

Mini Melf Switching diode



Features

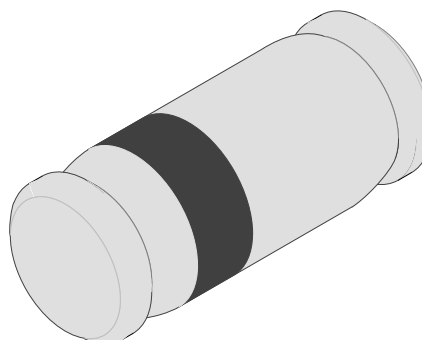
- Electrical data identical with the devices 1N4148 and 1N4448 respectively
- Weight:0.03g

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	μA
	$V_R=75\text{V}$		I_R			5	μA
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	$V_{HF}=2\text{V}, f=100\text{MHz}$		η_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)

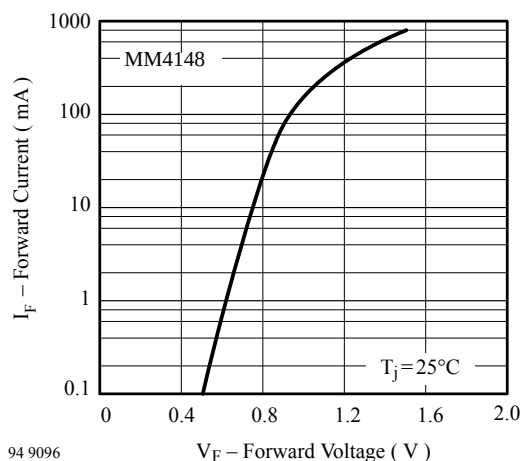


Figure 1. Forward Current vs. Forward Voltage

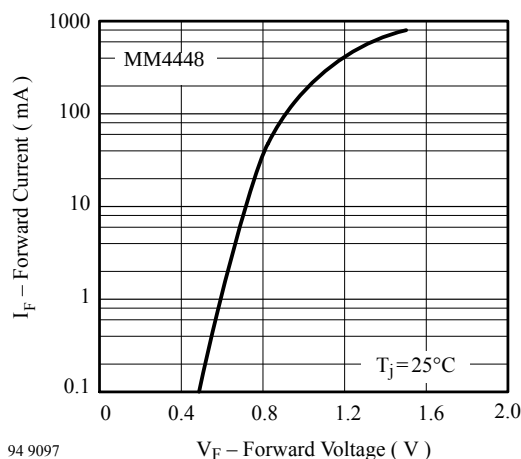


Figure 2. Forward Current vs. Forward Voltage

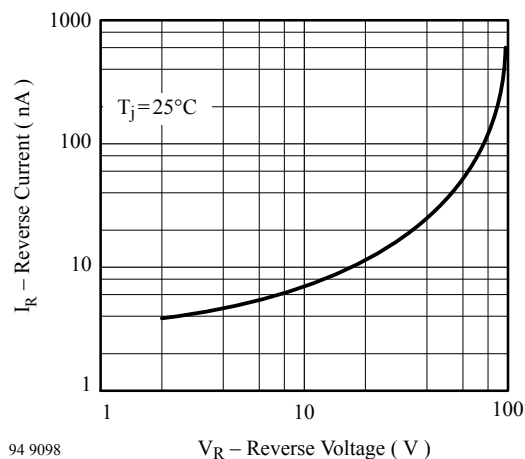


Figure 3. Reverse Current vs. Reverse Voltage

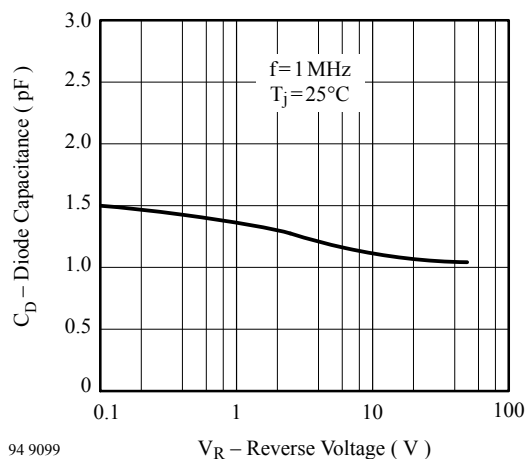


Figure 4. Diode Capacitance vs. Reverse Voltage

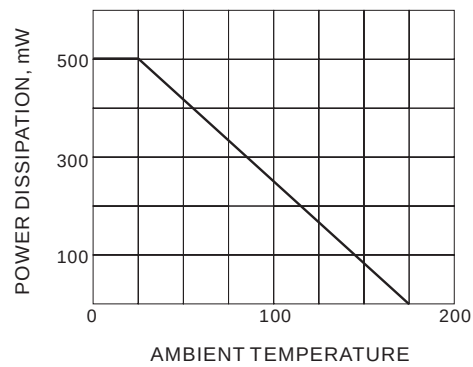
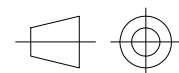
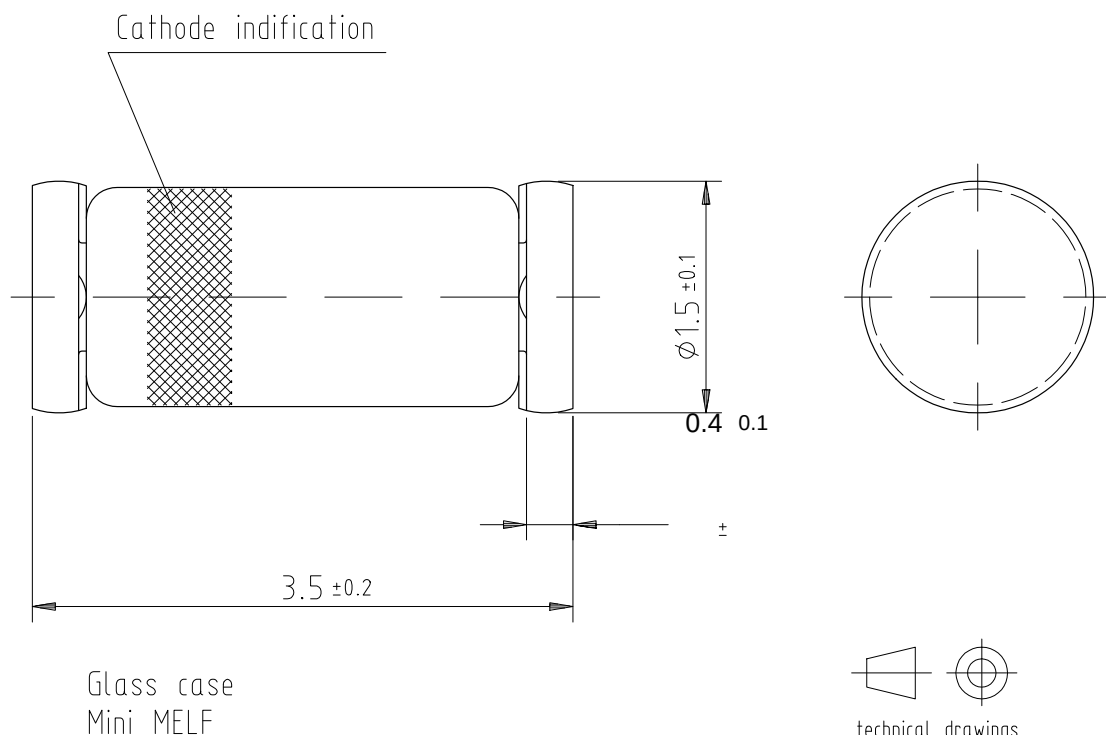


Figure 5. Derating Curve

Dimensions in mm



technical drawings
according to DIN
specifications



Ordering Information:

Device PN	Packing
MM4148-T ⁽¹⁾ G ⁽²⁾ -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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