

**TECHNICAL DATA**  
**DATA SHEET 193, REV. C.2**

**AVAILABLE AS**

**1N5819-1, 1N5819UR-1**  
**JAN EQUIVALENT:**  
**SJ5819-1/SJ5819UR-1\***  
**SV5819-1/SV5819UR-1\***  
**SX5819-1/SX5819UR-1\***  
**SS5819-1/SS5819UR-1\***

**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 ( $I_{ism}$ )	$t_p = 8.3$ ms Single Half Cycle Sine Wave, Superimposed On Rated Load	-	-	25	Amps(pk)
Thermal Resistance ( $\theta_{JL}$ )	Junction to Lead $d = 0.375"$	-	-	70	$^\circ\text{C/W}$
Thermal Resistance ( $\theta_{JEC}$ )	Junction to Endcap	-	-	40	$^\circ\text{C/W}$
Junction Temperature ( $T_J$ )	-	-55	-	+125	$^\circ\text{C}$
Operating Temperature ( $T_{op}$ )	-	-55	-	+125	$^\circ\text{C}$
Storage Temp. ( $T_{stg}$ )	-	-55	-	+150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS**

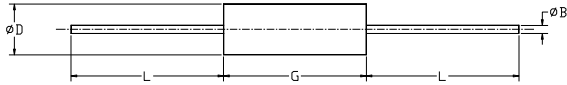
CHARACTERISTIC	CONDITIONS	MIN	TYP	MAX	UNIT
Maximum Forward Voltage ( $V_f$ )	$I_F = 1.0\text{A}$ (300 $\mu\text{sec}$ pulse, duty cycle < 2%)	-	-	0.49	Volts
Maximum Instantaneous Reverse Current At Rated (PIV)	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	0.05 4.0	$\mu\text{Amps}$ mAmps
Junction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

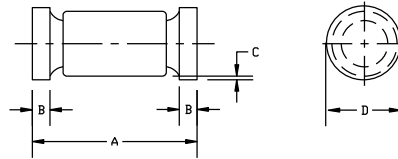
\*Sensitron space equivalent diodes are manufactured and screened to MIL-PRF-19500 flow and guidelines starting from wafer fabrication through assembly and testing using our internal specification.

**PACKAGE DIMENSIONS:**

**AXIAL**



**MELF**

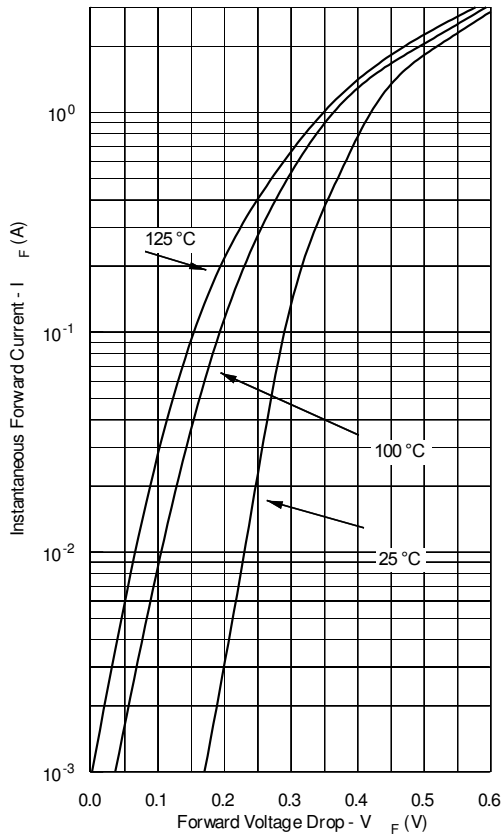


SCHOTTKY BARRIER		1N5819-1			
PACKAGE STYLE	DIMENSIONS - INCHES ( MILLIMETERS)				
	$\phi B$	$\phi D$	G	L	
DO-41	.028/.034 0.71/0.86	.08/.107 .203/.272	.160/.205 .406/.521	1.00/1.30 2.54/3.302	

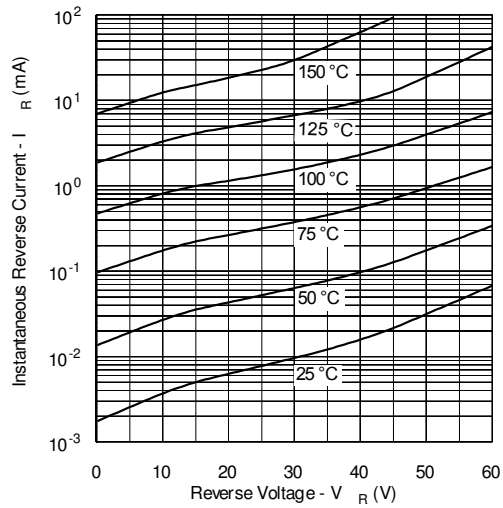
SCHOTTKY BARRIER		1N5819UR-1			
PACKAGE STYLE	DIMENSIONS - INCHES ( MILLIMETERS)				
	A	B	C	D	
DO-213AB	.189/.205 .480/.521	.016/.022 0.41/0.56	0.001 Min 0.03 Min	.094/.105 2.39/2.67	

**GRAPHS:**

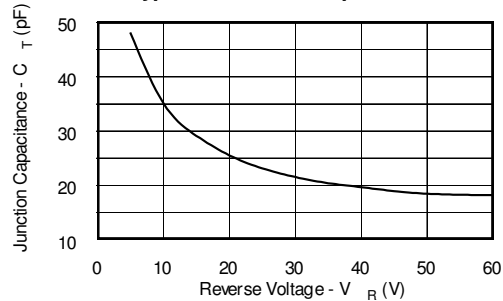
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**PART ORDERING INFORMATION**

The following part numbers can be purchased in either axial or surface mount devices and screened and tested to the military screening flow. The parts are marked in accordance with the testing performed, example:

Sensitron Screening Level	Part Number- Leaded Package <i>(example for 1N5819-1)</i>	Part Number- Surface Mount Package <i>(example for 1N5819UR-1)</i>
<b>1N</b>	1N5819-1	1N5819UR-1
<b>SJ</b>	SJ5819-1	SJ5819UR-1
<b>SX</b>	SX5819-1	SX5819UR-1
<b>SV</b>	SV5819-1	SV5819UR-1
<b>SS</b>	SS5819-1	SS5819UR-1

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