NOT RECOMMENDED FOR NEW DESIGN, USE 1N4148W / 1N4448W

1N4148 / 1N4448

FAST SWITCHING DIODE

Features

- Fast Switching Speed
- General Purpose Rectification
- Silicon Epitaxial Planar Construction
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

Mechanical Data

- Case: DO-35
- Case Material: Glass: UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Leads: Solderable per MIL-STD-202, Method 208
- Terminals: Finish — Sn96.5Ag3.5. Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 0.13 grams (approximate)

Ordering Information (Note 3)

Part Number	Case	Packaging
1N4148-A	DO-35	10K/Ammo Pack
1N4148-T	DO-35	10K/Tape & Reel, 13-inch
1N4448-A	DO-35	10K/Ammo Pack
1N4448-T	DO-35	10K/Tape & Reel, 13-inch

Notes: 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
2. See http://www.diodes.com for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. For packaging details, go to our website at http://www.diodes.com.

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	1N4148	1N4448	Unit
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 4)	I_{FM}	300	500	mA
Average Rectified Output Current (Note 4)	I_O	150		mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0s @ t = 1.0µs	I_{FSM}	1.0 2.0		A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4) Derate Above 25°C	P_D	500 1.68	mW mW/°C
Thermal Resistance, Junction to Ambient Air (Note 4)	$R_{\theta JA}$	300	°C/W
Operating and Storage Temperature Range	T_J , T_{STG}	-65 to +175	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
Maximum Forward Voltage	1N4148 1N4448 1N4448	V_{FM}	— 0.62 —	1.0 0.72 1.0	V	I_F = 10mA I_F = 5.0mA I_F = 100mA
Maximum Peak Reverse Current		I_{RM}	—	5.0 50 30 25	µA µA µA nA	V_R = 75V V_R = 70V, T_J = 150°C V_R = 20V, T_J = 150°C V_R = 20V
Total Capacitance		C_T	—	4.0	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time		t_{rr}	—	4.0	ns	I_F = 10mA to I_R =1.0mA V_R = 6.0V, R_L = 100Ω

Notes: 4. Valid provided that device terminals are kept at ambient temperature.

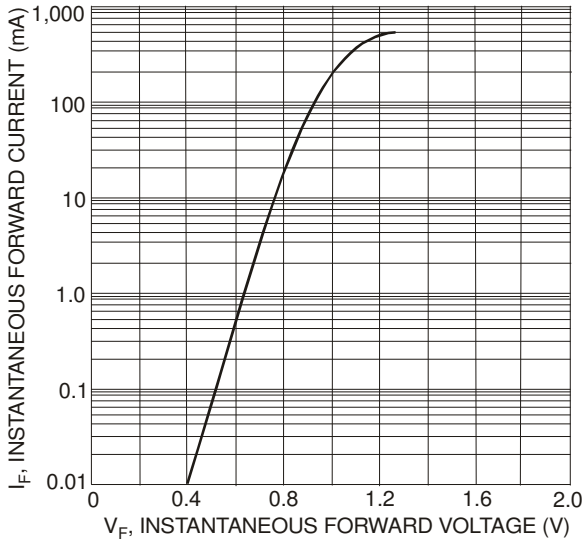


Fig. 1 Typical Forward Characteristics

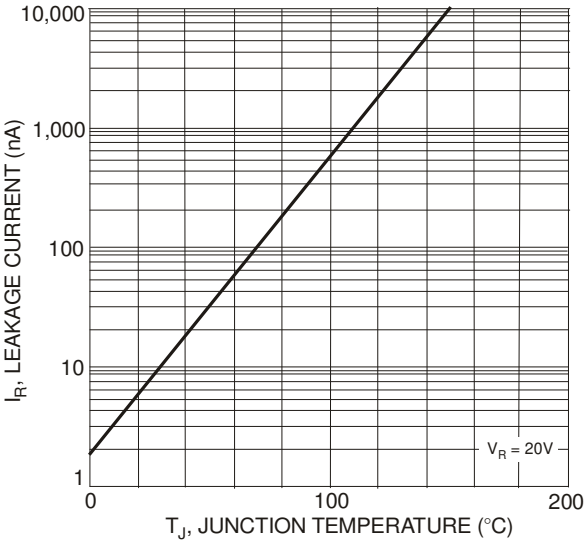
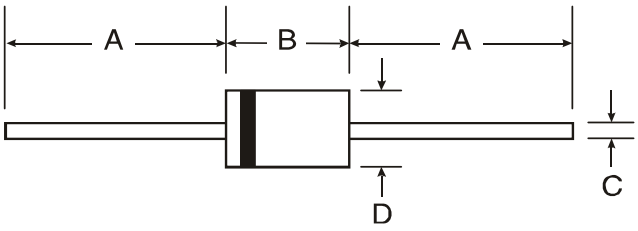


Fig. 2 Leakage Current vs. Junction Temperature

Package Outline Dimensions



DO-35		
Dim	**Min**	**Max**
A	25.40	—
B	—	4.00
C	—	0.60
D	—	2.00
All Dimensions in mm		

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or

2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

www.diodes.com