

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})	$t_p = 8.3$ 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	$^\circ\text{C}$

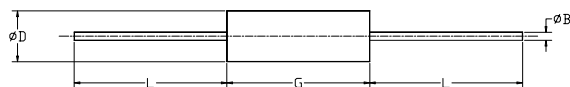
ELECTRICAL CHARACTERISTICS

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

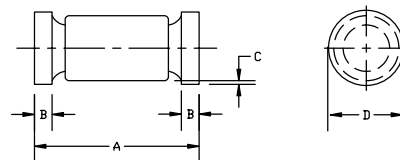
Notes: - All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.
- Maximum storage temperature range: -55°C to $+150^\circ\text{C}$.
- Maximum operating temperature range: -55°C to $+125^\circ\text{C}$ (1N5819-1, 1N5819UR-1).
← Derate linearly at $4.5\text{ V}/^\circ\text{C}$ above T_L 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
TECHNICAL DATA
DATA SHEET 2038, REV. -

AXIAL



MELF



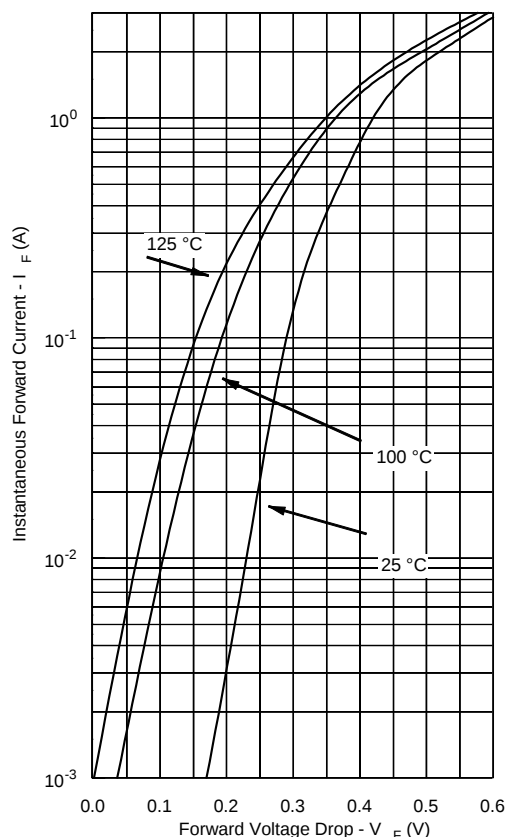
SCHOTTKY BARRIER 1N5819-1

PACKAGE STYLE	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

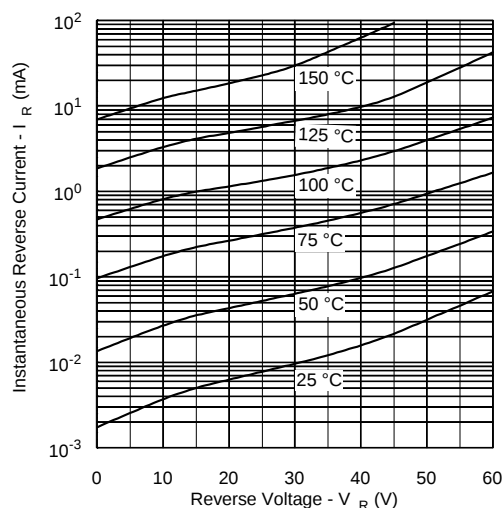
SCHOTTKY BARRIER 1N5819UR-1

PACKAGE 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

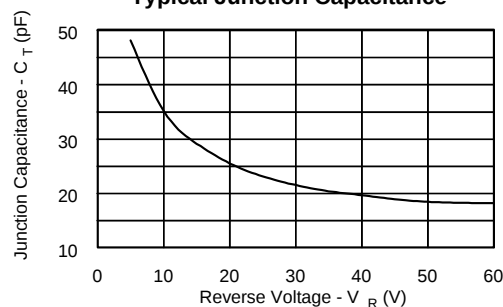
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



SENSITRON
TECHNICAL DATA
DATA SHEET 2038, REV. -

DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).*
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.*
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.*
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.*
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.*
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.*
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.*