

MINI MELF Glass-Encapsulate Diodes

Small Signal Fast Switching Diodes

Features

- V_R 75V
- I_{FAV} 150mA
- Fast Switching Device (TRR <4.0 nS)

Applications

- Extreme fast switches



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Repetitive peak reverse voltage	V_{RRM}	V		100
Reverse voltage	V_R	V		75
Peak forward surge current	I_{FSM}	A	$t_p=1\mu s$	2
Repetitive peak forward current	I_{FRM}	mA		500
Forward continuous current	I_F	mA		300
Average forward current	I_{FAV}	mA	$V_R=0$	150
Power dissipation	P_{tot}	mW		500 ¹⁾
Thermal resistance	R_{thJA}	°C/W	junction to ambient air	300 ¹⁾
Maximum junction temperature	T_J	°C		175
Storage temperature range	T_{stg}	°C		-65 to +175

Notes:

Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Item	Symbol	Unit	Conditions	Max
Forward voltage	V_F	mV	$I_F=50\text{mA}$	1000
Reverse current	I_R	nA	$V_R=20\text{V}$	25
	I_R	μA	$V_R=20\text{V}, T_j=150^\circ\text{C}$	50
	I_R	μA	$V_R=75\text{V}$	5
Breakdown voltage	$V_{(BR)}$	V	$I_R=100\mu\text{A}, t_p/T=0.01, t_p=0.3\text{ms}$	100(min)
Diode capacitance	C_D	pF	$V_R=0, f=1\text{MHz}, V_{HF}=50\text{mV}$	4
Reverse recovery time	t_{rr}	ns	$I_F=I_R=10\text{mA}, i_R=1\text{mA}$	8
	t_{rr}	ns	$I_F=10\text{mA}, V_R=6\text{V}, i_R=0.1\times I_R, R_L=100\Omega$	4

Typical Characteristics

FIG1: Forward Current vs. Forward Voltage

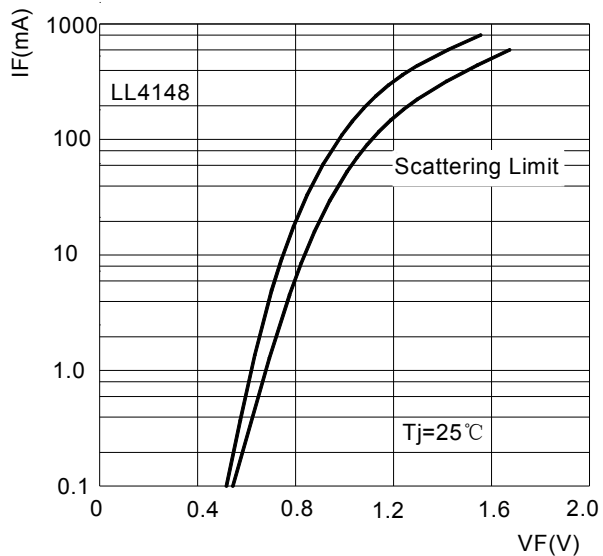


FIG2: Reverse Current vs. Reverse Voltage

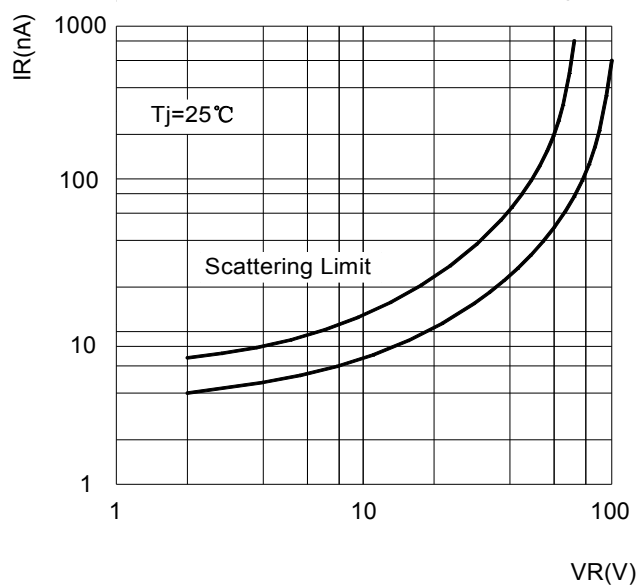
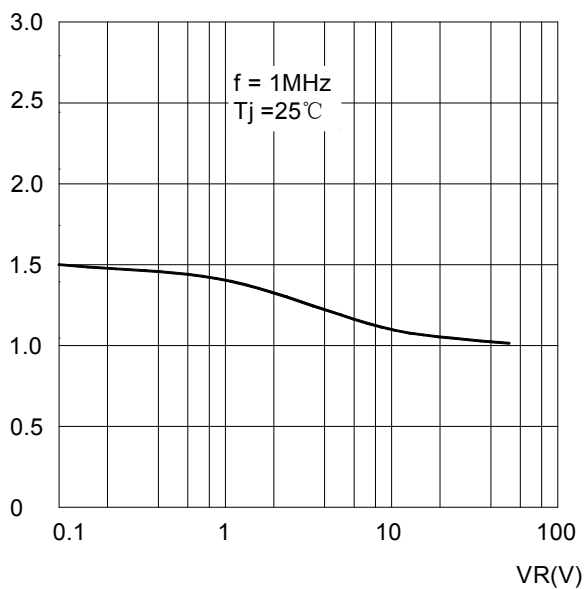
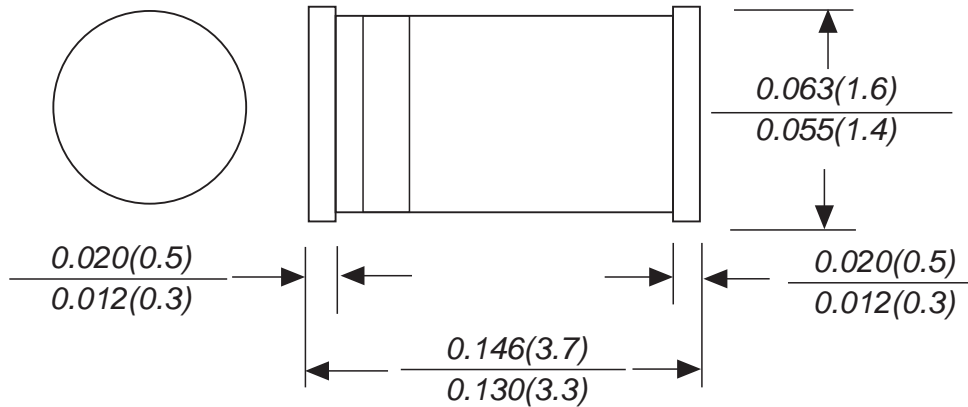


FIG3: Diode Capacitance vs. Reverse Voltage

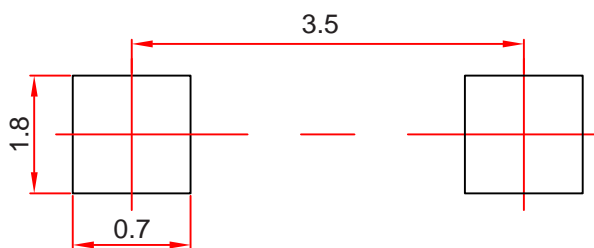


MINI MELF Package Outline Dimensions



Dimensions in millimeters

MINI MELF Suggested Pad Layout



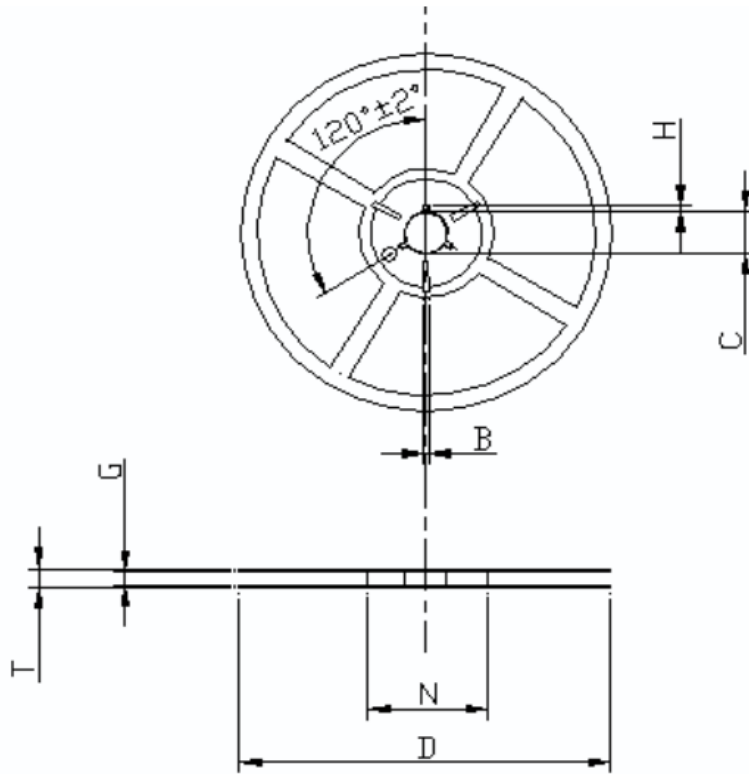
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

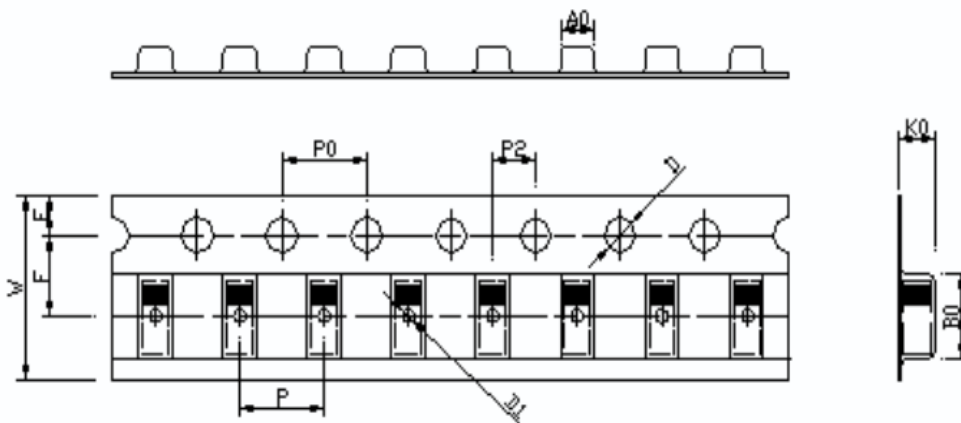
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Reel Taping Specifications For Surface Mount Devices- MINI MELF



SYMBOL	B	C	D	G	H	N	T
SIZE(mm)	2±0.5	13±0.5	178±2	8.4±1.5	4±0.5	60	<14.9



SYMBOL	W	P	E	F	D	D1	P0	P2	A0	B0	K0
SIZE(mm)	8.0±0.1	4.0±0.1	1.75±0.1	3.5±0.05	1.5±0.1	1.0±0.1	4.0±0.1	2.0±0.05	1.70±0.1	3.80±0.1	1.85±0.1

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