

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 (θ_{JL})	Junction to Lead $d = 0.375''$	-	-	70	$^\circ\text{C/W}$
Thermal Resistance (θ_{JEC})	Junction to Endcap	-	-	40	$^\circ\text{C/W}$
Junction Temperature (T_J)	-	-65	-	+125	$^\circ\text{C}$
Operating Temperature (T_{op})	-	-65	-	+125	$^\circ\text{C}$
Storage Temp. (T_{stg})	-	-65	-	+150	$^\circ\text{C}$

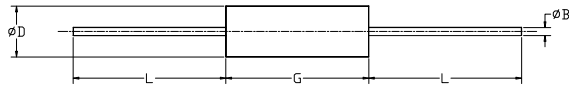
ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	CONDITIONS	MIN	TYP	MAX	UNIT
Maximum Forward Voltage (V_f)	$I_F = 1.0\text{A}$ (300 μsec pulse, duty cycle < 2%)	-	-	0.49	Volts
Maximum Instantaneous Reverse Current At Rated (PIV)	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	50 5.0	μAmps 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

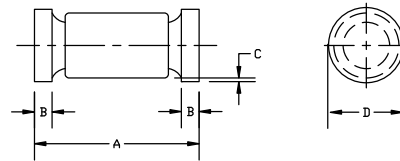
Notes: - All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.
 - Maximum storage temperature range: -55°C to $+150^\circ\text{C}$.
 - Maximum operating temperature range: -55°C to $+125^\circ\text{C}$ (1N5819-1, 1N5819UR-1).
 ← Derate linearly at 4.5 V/ $^\circ\text{C}$ above T_L or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

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AXIAL



MELF



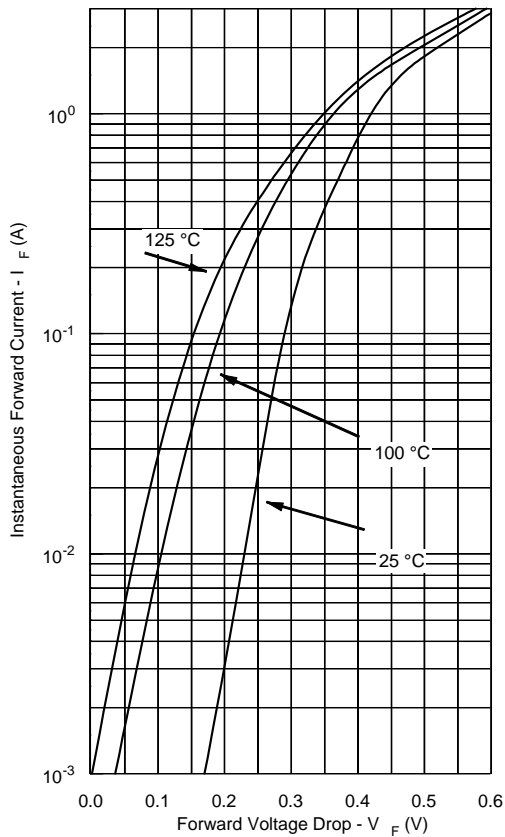
SCHOTTKY BARRIER 1N5819-1

PACKAGE	DIMENSIONS - INCHES (MILLIMETERS)			
STYLE	ϕB	ϕD	G	L
DO-41	.028/.034	.08/.107	.160/.205	1.00/1.30
	0.71/0.86	.203/.272	.406/.521	2.54/3.302

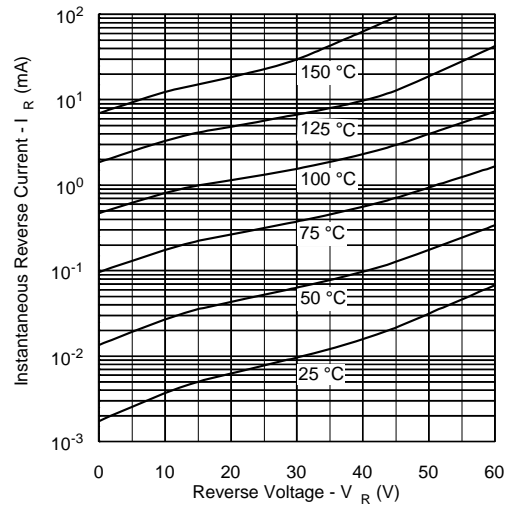
SCHOTTKY BARRIER 1N5819UR-1

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

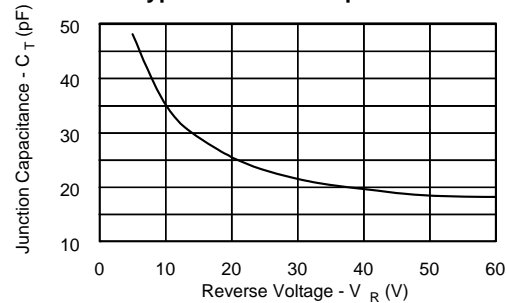
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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