

TC1N4148
TC1N4448
TC1N914B

SEMICONDUCTOR

500 mW LL-34 Hermetically
Sealed Glass Fast Switching
Diodes



SURFACE MOUNT
LL34

Absolute Maximum Ratings $T_A = 25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	500	mW
T_{STG}	Storage Temperature Range	-65 to +200	$^{\circ}\text{C}$
T_J	Operating Junction Temperature	+175	$^{\circ}\text{C}$
W_{IV}	Working Inverse Voltage	75	V
I_O	Average Rectified Current	150	mA
I_{FM}	Non-repetitive Peak Forward Current	450	mA
I_{FSURGE}	Peak Forward Surge Current	2	A

These ratings are limiting values above which the serviceability of the diode may be impaired.

DEVICE MARKING DIAGRAM



Cathode Band Color : Black

Specification Features:

- Fast Switching Device ($T_{RR} < 4.0 \text{ nS}$)
- LL-34 (Mini-MELF) Package
- Surface Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All external surfaces are corrosion resistant and leads are readily solderable
- 1st band indicates negative polarity



ELECTRICAL SYMBOL

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

Symbol	Parameter	Test Condition	Limits		Unit
			Min	Max	
B_V	Breakdown Voltage	$I_R = 100\mu\text{A}$ $I_R = 5\mu\text{A}$	100 75		Volts
I_R	Reverse Leakage Current	$V_R = 20\text{V}$ $V_R = 75\text{V}$		25 5	nA μA
V_F	Forward Voltage	TCLL4448, TCLL914B $I_F = 5\text{mA}$ TCLL4148 $I_F = 10\text{mA}$ TCLL4448, TCLL914B $I_F = 100\text{mA}$	0.62	0.72 1.0 1.0	Volts
T_{RR}	Reverse Recovery Time	$I_F = 10\text{mA}$, $V_R = 6\text{V}$ $R_L = 100\Omega$ $I_{RR} = 1\text{mA}$		4	nS
C	Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$		4	pF

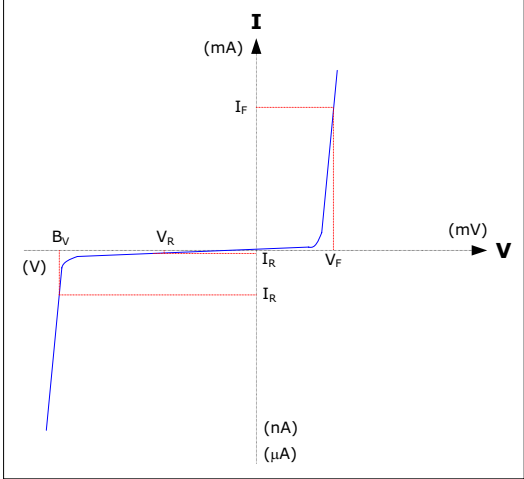
TC1N4148
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Electrical Symbol Definition

Symbol	Parameter
B_V	Breakdown Voltage @ I_R
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F

Typical Characteristics



Ordering Information

Device	Pack Option	Package	Quantity
TCLLxxxx	7" Reel	Tape and Reel	2,500
TCLLxxxxR13	13" Reel	Tape and Reel	10,000
TCLLxxxx	Others	(...contact Tak Cheong sales representatives)	

LL34 (Mini-MELF) Tape Packaging Standards

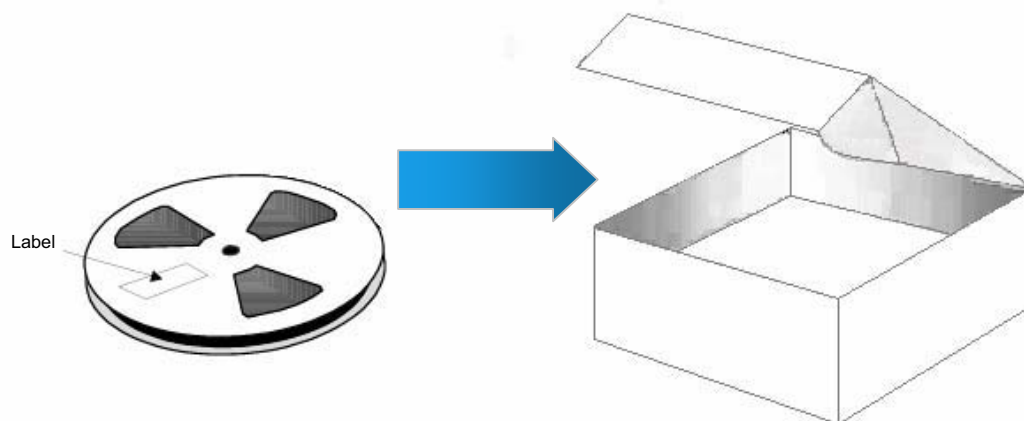
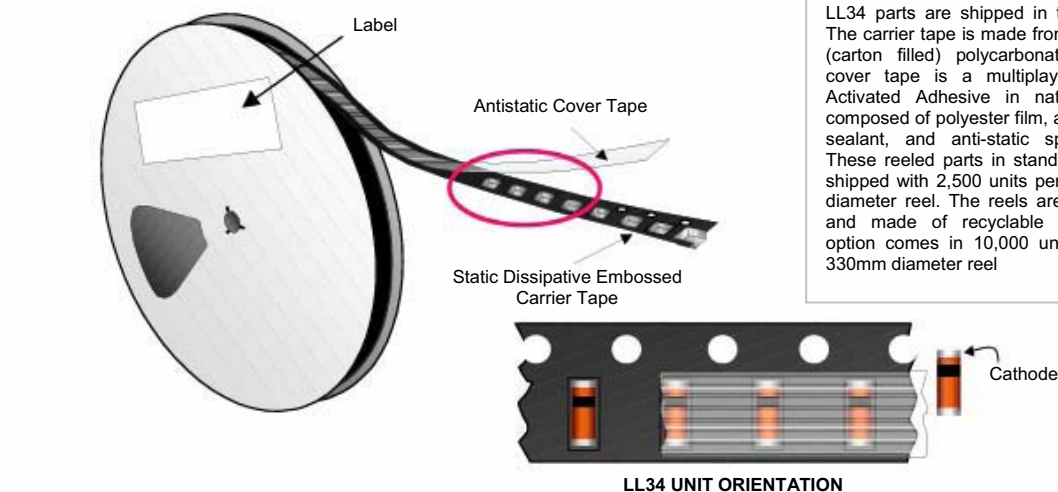
This standard practices for surface-mount tape packaging of leadless (Mini-MELF) components meets the requirements of EIA Standard RS-481-A.

TC1N4148
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TC1N914B

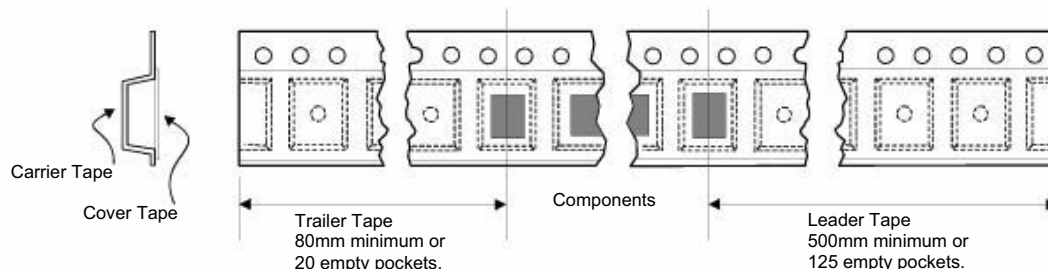
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LL-34 (Mini-MELF) Tape & Reel Packaging Information

LL-34 Packaging Outline



LL-34 Leader and Trailer

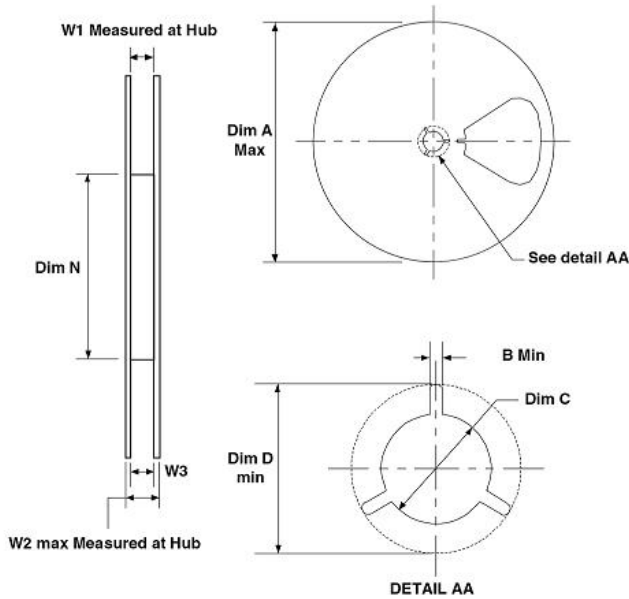


TC1N4148
TC1N4448
TC1N914B

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LL-34 (Mini-MELF) Tape & Reel Packaging Information

LL-34 Reel Outline

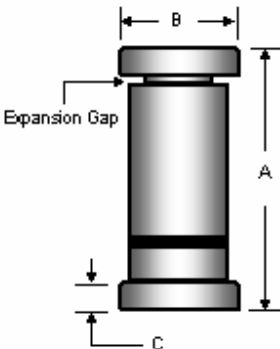


Dimensions are in millimeters									
Tape Size	QTY Option	Dim A	Dim B	Dim C	Dim D	Dim N	W1	W2	W3
8mm	2,500	178	1.5	13	20.2	55	8.4	14.4	7.9 – 10.9
	10,000	330	1.5	13	20.2	100	8.4	14.4	7.9 – 10.9

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Package Outline

Package	Case Outline																												
LL34	<table><tr><th rowspan="3">DIM</th><th colspan="4">LL-34</th></tr><tr><th colspan="2">Millimeters</th><th colspan="2">Inches</th></tr><tr><th>Min</th><th>Max</th><th>Min</th><th>Max</th></tr><tr><td>A</td><td>3.302</td><td>3.505</td><td>0.130</td><td>0.138</td></tr><tr><td>B</td><td>1.397</td><td>1.499</td><td>0.055</td><td>0.059</td></tr><tr><td>C</td><td>0.350</td><td>0.500</td><td>0.014</td><td>0.020</td></tr></table>	DIM	LL-34				Millimeters		Inches		Min	Max	Min	Max	A	3.302	3.505	0.130	0.138	B	1.397	1.499	0.055	0.059	C	0.350	0.500	0.014	0.020
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- Notes:
- 1. LL34 polarity denoted by a band.
 - 2. 'Expansion Gap' has no relation to the location of polarity.