

**TECHNICAL DATA**  
**DATA SHEET 193, REV. A**

## HERMETIC AXIAL LEAD / MELF SCHOTTKY BARRIER DIODE

**DESCRIPTION: A 45 VOLT, 1.0 AMP, AXIAL LEAD/SURFACE MOUNT SCHOTTKY BARRIER DIODE.**

**MAXIMUM RATINGS**

All ratings are at  $T_A = 25^\circ\text{C}$  unless otherwise specified.

| RATING                                               | CONDITIONS                                                             | MIN | TYP | MAX  | UNIT               |
|------------------------------------------------------|------------------------------------------------------------------------|-----|-----|------|--------------------|
| Peak Inverse Voltage (PIV)                           | ①                                                                      | -   | -   | 45   | Vdc                |
| Average DC Output Current ( $I_o$ )                  | ②                                                                      | -   | -   | 1.0  | Amps               |
| Peak Single Cycle Surge Current ( $I_{fsm}$ )        | $t_p = 8.3$ ms Single Half Cycle Sine Wave, Superimposed On Rated Load | -   | -   | 25   | Amps(pk)           |
| Thermal Resistance ( $\theta_{JL}$ )                 | Junction to Lead<br>$d = 0.375"$                                       | -   | -   | 70   | $^\circ\text{C/W}$ |
| Thermal Resistance ( $\theta_{JEC}$ )                | Junction to Endcap                                                     | -   | -   | 40   | $^\circ\text{C/W}$ |
| Operating and Storage Temp. ( $T_{op}$ & $T_{stg}$ ) | -                                                                      | -55 | -   | +150 | $^\circ\text{C}$   |

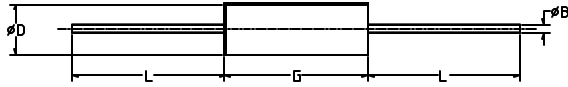
**ELECTRICAL CHARACTERISTICS**

| CHARACTERISTIC                                       | CONDITIONS                                                               | MIN | TYP | MAX         | UNIT                               |
|------------------------------------------------------|--------------------------------------------------------------------------|-----|-----|-------------|------------------------------------|
| Maximum Forward Voltage ( $V_f$ )                    | $I_F = 1.0\text{A}$ (300 $\mu\text{sec}$ pulse, duty cycle < 2%)         | -   | -   | 0.49        | Volts                              |
| Maximum Instantaneous Reverse Current At Rated (PIV) | $T_A = 25^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$                    | -   | -   | 0.05<br>4.0 | $\mu\text{Amps}$<br>$\text{mAmps}$ |
| Junction Capacitance ( $C_J$ )                       | $V_R = 5$ Vdc<br>$0.01 \leq f \leq 1\text{MHz}$<br>$V_{sig} = 15$ mV p-p | -   | -   | 70          | pF                                 |

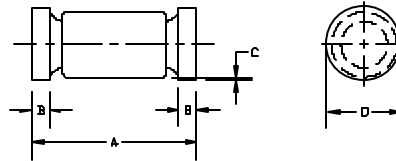
**Notes:**

- All ratings are at  $T_A = 25^\circ\text{C}$  unless otherwise specified.
- Maximum storage temperature range:  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$ .
- Maximum operating temperature range:  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$  (1N5819-1, 1N5819UR-1).
- ① Derate linearly at 4.5  $\text{V}^\circ\text{C}$  above  $T_L$  or  $T_{EC} = +100^\circ\text{C}$  (1N5819-1), where  $T_{EC}$  is at  $L = .375$  inch.
- ② Derate linearly at 14  $\text{mA}^\circ\text{C}$  above  $T_L$  or  $T_{EC} = +55^\circ\text{C}$  (1N5819-1), where  $T_{EC}$  is at  $L = .375$  inch.

**AXIAL**



**MELF**



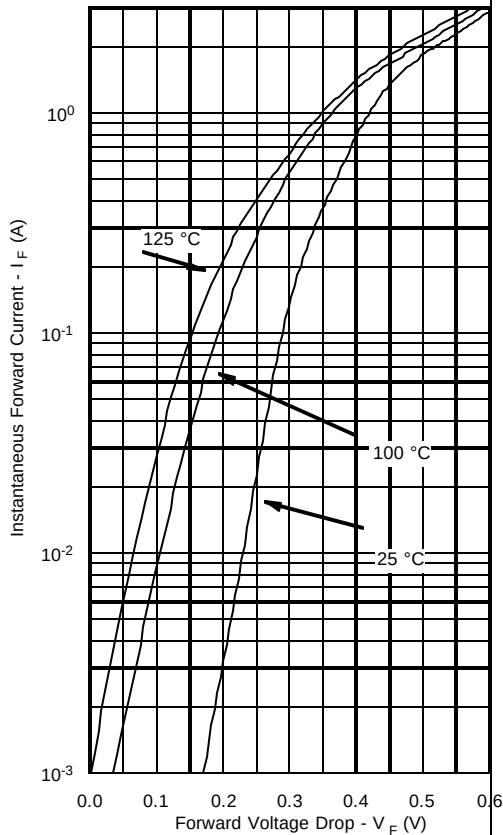
**SCHOTTKY BARRIER 1N5819-1**

| PACKAGE | DIMENSIONS - INCHES (MILLIMETERS) |                       |                        |                         |
|---------|-----------------------------------|-----------------------|------------------------|-------------------------|
| STYLE   | $\phi B$                          | $\phi D$              | G                      | L                       |
| DO-41   | .028/.034<br>0.71/0.86            | .08/.107<br>2.03/2.72 | .160/.205<br>4.06/5.21 | 1.00/1.30<br>25.4/33.02 |

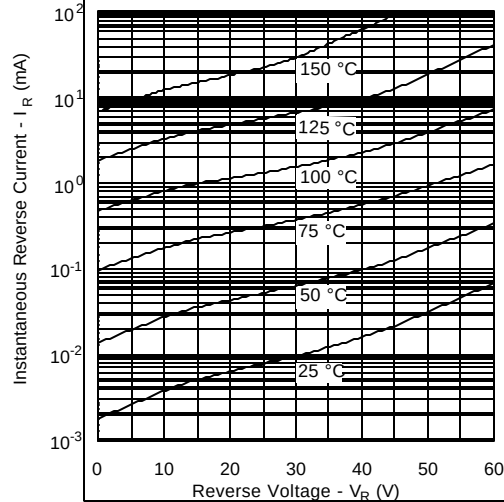
**SCHOTTKY BARRIER 1N5819UR-1**

| PACKAGE  | DIMENSIONS - INCHES (MILLIMETERS) |                        |                       |                        |
|----------|-----------------------------------|------------------------|-----------------------|------------------------|
| STYLE    | A                                 | B                      | C                     | D                      |
| DO-213AB | .189/.205<br>4.80/5.21            | .016/.022<br>0.41/0.56 | 0.001 Min<br>0.03 Min | .094/.105<br>2.39/2.67 |

**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**

