches

Moisture Sensitivity Level 1

Polarity: Color band denotes cathode end



## Absolute Maximum Ratings

$T_j = 25^{\circ}\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage			$V_{RRM}$	100	V
Reverse voltage			$V_R$	75	V
Peak forward surge current	$t_p=1\mu\text{s}$		$I_{FSM}$	2	A
Repetitive peak forward current			$I_{FRM}$	500	mA
Forward current			$I_F$	300	mA
Average forward current	$V_R=0$		$I_{FAV}$	150	mA
Power dissipation			$P_V$	500	mW
Operating junction temperature			$T_j$	-55~150	$^{\circ}\text{C}$
Storage temperature range			$T_{stg}$	-55~150	$^{\circ}\text{C}$

## Maximum Thermal Resistance

$T_j = 25^{\circ}\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	on PC board 50mmx50mmx1.6mm	$R_{thJA}$	500	K/W

### Characteristics

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=5\text{mA}$	MM4448	$V_F$	0.62		0.72	V
	$I_F=50\text{mA}$	MM4148	$V_F$		0.86	1	V
	$I_F=100\text{mA}$	MM4448	$V_F$		0.93	1	V
Reverse current	$V_R=20\text{V}$		$I_R$			25	nA
	$V_R=20\text{V}, T_j=150^\circ\text{C}$		$I_R$			50	$\mu\text{A}$
	$V_R=75\text{V}$		$I_R$			5	$\mu\text{A}$
Breakdown voltage	$I_R=100\mu\text{A}, t_p/T=0.01, t_p=0.3\text{ms}$		$V_{(BR)}$	100			V
Diode capacitance	$V_R=0, f=1\text{MHz}, V_{HF}=50\text{mV}$		$C_D$			4	pF
Rectification efficiency	$V_{HF}=2\text{V}, f=100\text{MHz}$		$\eta_r$	45			%
Reverse recovery time	$I_F=I_R=10\text{mA}, i_R=1\text{mA}$		$t_{rr}$			8	ns
	$I_F=10\text{mA}, V_R=6\text{V}, i_R=0.1 \times I_R, R_L=100\Omega$		$t_{rr}$			4	ns

### Typical Characteristics ( $T_j = 25^\circ\text{C}$ unless otherwise specified)

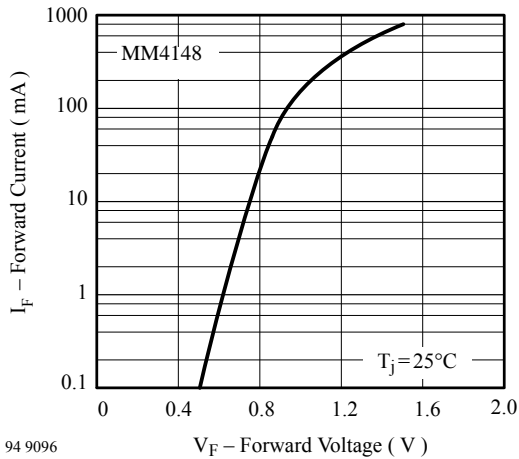


Figure 1. Forward Current vs. Forward Voltage

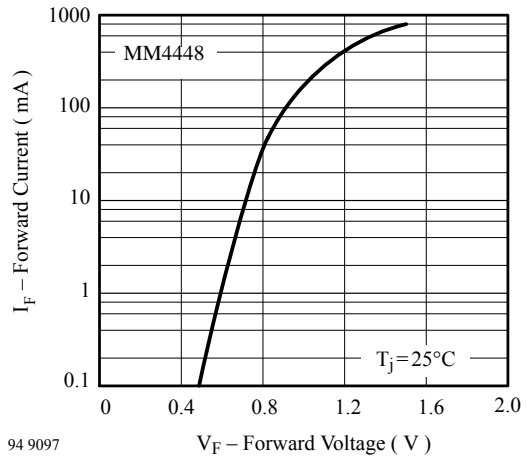


Figure 2. Forward Current vs. Forward Voltage

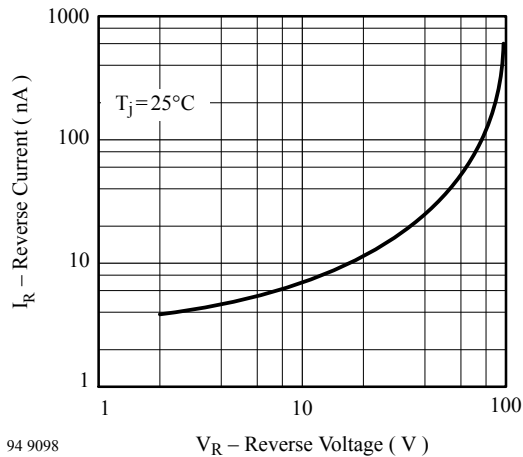


Figure 3. Reverse Current vs. Reverse Voltage

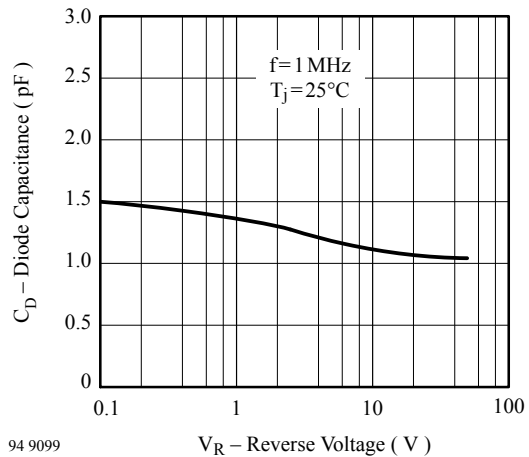


Figure 4. Diode Capacitance vs. Reverse Voltage

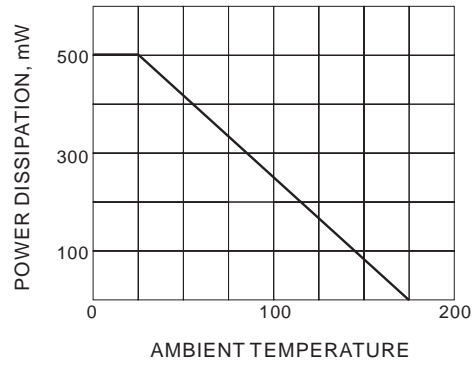
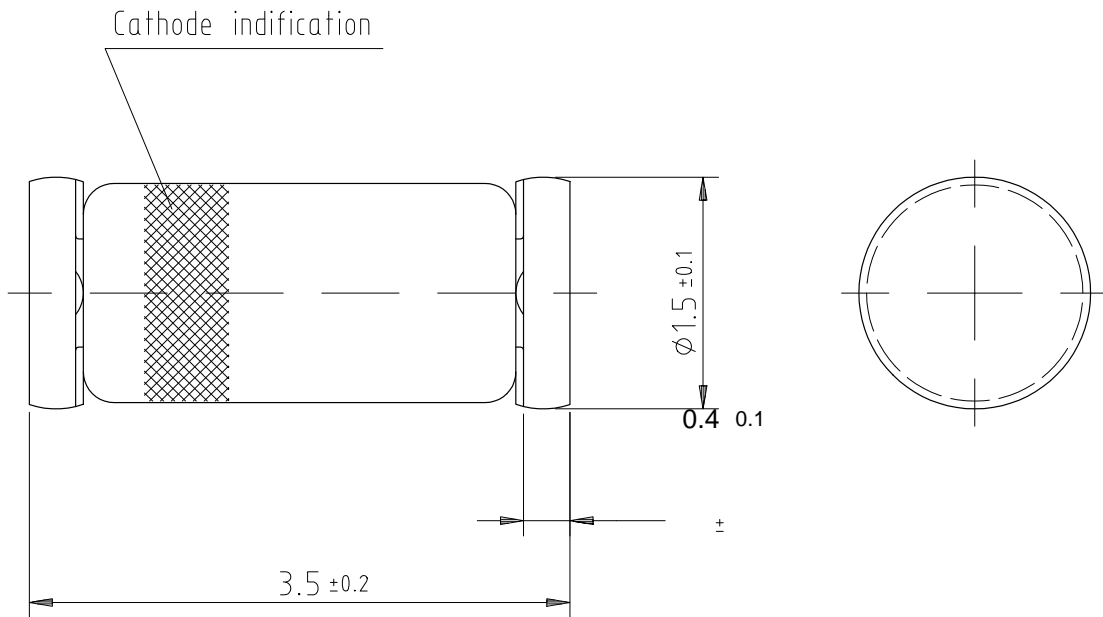
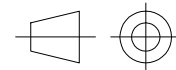


Figure 5. Derating Curve

### Dimensions in mm



Glass case  
Mini MELF



technical drawings  
according to DIN  
specifications

**Ordering Information:**

Device PN	Packing
MM4448-T <sup>(1)</sup> G <sup>(2)</sup> -WS	Tape&Reel: 2.5 Kpcs/Reel

Note: (1) Packing code, Tape&Reel Packing

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

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