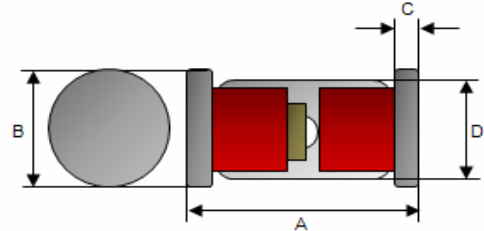


Small Signal Diode



Mini-MELF (LL34)
HERMETICALLY SEALED GLASS



Features

- ✧ Fast switching device ($T_{rr} < 4.0\text{ns}$)
- ✧ Surface device type mounting
- ✧ Moisture sensitivity level 1
- ✧ Matte Tin (Sn) Terminal Finish
- ✧ Pb free version and RoHS compliant
- ✧ All External Surfaces are Corrosion Resistant and Leads are Readily Solderable

Mechanical Data

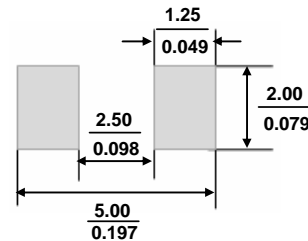
- ✧ Case : Mini-MELF Package (JEDEC DO-213AC)
- ✧ High temperature soldering guaranteed : $270^{\circ}\text{C}/10\text{s}$
- ✧ Polarity : Indicated by cathode band
- ✧ Weight : approx. 31 mg

Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.30	3.70	0.130	0.146
B	1.40	1.60	0.055	0.063
C	0.25	0.40	0.010	0.016
D	1.25	1.40	0.049	0.055

Ordering Information

Package	Part No.	Packing
LL34	LL4148 L0	10K / 13" Reel
LL34	LL4448 L0	10K / 13" Reel
LL34	LL914B L0	10K / 13" Reel
LL34	LL4148 L1	2.5K / 7" Reel
LL34	LL4448 L1	2.5K / 7" Reel
LL34	LL914B L1	2.5K / 7" Reel

Suggested PAD Layout



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	500	mW
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Reverse Voltage	V_R	75	V
Peak Forward Surge Current (Note 1) $t_p=1\mu\text{s}$	I_{FSM}	2	A
Non-Repetitive Peak Forward Current	I_{FM}	450	mA
Mean Forward Current	$I_{F(AV)}$	150	mA
Forward Continuous Current	I_F	300	mA
Repetitive peak Forward Current	I_{FRM}	500	mA
Thermal Resistance (Junction to Ambient) (Note 2)	$R_{\theta JA}$	300	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to + 200	$^{\circ}\text{C}$

Notes:1. Test Condition : 8.3ms Single half Sine-Wave Superimposed on Rated Load (JEDEC Method)

Notes:2. Valid provided that electrodes are kept at ambient temperature

Small Signal Diode

Maximum Ratings and Electrical Characteristics

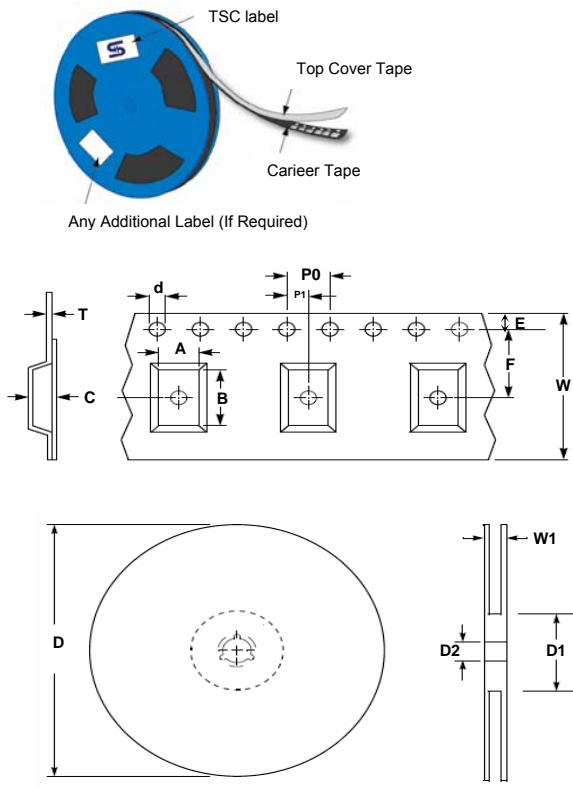
Rating at 25°C ambient temperature unless otherwise specified.

Electrical Characteristics

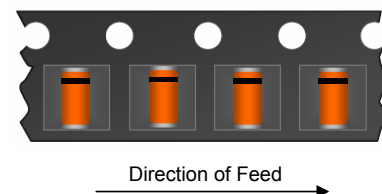
Type Number		Symbol	Min	Max	Units
Reverse Breakdown Voltage	$I_R=100\mu A$	$V_{(BR)}$	100		V
	$I_R=5\mu A$		75		
Forward Voltage	LL4448, LL914B	V_F	0.62	0.72	V
	LL4148			1.0	
	LL4448, LL914B			1.0	
Reverse Leakage Current	$V_R=20V$	I_R		25	nA
	$V_R=75V$			5.0	μA
Junction Capacitance	$V_R=0, f=1.0MHz$	C_J		4.0	pF
Reverse Recovery Time (Note 3)		T_{rr}		4.0	ns

Notes:3. Reverse Recovery Test Conditions: $I_F=I_R=10mA$, $R_L=100\Omega$, $I_{RR}=1mA$

Tape & Reel specification



Item	Symbol	Dimension(mm)
Carrier width	A	1.83 ± 0.10
Carrier length	B	3.73 ± 0.10
Carrier depth	C	1.80 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178 ± 1 330 ± 1
Reel inner diameter	D1	55 Min 100Min
Feed hole width	D2	13.0 ± 0.20
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.05
Sprocket hole pitch	P0	4.00 ± 0.10
Embossment center	P1	2.00 ± 0.05
Overall tape thickness	T	0.23±0.005
Tape width	W	8.00 ± 0.30
Reel width	W1	14.4max



Small Signal Diode

Rating and Sharacteristic Curves

FIG 1 Typical Forward Characteristics

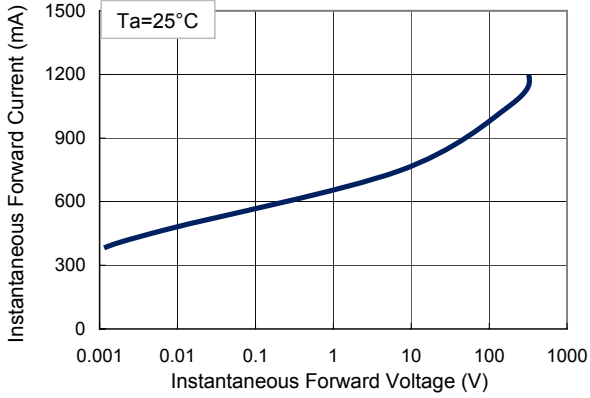


FIG 2 Reverse Current vs Reverse Voltage

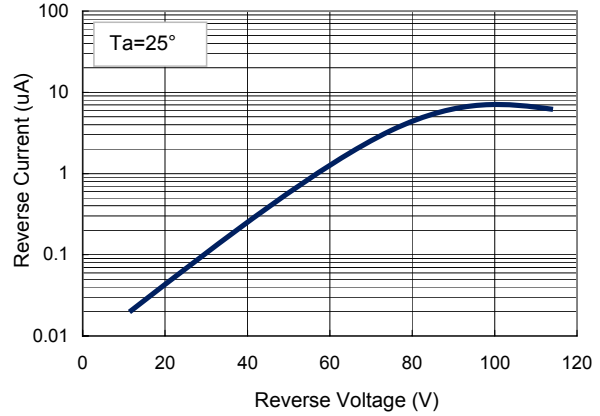


FIG 3 Admissible Power Dissipation Curve

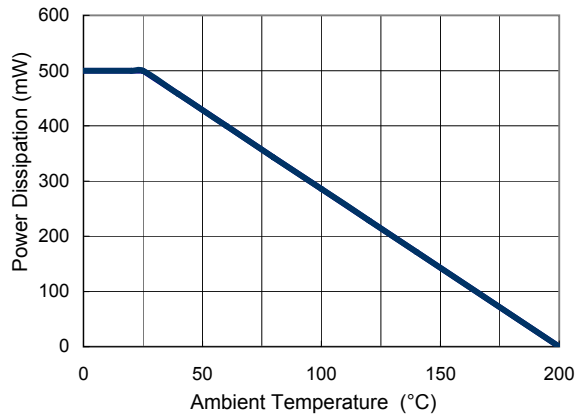


FIG 4 Typical Junction Capacitance

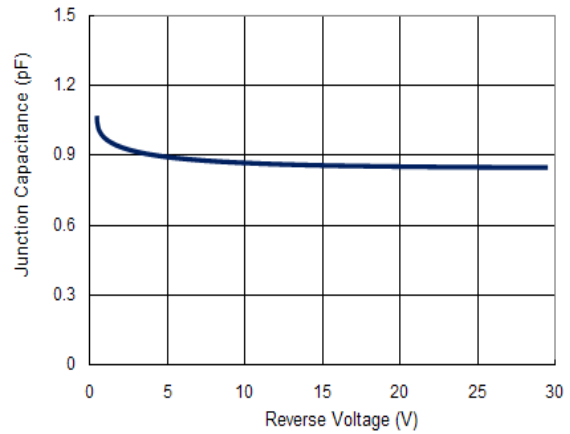


FIG 5 Forward Resistance vs. Forward Current

