

TECHNICAL DATA  
DATA SHEET 193, REV. B

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## 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.

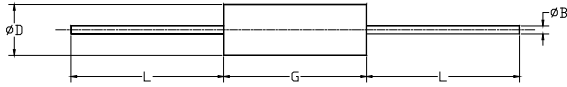
RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Peak Inverse Voltage (PIV)	①	-	-	45	Vdc
Average DC Output Current ( $I_o$ )	②	-	-	1.0	Amps
Peak Single Cycle Surge Current ( $I_{fsm}$ )	$t_p = 8.3$ ms Single Half Cycle Sine Wave, Superimposed On Rated Load	-	-	25	Amps(pk)
Thermal Resistance ( $\theta_{JL}$ )	Junction to Lead $d = 0.375''$	-	-	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

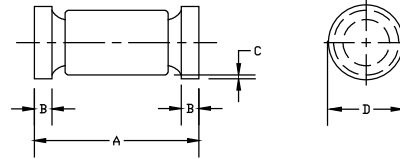
CHARACTERISTIC	CONDITIONS	MIN	TYP	MAX	UNIT
Maximum Forward Voltage ( $V_f$ )	$I_F = 1.0\text{A}$ (300 $\mu\text{sec}$ pulse, duty cycle < 2%)	-	-	0.49	Volts
Maximum Instantaneous Reverse Current At Rated (PIV)	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	0.05 4.0	$\mu\text{Amps}$ mAmps
Junction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

**AXIAL**



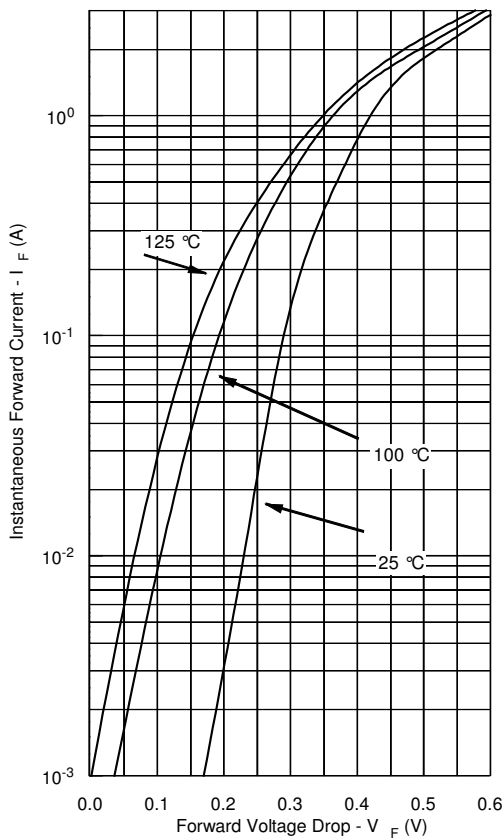
**MELF**



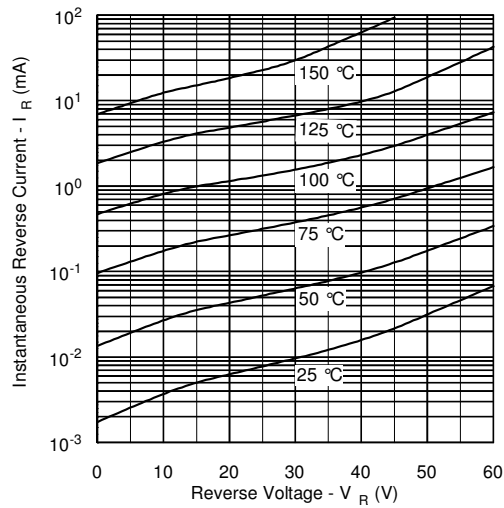
SCHOTTKY BARRIER		1N5819-1			
PACKAGE STYLE	DIMENSIONS - INCHES (MILLIMETERS)				
STYLE	$\phi B$	$\phi D$	G	L	
DO-41	.028/.034 0.71/0.86	.08/.107 2.03/2.72	.160/.205 4.06/5.21	1.00/1.30 25.4/33.02	

SCHOTTKY BARRIER		1N5819UR-1			
PACKAGE STYLE	DIMENSIONS - INCHES (MILLIMETERS)				
STYLE	A	B	C	D	
DO-213AB	.189/.205 4.80/5.21	.016/.022 0.41/0.56	0.001 Min 0.03 Min	.094/.105 2.39/2.67	

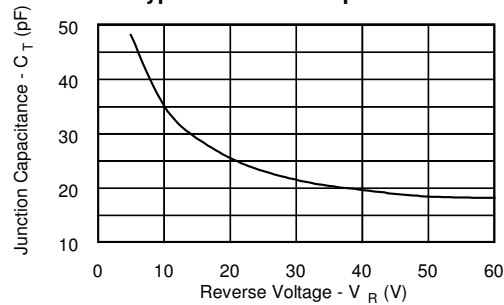
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**TECHNICAL DATA**

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