

## 1N4148 (LL4148) FAST SWITCHING DIODE



### Features

- Fast Switching Speed
- Glass Package Version for High Reliability
- High Conductance
- Available in Both Through-Hole and Surface Mount Versions
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: DO-35, Mini MELF/DL-35
- Terminals: Plated leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode band
- Weight: DO-35 0.13 grams  
Mini MELF/DL-35 0.05 grams
- Marking: Cathode band

### Maximum Ratings@ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Units
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	75	V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 1)	$I_{FM}$	300	mA
Rectified Current(Average), Half Wave Rectification with Resistive Load and $f \geq 50\text{MHz}$ (Note 1)	$I_o$	150	mA
Non-Repetitive Peak Forward Surge Current @ $t=1.0\text{s}$ @ $t=1.0\mu\text{s}$	$I_{FSM}$	1.0 2.0	A
Power Dissipation(Note 1) Derate Above $25^\circ\text{C}$	$P_D$	500 1.68	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient Air(Note 1)	$R_{\theta JA}$	300	$^\circ\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175	$^\circ\text{C}$

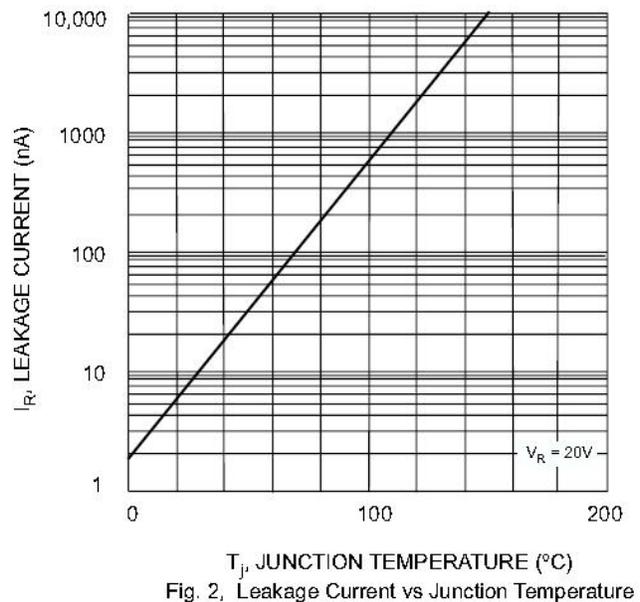
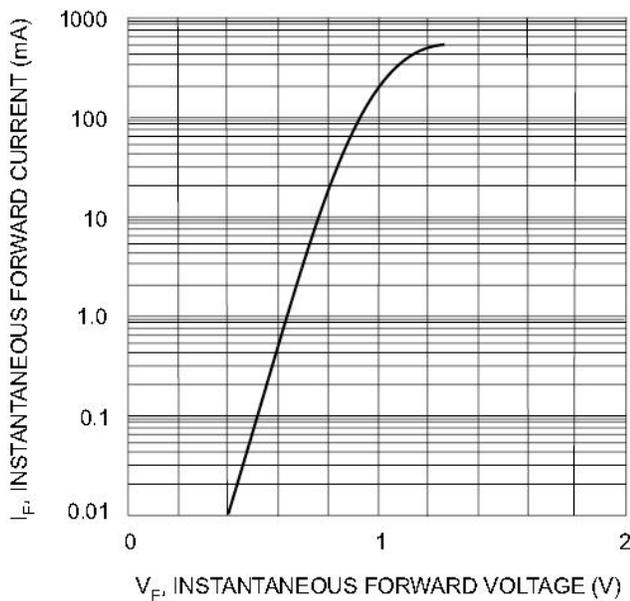
Note: 1. Diode on Ceramic substrate 10×8×0.7mm

**Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified**

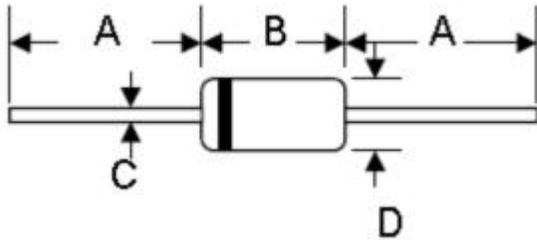
Characteristic	Symbol	Min	Max	Units	Test Condition
Forward Voltage*	V <sub>FM</sub>	-	1.0	V	@I <sub>F</sub> =10mA
Peak Reverse Current*	I <sub>RM</sub>	-	5.0 50 30 25	μA μA μA nA	@V <sub>R</sub> =75V @V <sub>R</sub> =70V, T <sub>J</sub> =150°C @V <sub>R</sub> =20V, T <sub>J</sub> =150°C @V <sub>R</sub> =20V
Capacitance	C <sub>j</sub>	-	4.0	pF	V <sub>R</sub> =0V, f=1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	-	4.0	ns	I <sub>F</sub> =10mA to I <sub>R</sub> =1.0mA V <sub>R</sub> =6.0V, R <sub>L</sub> =100Ω

\* Pulse width < 300 μs, duty cycle < 2%

**Ratings and Characteristics Curves**

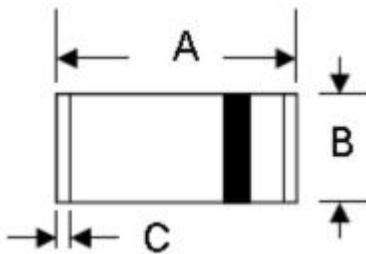


**Mechanical Dimensions DO-35(1N4148)**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	-	4.00	-	0.157
C	-	0.60	-	0.024
D	-	2.00	-	0.079

**Mechanical Dimensions Mini MELF/DL-35 (LL4148)**



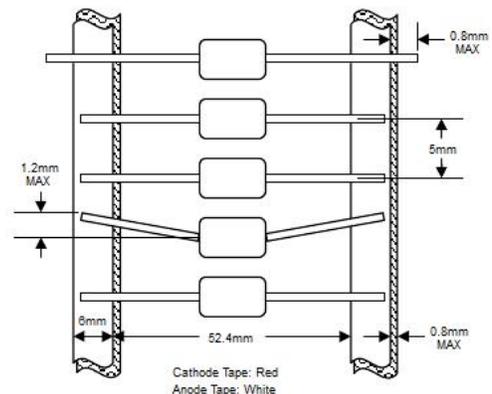
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
B	1.30	1.60	0.051	0.063
C	0.28	0.50	0.011	0.020

**Ordering Information**

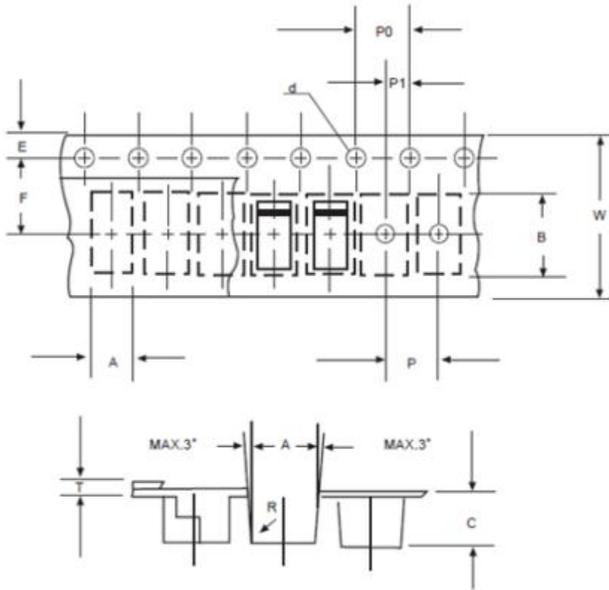
Device	Package	Shipping
1N4148	DO-35 (Pb-Free)	5000pcs /tape
LL4148	Mini MELF/DL-35 (Pb-Free)	2500pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Carrier Tape Specification DO-35**



**Carrier Tape Specification Mini MELF/DL-35**



SYMBOL	Millimeters	
	Min.	Max.
A	1.50	1.70
B	3.60	3.80
C	1.55	1.75
d	1.40	1.60
E	1.65	1.85
F	5.45	5.55
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.17	0.27
W	7.90	8.10

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