

TECHNICAL DATA  
DATA SHEET 2038, REV. B

**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)                    | ←  | -   | -   | 45   | Vdc                |
| Average DC Output Current ( $I_o$ )           | ↑  | -   | -   | 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   | $^\circ\text{C/W}$ |
| Junction Temperature ( $T_J$ )                | -  | -65 | -   | +125 | $^\circ\text{C}$   |
| Operating Temperature ( $T_{op}$ )            | -  | -65 | -   | +125 | $^\circ\text{C}$   |
| Storage Temp. ( $T_{stg}$ )                   | -  | -65 | -   | +150 | $^\circ\text{C}$   |

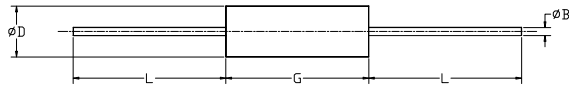
**ELECTRICAL CHARACTERISTICS**

| 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>$T_A = 100^\circ\text{C}$                    | -   | -   | 50<br>5.0 | $\mu\text{Amps}$<br>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                        |

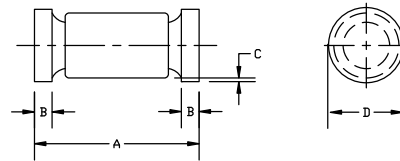
**Notes:** - All ratings are at  $T_A = 25^\circ\text{C}$  unless otherwise specified.  
 - Maximum storage temperature range:  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$ .  
 - Maximum operating temperature range:  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$  (1N5819-1, 1N5819UR-1).  
 ← Derate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

**SENSITRON**  
**TECHNICAL DATA**  
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**AXIAL**



**MELF**



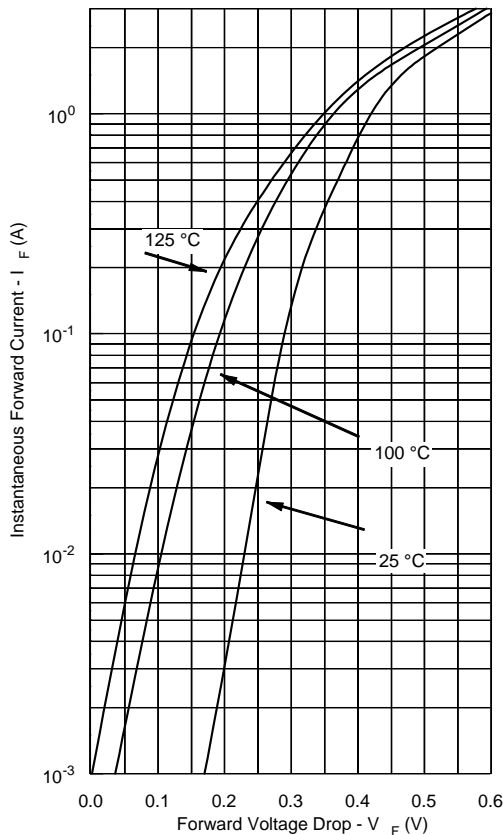
**SCHOTTKY BARRIER 1N5819-1**

| PACKAGE STYLE | DIMENSIONS - INCHES (MILLIMETERS) |                       |                        |                         |
|---------------|-----------------------------------|-----------------------|------------------------|-------------------------|
|               | $\phi B$                          | $\phi D$              | G                      | L                       |
| DO-41         | .028/.034<br>0.71/0.86            | .08/.107<br>.203/.272 | .160/.205<br>.406/.521 | 1.00/1.30<br>2.54/3.302 |

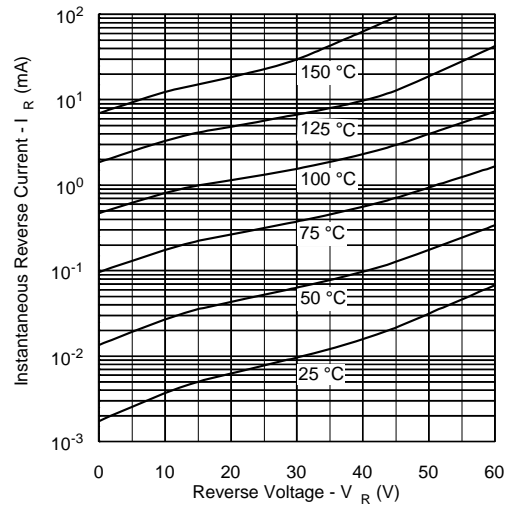
**SCHOTTKY BARRIER 1N5819UR-1**

| PACKAGE STYLE | DIMENSIONS - INCHES (MILLIMETERS) |                        |                       |                        |
|---------------|-----------------------------------|------------------------|-----------------------|------------------------|
|               | A                                 | B                      | C                     | D                      |
| DO-213AB      | .189/.205<br>.480/.521            | .016/.022<br>0.41/0.56 | 0.001 Min<br>0.03 Min | .094/.105<br>2.39/2.67 |

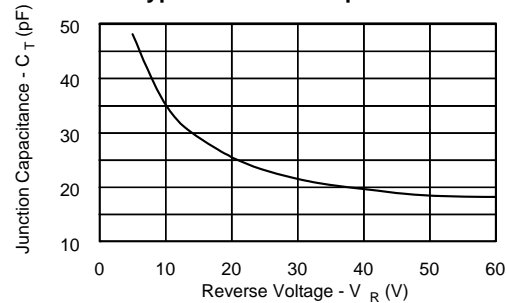
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**SENSITRON**  
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