

500 mW LL-34 Hermetically Sealed Glass Fast Switching Diodes

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 +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	+150	$^\circ\text{C}$
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 (Pulse Width = 1.0 μsecond)	2	A

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

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 Terminals Are Readily Solderable
- RoHS Compliant
- Matte Tin (Sn) Terminal Finish
- Color band Indicates Negative Polarity

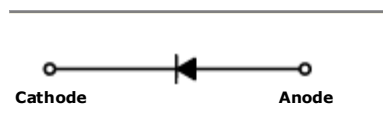


SURFACE MOUNT
LL34

DEVICE MARKING DIAGRAM



Cathode Band Color : Black



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

Typical Characteristics

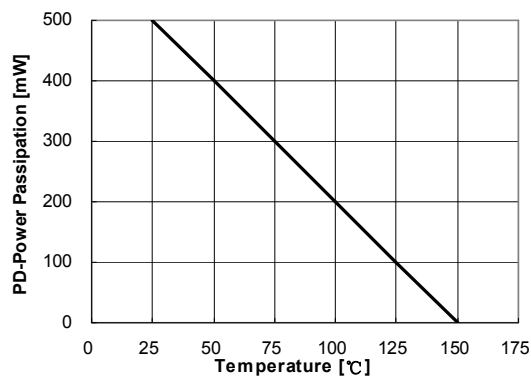


Figure 1. Power Dissipation vs Ambient Temperature
Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

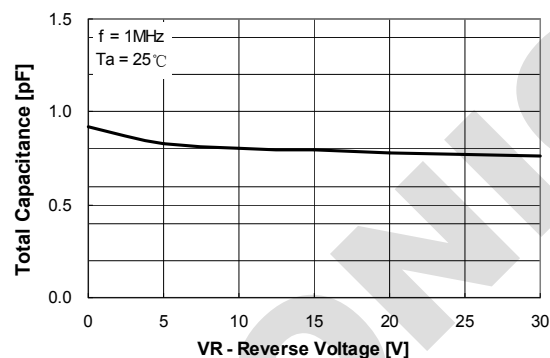


Figure 2. Total Capacitance

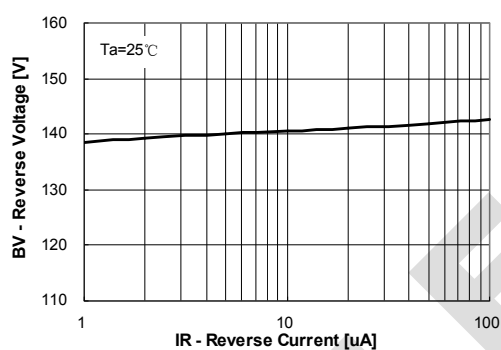


Figure 3. Reverse Voltage vs Reverse Current
BV – 1.0uA to 100uA

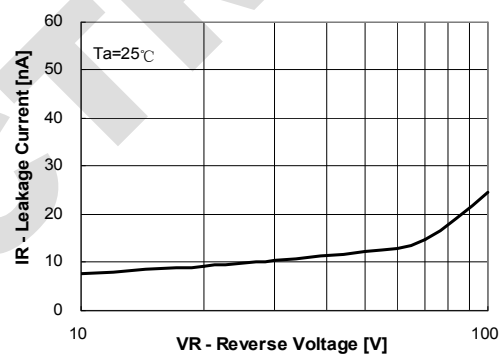


Figure 4. Reverse Current vs Reverse Voltage
IR – 10V to 100V

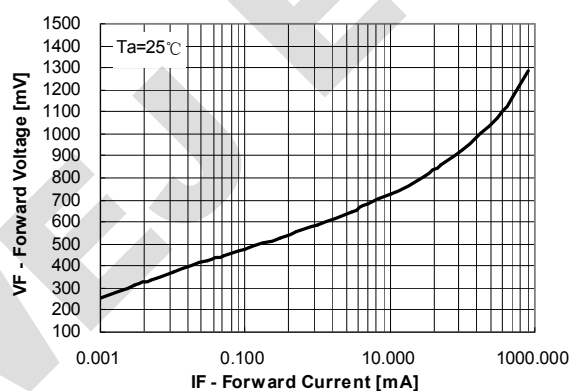


Figure 5. Forward Voltage vs Forward Current
VF – 0.001mA to 800mA

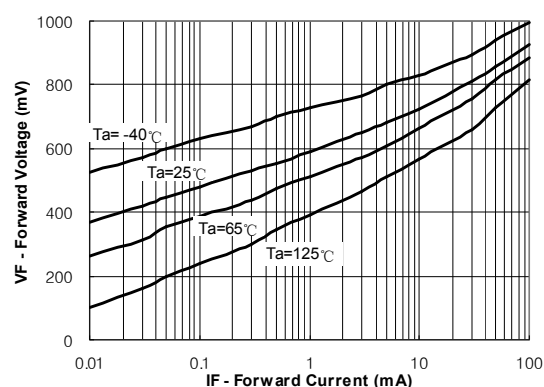
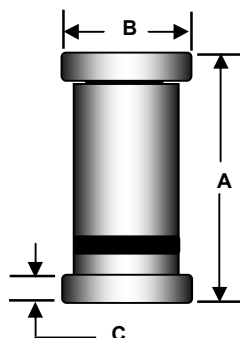


Figure 6. Forward Voltage vs Ambient Temperature
VF – 0.01mA to 100mA (-40 to +125 Deg C)

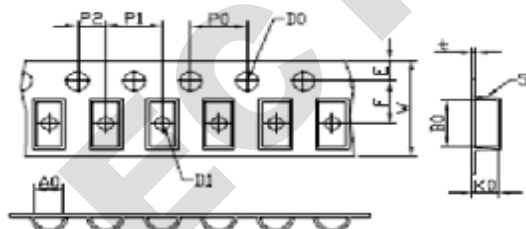
Package Outline

Package	Case Outline				
LL34					
	DIM	LL-34			
		Millimeters		Inches	
		Min	Max	Min	Max
	A	3.30	3.60	0.130	0.142
	B	1.40	1.50	0.055	0.059
	C	0.35	0.50	0.014	0.020

Notes:

1. All dimensions are within DO213AC JEDEC standard.
2. LL-34 polarity denoted by cathode band.

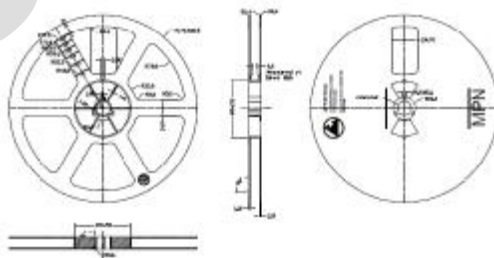
Mini-MELF Embossed Carrier Tape



Dimensions are in millimeters

PKG Type	Tape Size	A0	B0	K0	W	D0	D1	E	F	P1	P0	P2	T
LL-34	8mm	1.83 ±0.10	3.73 ±0.10	1.80 ±0.10	8.00 ±0.10	1.55 ±0.05	1.10 ±0.05	1.75 ±0.10	3.50 ±0.05	4.0 ±0.10	4.00 ±0.10	2.00 ±0.05	0.22 ±0.05
LL-41	12mm	3.00 ±0.10	5.30 ±0.10	3.00 ±0.10	12.00 ±0.10	1.50 +0.1 -0	1.00 ±0.10	1.75 ±0.10	5.50 ±0.10	4.00 ±0.10	4.00 ±0.01	2.00 ±0.10	0.27 ±0.05

Mini-MELF 7 inch Reel Outline



Dimensions are in millimeters

Tape Size	Reel Diameter	Dim A	Dim B	Dim C	Dim D	Dim N	W1	W2	W3
8mm (LL-34)	7 inch	178	1.5 min	13	20.2 min	55	8.4	14.4	7.9 – 10.9
	13 inch	330	1.5 min	13	20.2 min	100	8.4	14.4	7.9 – 10.9
12mm (LL-41)	7 inch	178	1.5 min	13	20.2 min	60	12.4	18.4	11.9–15.4
	13 inch	330	1.5 min	13	20.2 min	100	12.4	18.4	11.9–15.4