

- 1N6639US THRU 1N6641US AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/609
- SWITCHING DIODES
- NON-CAVITY GLASS PACKAGE
- METALLURGICALLY BONDED

1N6639US  
1N6640US  
1N6641US

### 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  $T_{EC} = +110^{\circ}\text{C}$   
Surge Current:  $I_{FSM} = 2.5\text{A}$ ,  $P_W = 8.3\text{ms}$

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

| TYPES    | $V_{BRR}$<br>@ 10 $\mu\text{A}$ | $V_{RWM}$  | $I_{R1}$<br>@ $T_A = +25^{\circ}\text{C}$<br>$V_R = V_{RWM}$ | $I_{R2}$<br>@ $T_A = +150^{\circ}\text{C}$<br>$V_R = V_{RWM}$ | $T_{FR}$<br>$I_F = 200\text{ mA}$ | $T_{RR}$<br>$I_R = 10\text{ mA}$<br>$I_F = 10\text{ mA}$<br>$R_L = 100$ | $C_T$<br>$V_R = 0$ |
|----------|---------------------------------|------------|--------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------|--------------------|
|          | $V_{(pk)}$                      | $V_{(pk)}$ | nA dc                                                        | $\mu\text{A}$ dc                                              | ns                                | ns                                                                      | pF                 |
| 1N6639US | 100                             | 75         | 100                                                          | 100                                                           | 10                                | 4.0                                                                     | 2.5                |
| 1N6640US | 75                              | 50         | 100                                                          | 100                                                           | 10                                | 4.0                                                                     | 2.5                |
| 1N6641US | 75                              | 50         | 100                                                          | 100                                                           | 10                                | 5.0                                                                     | 3.0                |

### FORWARD VOLTAGE:

| TYPES    | $V_F$ @ $I_F$ |      |                |
|----------|---------------|------|----------------|
|          | $V_{dc}$      |      | mA<br>(PULSED) |
|          | MIN           | MAX  |                |
| 1N6639US | —             | 1.20 | 500            |
| 1N6640US | 0.54          | 0.62 | 1              |
|          | 0.76          | 0.86 | 50             |
|          | 0.82          | 0.92 | 100            |
|          | 0.87          | 1.00 | 200            |
| 1N6641US | —             | 1.10 | 200            |

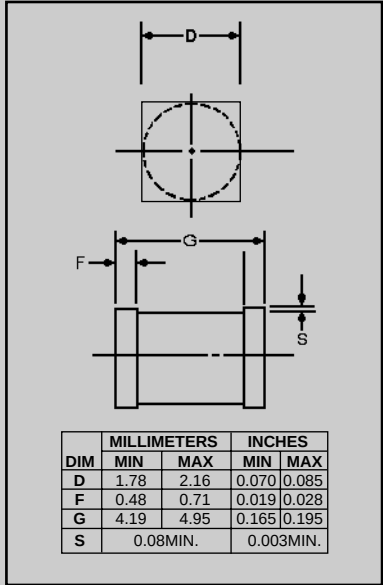


FIGURE 1

### DESIGN DATA

**CASE:** D-5D, Hermetically sealed glass case, per MIL-PRF- 19500/609

**LEAD FINISH:** Tin / Lead

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

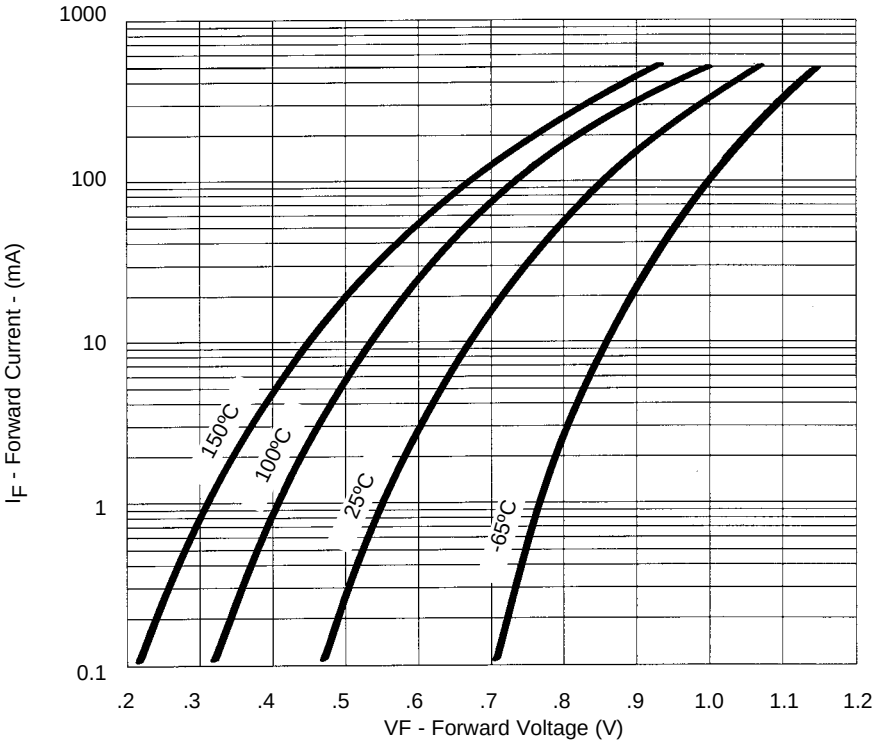
**THERMAL IMPEDANCE:** ( $Z_{\theta JX}$ ): 25 °C/W maximum

**POLARITY:** Cathode end is banded

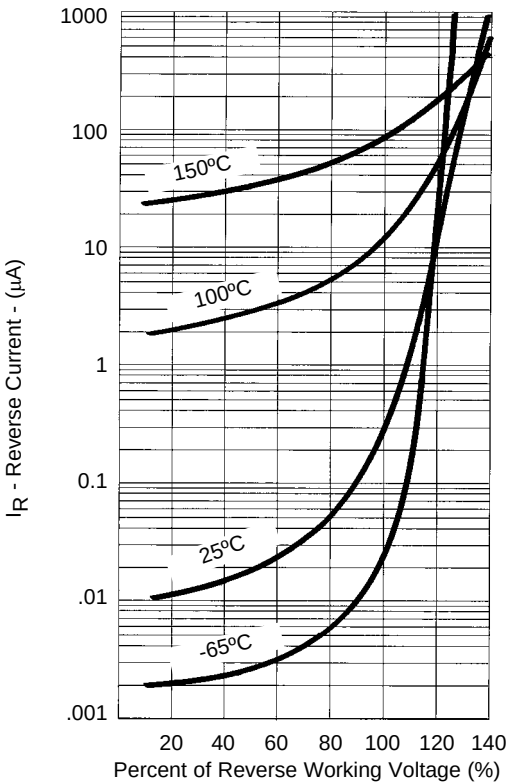
**MOUNTING SURFACE SELECTION:**  
The Axial Coefficient of Expansion (COE) of this device is approximately + 4PPM / °C. The COE of the Mounting Surface System should be selected to provide a suitable match with this device.



# IN6639US thru IN6641US



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



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

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