

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

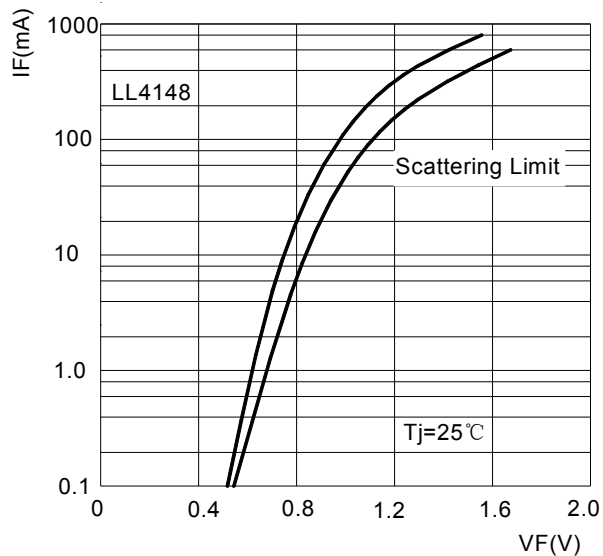


FIG2: Reverse Current vs. Reverse Voltage

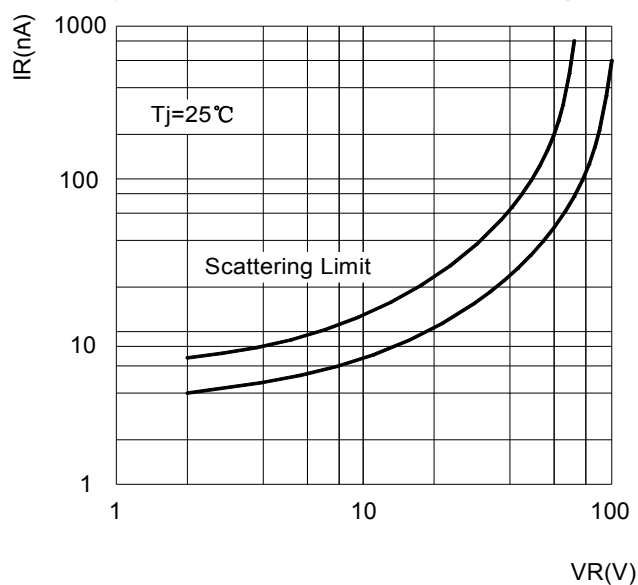
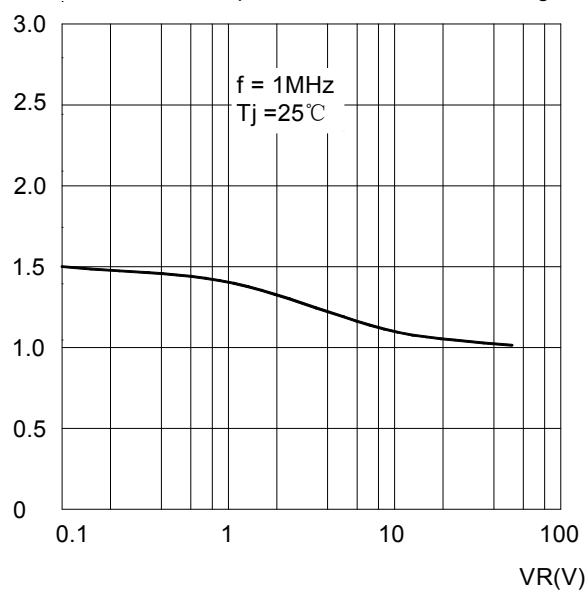
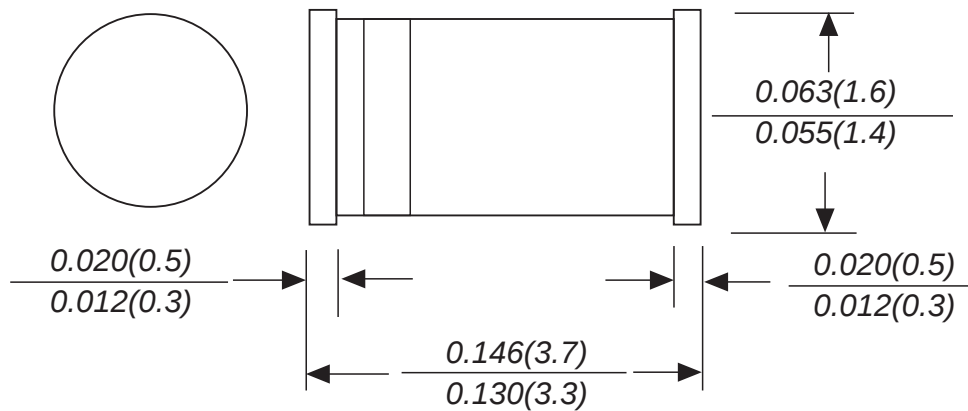


FIG3: Diode Capacitance vs. Reverse Voltage

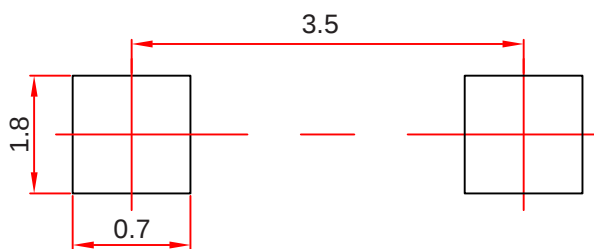


MINI MELF Package Outline Dimensions



Dimensions in millimeters

MINI MELF Suggested Pad Layout

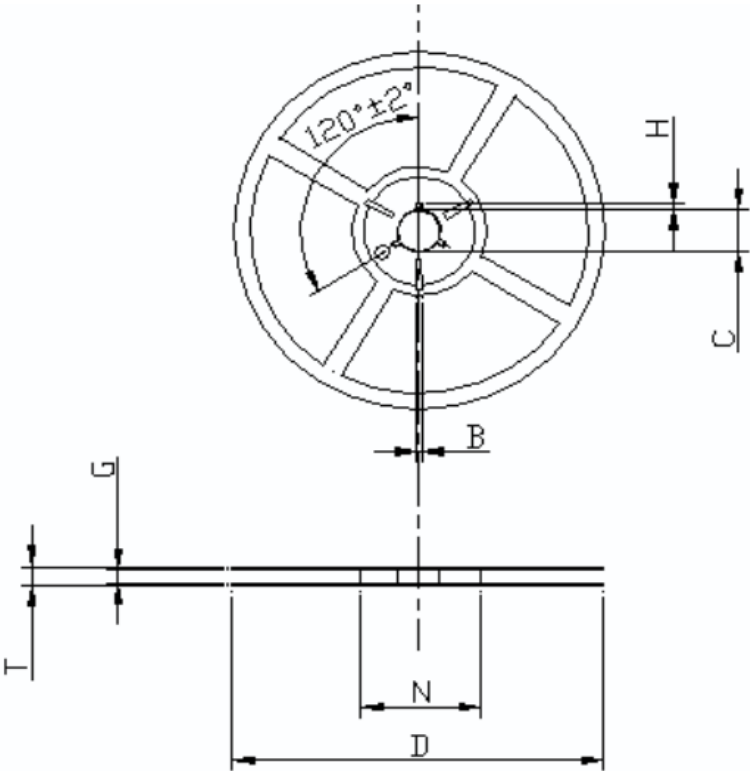


Note:

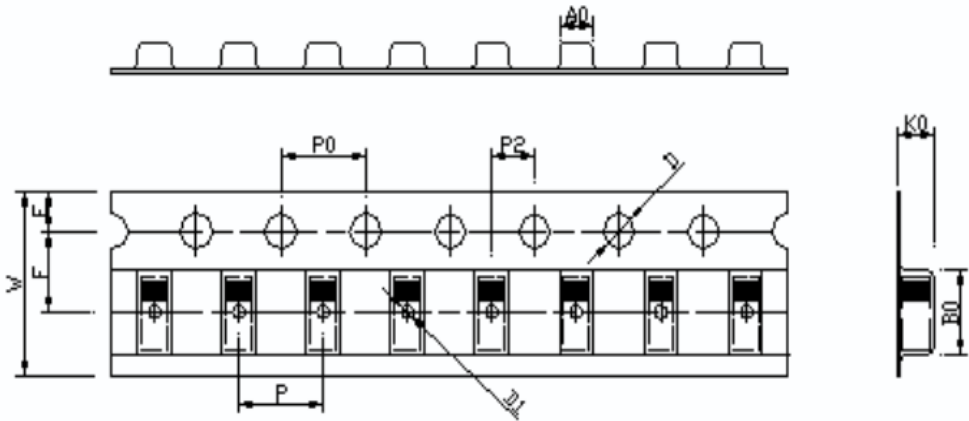
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

JSMD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSMD does not assume any liability arising out of the application or use of any product described herein.



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