- 1N6638US,1N6642US, 1N6643US AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/578
- 1N6638U,1N6642U, 1N6643U AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/578
- SWITCHING DIODES
- NON-CAVITY GLASS PACKAGE
- METALLURGICALLY BONDED

**1N6638U & US**
**1N6642U & US**
**1N6643U & US**

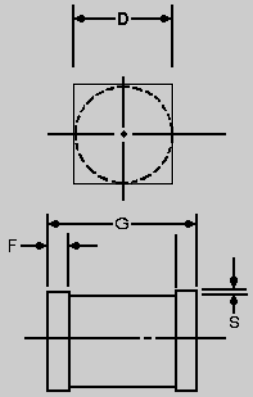
## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +175°C
Operating Current: 300 mA
Derating: 4.6 mA/°C Above $T_{EC}$ = + 110°C
Surge Current: $I_{FSM}$ = 2.5A, half sine wave, $P_W$ = 8.3ms

**ELECTRICAL CHARACTERISTICS** @ 25°C, unless otherwise specified.

| TYPES | $V_{BR}$ @ $I_R$ =100 µA | $V_{RWM}$ | $V_{F1}$ $I_{FM}$ =10 mA (Pulsed) | $V_{F2}$ @ $I_{F2}$ (Pulsed) | | $t_{fr}$ $I_F$ =50 mA | $t_{rr}$ $I_R$ = 10 mA $I_F$ = 10 mA $I_{REC}$ = 1 mA |
|---|---|---|---|---|---|---|---|
| | V (pk) | V (pk) | V dc | V dc | mA | ns | ns |
| 1N6638U & US | 150 | 125 | 0.8 | 1.1 | 200 | 20 | 4.5 |
| 1N6642U & US | 100 | 75 | 1.0 | 1.2 | 100 | 20 | 5.0 |
| 1N6643U & US | 75 | 50 | 1.0 | 1.2 | 100 | 20 | 6.0 |

| TYPES | $I_{R1}$ $V_R$ = 20 V | $I_{R2}$ @$V_R$ = $V_{RWM}$ | $I_{R3}$ $V_R$ = 20 V $T_A$ = 150°C | $I_{R4}$ $V_R$ = $V_{RWM}$ $T_A$ = 150°C | $C_{T1}$ $V_R$ = 0V | $C_{T2}$ $V_R$ = 1.5V |
|---|---|---|---|---|---|---|
| | nA dc | µA dc | µA dc | µA dc | pF | pF |
| 1N6638U & US | 35 | 0.5 | 50 | 100 | 2.5 | 2.0 |
| 1N6642U & US | 25 | 0.5 | 50 | 100 | 5.0 | 2.8 |
| 1N6643U & US | 50 | 0.5 | 75 | 160 | 5.0 | 2.8 |




| DIM | MILLIMETERS MIN | MILLIMETERS MAX | INCHES MIN | INCHES MAX |
|---|---|---|---|---|
| D | 1.78 | 2.16 | 0.070 | 0.085 |
| F | 0.48 | 0.71 | 0.019 | 0.028 |
| G | 4.19 | 4.95 | 0.165 | 0.195 |
| S | 0.08MIN. | | 0.003MIN. | |

**FIGURE 1**

## DESIGN DATA

**CASE:** D-5D, Hermetically sealed glass case, per MIL-PRF- 19500/578

**LEAD FINISH:** Tin / Lead

**THERMAL RESISTANCE: (**$R_{\Theta JEC}$): 50 °C/W maximum at L = 0

**THERMAL IMPEDANCE: (**$Z_{\Theta JX}$): 25 °C/W maximum

**POLARITY:** Cathode end is banded.

**MOUNTING SURFACE SELECTION:** The Axial Coefficient of Expansion (COE) of this device is approximately + 4PPM / °C. The COE of the Mounting Surface System should be selected to provide a suitable match with this device.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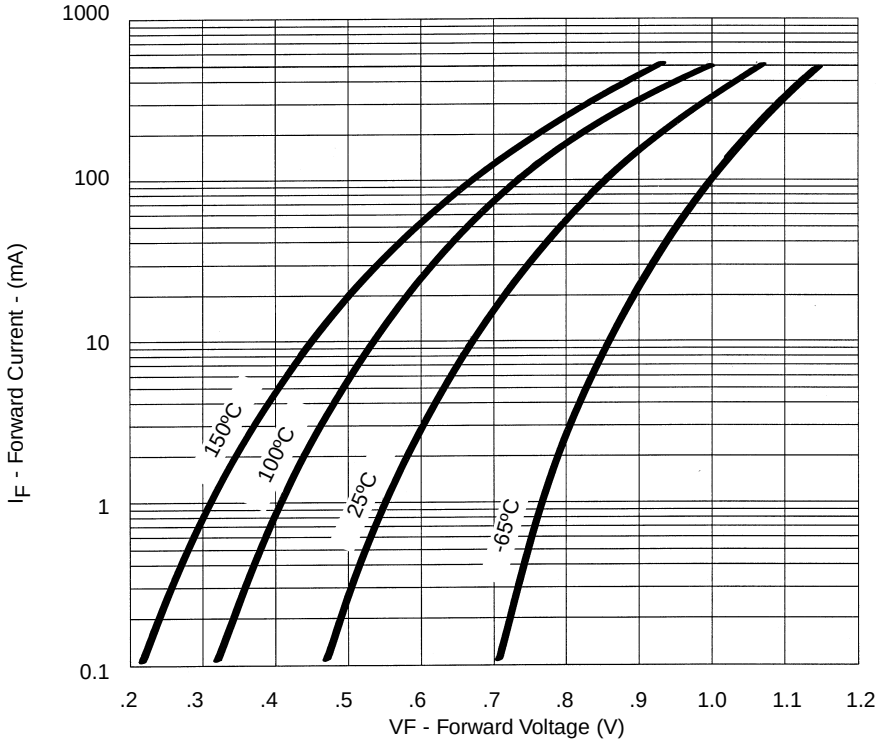


**FIGURE 2**
Typical Forward Current
vs Forward Voltage

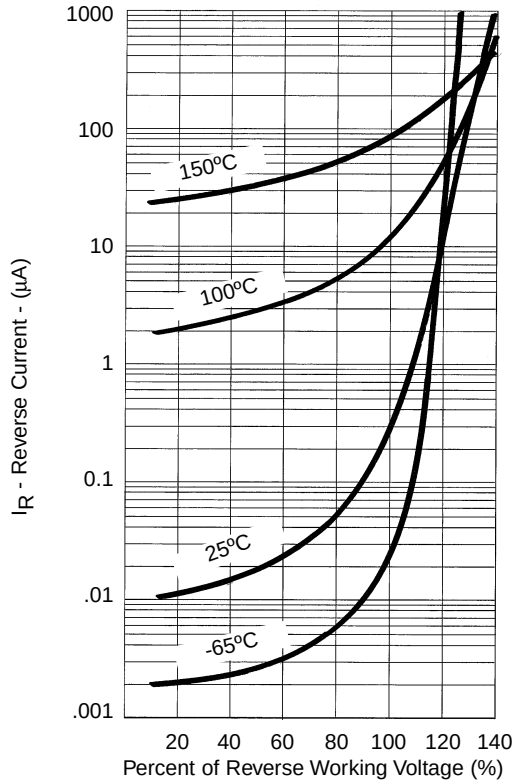


**FIGURE 3**
Typical Reverse Current
vs Reverse Voltage

**NOTE :** All temperatures shown on graphs are junction temperatures