1.0A SCHOTTKY BARRIER RECTIFIER

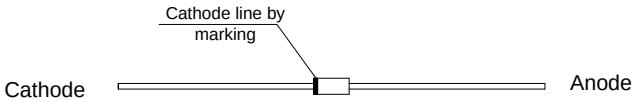
Features

- Guard Ring Die Construction for Transient Protection
- Low-Power Loss, High Efficiency
- High-Surge Capability
- High-Current Capability and Low-Forward Voltage Drop
- For Use in Low-Voltage, High-Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

Mechanical Data

- Package: DO-41
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Tin. Plated Leads Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band
- Weight: 0.3 grams (Approximate)

DO-41 (Plastic)



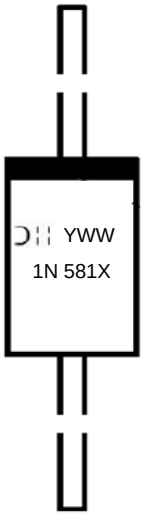
Ordering Information (Note 3)

Part Number	Package	Packing	
		Qty.	Carrier
1N5817-T	DO-41 (Plastic)	5K	13” Tape & Reel
1N5818-T	DO-41 (Plastic)	5K	13” Tape & Reel
1N5819-T	DO-41 (Plastic)	5K	13” Tape & Reel

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated’s definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information

(Top View)



= Manufacturer’s Marking
YWW = Date Code Marking
Y = Year (ex: 23 = 2023)
WW = Week (01 to 53)
1N581X = Product Type Marking Code
X = 7, 8, 9

Maximum Ratings and Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	1N5817	1N5818	1N5819	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current (Note 4) @ T_L = +90°C	I_O	1.0			A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	25			A
Forward Voltage (Note 5) @ I_F = 1.0A @ I_F = 3.0A	V_{FM}	0.450 0.750	0.550 0.875	0.60 0.90	V
Peak Reverse Leakage Current @ T_A = +25°C at Rated DC Blocking Voltage (Note 5) @ T_A = +100°C	I_{RM}	1.0 10			mA
Typical Total Capacitance (Note 6)	C_T	110			pF
Typical Thermal Resistance Junction to Lead (Note 7)	$R_{\theta JL}$	15			°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	50			
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +125			°C

Notes: 4. Measured at ambient temperature at a distance of 9.5mm from the case.
5. Short duration test pulse used to minimize self-heating effect.
6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
7. Thermal resistance from junction to lead vertical P.C.B. mounted, 0.375" (9.5mm) lead length with 1.5 x 1.5" (38mm x 38mm) copper pads.

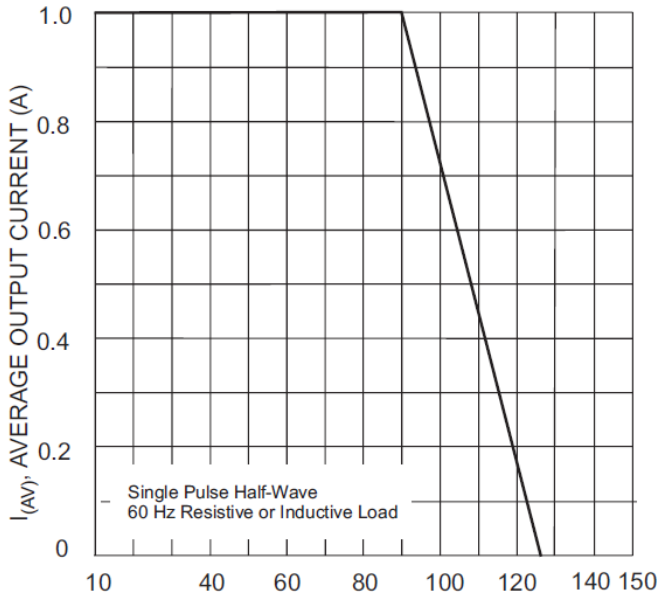


Fig. 1 Forward Current Derating Curve

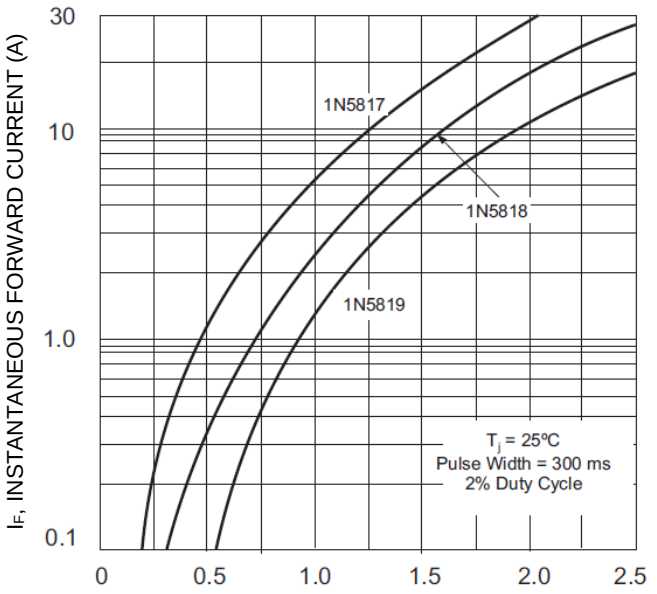


Fig. 2 Typical Forward Characteristics

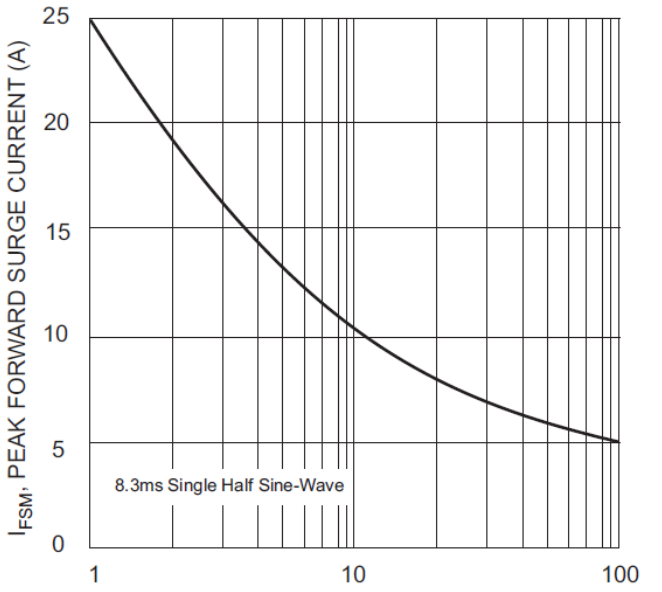


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

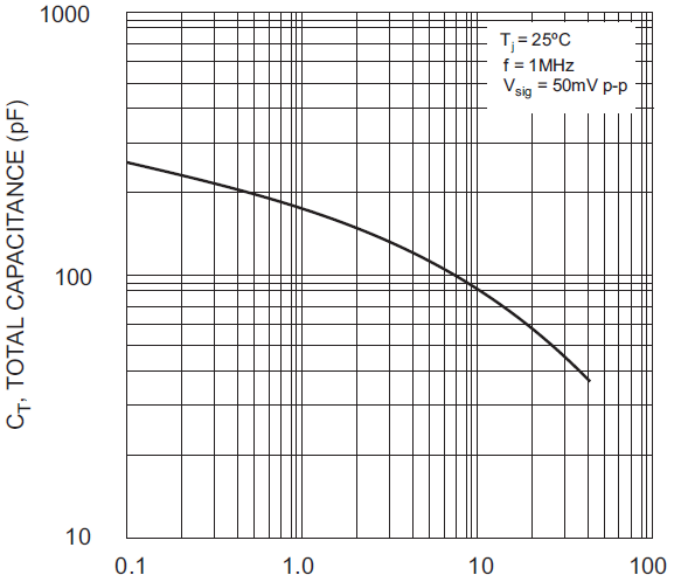
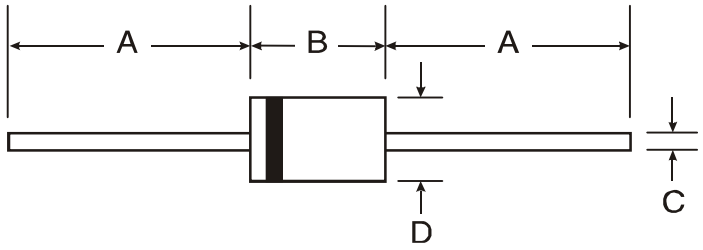


Fig. 4 Typical Total Capacitance

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

DO-41 (Plastic)



DO-41 (Plastic)		
Dim	**Min**	**Max**
A	25.40	-
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

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