

TECHNICAL DATA
DATA SHEET 2038, REV. -

**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})	$t_p = 8.3 \text{ ms Single Half Cycle Sine Wave, Superimposed On Rated Load}$	-	-	25	Amps(pk)
Thermal Resistance (θ_{JL})	Junction to Lead $d = 0.375"$	-	-	70	$^\circ\text{C/W}$
Thermal Resistance (θ_{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 μsec 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	μAmps mAmps
Junction Capacitance (C_J)	$V_R = 5 \text{ Vdc}$ $0.01 \leq f \leq 1\text{MHz}$ $V_{sig} = 15 \text{ mV p-p}$	-	-	70	pF

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

- Maximum storage temperature range: -55°C to $+150^\circ\text{C}$.

- Maximum operating temperature range: -55°C to $+125^\circ\text{C}$ (1N5819-1, 1N5819UR-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.

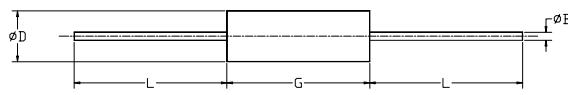
↑ Derate linearly at $14 \text{ mA}/^\circ\text{C}$ above T_L or $T_{EC} = +55^\circ\text{C}$ (1N5819-1), where T_{EC} is at $L = .375$ inch.

SENSITRON

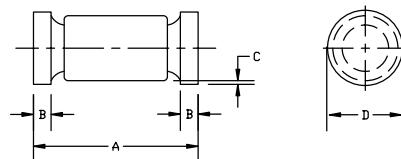
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AXIAL



MELF



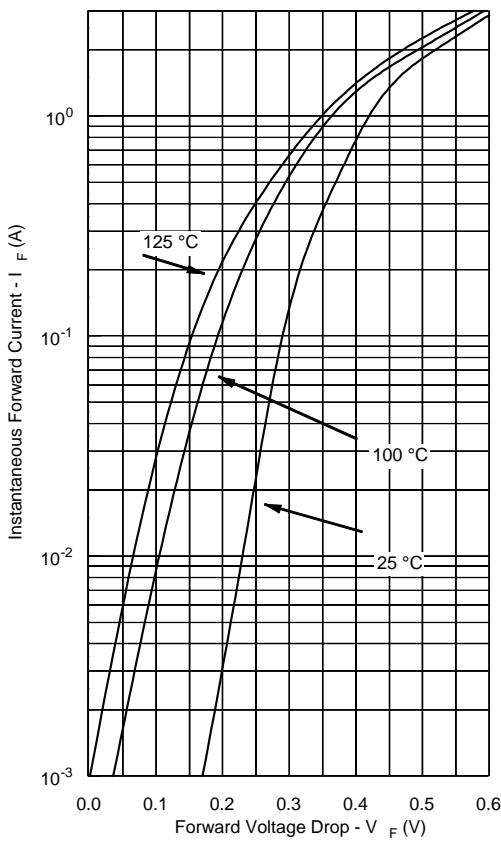
SCHOTTKY BARRIER 1N5819-1

STYLE	PACKAGE DIMENSIONS - INCHES (MILLIMETERS)			
	ϕB	ϕD	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

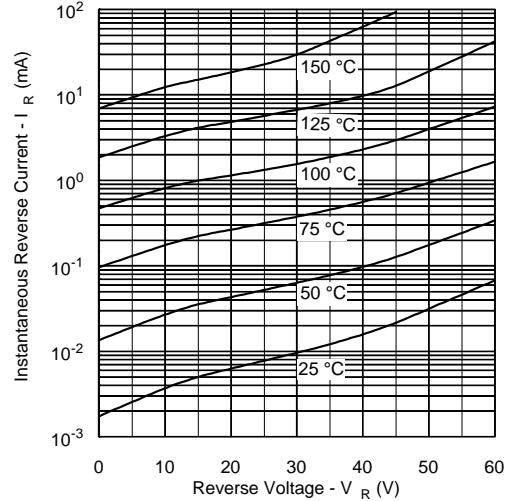
SCHOTTKY BARRIER 1N5819UR-1

STYLE	PACKAGE DIMENSIONS - INCHES (MILLIMETERS)			
	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

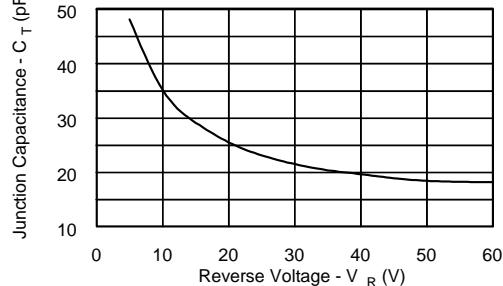
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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