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 $T_A = 25^{\circ}C$ unless otherwise specified.				
RATING	CONDITIONS	MIN	ТҮР	MAX	
Peak Inverse Voltage (PIV)	←	-	-	45	Vdc
Average DC Output Current (I₀)	↑	-	-	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	°C/W
Thermal Resistance (θ_{JEC})	Junction to Endcap	-	-	40	°C/W
Operating and Storage Temp. $(T_{op} \& T_{stg})$	-	-55	-	+150	°C

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	CONDITIONS	MIN	ТҮР	MAX	UNIT
Maximum Forward Voltage (V _f)	I _F = 1.0A (300 μsec pulse, duty cycle < 2%)	-	-	0.49	Volts
Maximum Instantaneous Reverse Current At Rated (PIV)	$T_A = 25^{\circ} C$ $T_A = 100^{\circ} C$	-	-	0.05 4.0	μAmps mAmps
Junction Capacitance (C _J)	$\begin{array}{l} V_{\text{R}} = 5 \text{ Vdc} \\ 0.01 \leq f \leq 1 \text{MHz} \\ V_{\text{sig}} = 15 \text{ mV p-p} \end{array}$	-	-	70	pF

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

- Maximum storage temperature range: -55°C to +150°C.

- Maximum operating temperature range: -55°C to +125°C (1N5819-1, 1N5819UR-1).

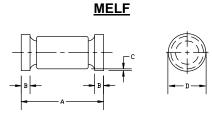
 \leftarrow Derate linearly at 4.5 V/°C above T_L or T_{EC} = +100°C (1N5819-1), where T_{EC} is at L = .375 inch.

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

SENSITRON **TECHNICAL DATA** DATA SHEET 2038, REV. -

<u>AXIAL</u>





SCHOTTKY	Y BARRIER	1N58	19-1		
PACKAGE DIMENSIONS - INCHES (MILLIMETERS)					
STYLE	φB	φD	G	L	
	.028/.034	.08/.107	.160/.205	1.00/1.30	
DO-41	0.71/0.86	2.03/2.72	4.06/5.21	25.4/33.02	

PACKAGEDIMENSIONS - INCHES (MILLIMETERS)STYLEABCD	
.189/.205 .016/.022 0.001 Min .094/.1)5
DO-213AB 4.80/5.21 0.41/0.56 0.03 Min 2.39/2.	37

Typical Forward Characteristics 10² Instantaneous Reverse Current - I $_{\rm R}$ (mA) 150 °C 10¹ 10⁰ 125 °C 100 °C 10⁰ 75 °C Instantaneous Forward Current - I $_{\rm F}$ (A) 125 °Ċ 10⁻¹ 50 °C 10⁻¹ 10⁻² 25 °C 10⁻³ 100 °C $\begin{array}{ccc} 20 & 30 & 40 \\ \text{Reverse Voltage - V}_{\text{R}} (\text{V}) \end{array}$ 0 10 50 60 **Typical Junction Capacitance** Junction Capacitance - C $_{T}$ (pF) 10⁻² 50 25 °C 40 30 20 10⁻³ 10 $\begin{array}{ccc} 20 & 30 & 40 \\ \text{Reverse Voltage - V}_{R} \left(\text{V} \right) \end{array}$ 0.0 0.1 0.6 0 10 60 0.3 0.4 0.5 0.2 50 Forward Voltage Drop - V F (V)

Typical Reverse Characteristics

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