



Shanghai Lunsure Electronic  
Technology Co.,Ltd  
Tel:0086-21-37185008  
Fax:0086-21-57152769

**1N4942  
THRU  
1N4948**

**Features**

- Low Leakage Current
- Metalurgically Bonded Construction
- Low Cost
- Fast Switching For High Efficiency

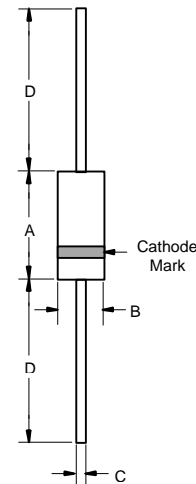
**1 Amp Fast Recovery  
Rectifier  
200 to 1000 Volts**

**Maximum Ratings**

- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 50°C/W Junction To Ambient

| Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|----------------|----------------|--|---------------------|-----------------------------|
| 1N4942         | ---            | 200V                                   | 140V                | 200V                        |
| 1N4944         | ---            | 400V                                   | 280V                | 400V                        |
| 1N4946         | ---            | 600V                                   | 420V                | 600V                        |
| 1N4947         | ---            | 800V                                   | 560V                | 800V                        |
| 1N4948         | ---            | 1000V                                  | 700V                | 1000V                       |

**DO-41**



**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|   |             |                         |   |
|---|-------------|-------------------------|---|
| Average Forward Current   | $I_{F(AV)}$ | 1.0A                    | $T_A = 55^\circ\text{C}$  |
| Peak Forward Surge Current  | $I_{FSM}$   | 25A                     | 8.3ms, half sine  |
| Maximum Instantaneous Forward Voltage                                 | $V_F$       | 1.3V                    | $I_{FM} = 1.0\text{A}; T_A = 25^\circ\text{C}^*$                  |
| Maximum DC Reverse Current At Rated DC Blocking Voltage               | $I_R$       | 5.0μA<br>500μA          | $T_J = 25^\circ\text{C}$<br>$T_J = 175^\circ\text{C}$             |
| Maximum Reverse Recovery Time<br>1N4942-4944<br>1N4946-4947<br>1N4948 | $T_{rr}$    | 150ns<br>250ns<br>500ns | $I_F=0.5\text{A},$<br>$I_R=1.0\text{A},$<br>$I_{rr}=0.25\text{A}$ |
| Typical Junction Capacitance  | $C_J$       | 15pF                    | Measured at<br>1.0MHz,<br>$V_R=4.0\text{V}$                       |

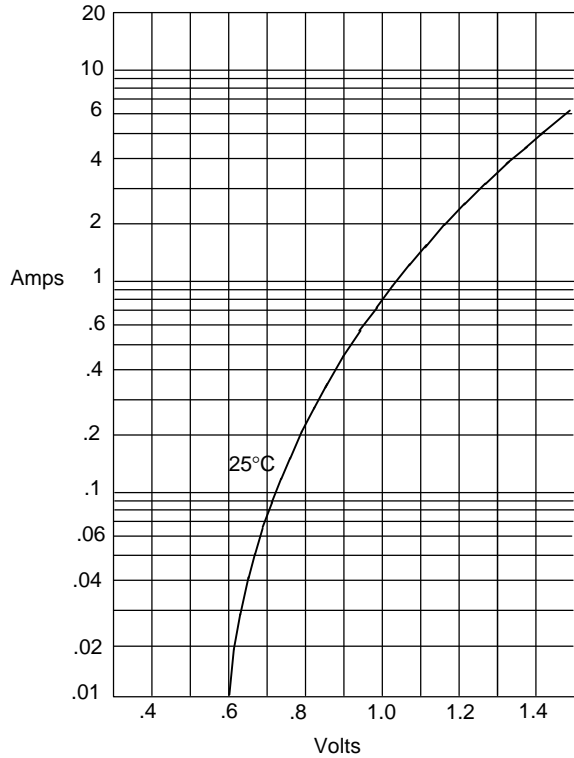
| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | MIN    | MAX  | MIN   | MAX  |      |
| A   | .166   | .205 | 4.10  | 5.20 |      |
| B   | .080   | .107 | 2.00  | 2.70 |      |
| C   | .028   | .034 | .70   | .90  |      |
| D   | 1.000  | ---  | 25.40 | ---  |      |

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

# 1N4942 thru 1N4948

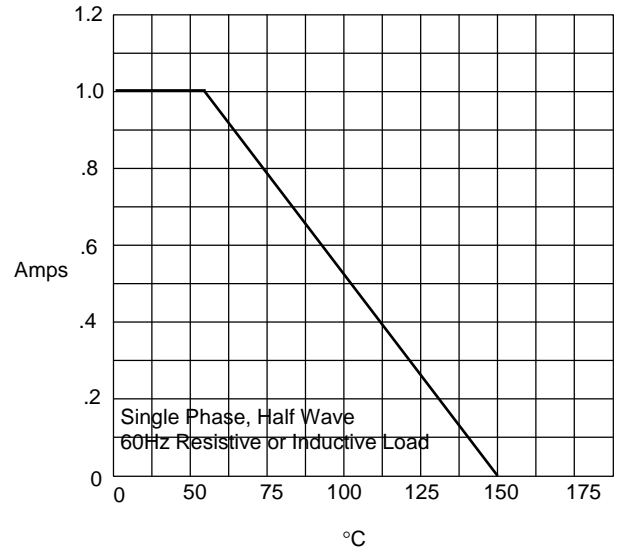


Figure 1  
Typical Forward Characteristics



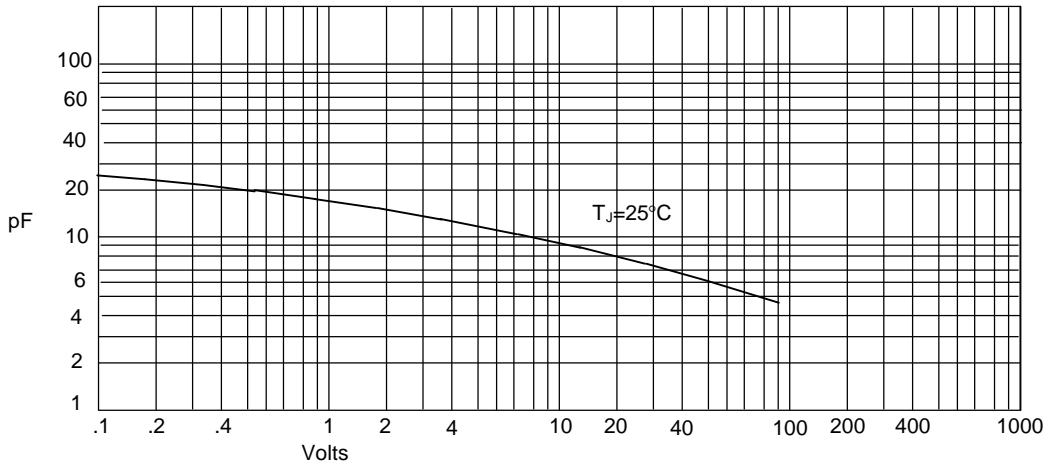
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



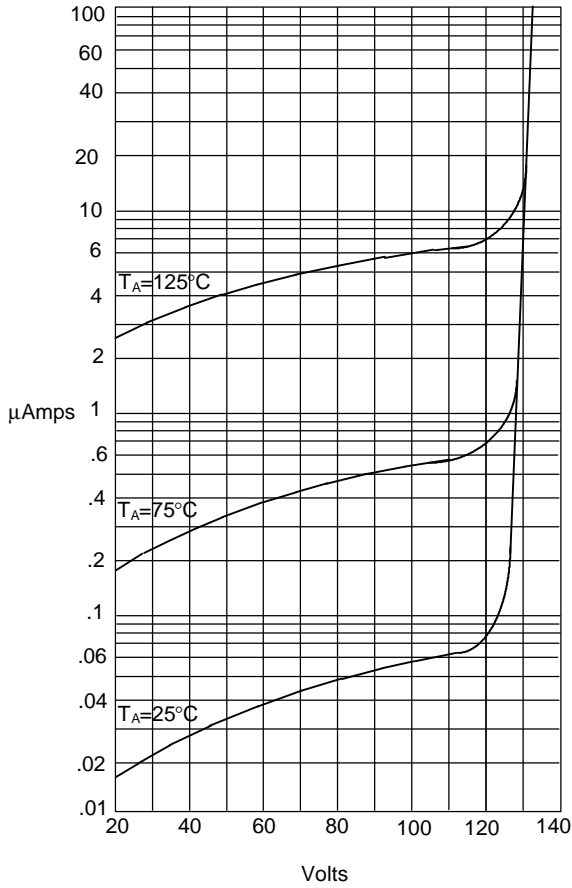
Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



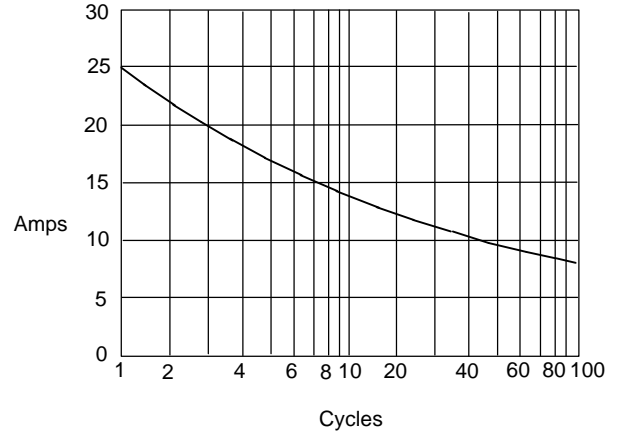
Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

Figure 4  
Typical Reverse Characteristics



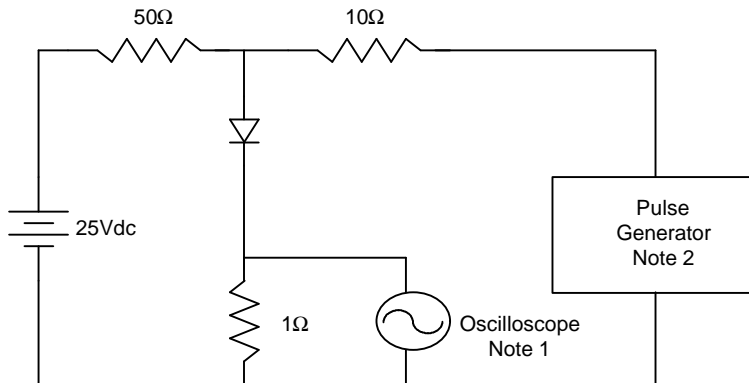
Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Non-Repetitive Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

Figure 6  
Reverse Recovery Time Characteristic And Test Circuit Diagram



- Notes:
1. Rise Time = 7ns max.  
Input impedance = 1 megohm, 22pF
  2. Rise Time = 10ns max.  
Source impedance = 50 ohms
  3. Resistors are non-inductive

