



## Features

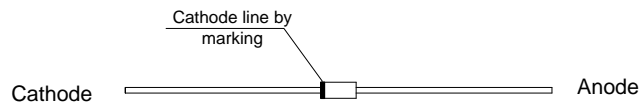
- Guard Ring Die Construction for Transient Protection
- Low-Power Loss, High Efficiency
- High-Surge Capability
- High-Current Capability and Low-Forward Voltage Drop
- For Use in Low-Voltage, High-Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead-Free Finish; RoHS Compliant (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](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**



DO-41 (Plastic)

## 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
- Polarity: Cathode Band
- Weight: 0.3 grams (Approximate)



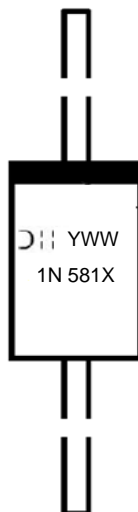
## Ordering Information (Note 3)

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)



DII = 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<sub>A</sub> = +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	V <sub>RRM</sub>					
Working Peak Reverse Voltage	V <sub>RWM</sub>	20	30	40	V	
DC Blocking Voltage	V <sub>R</sub>					
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	21	28	V	
Average Rectified Output Current (Note 4) @ T <sub>L</sub> = +90°C	I <sub>O</sub>	1.0			A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	25			A	
Forward Voltage (Note 5)	V <sub>FM</sub>	@ I <sub>F</sub> = 1.0A	0.450	0.550	0.60	V
		@ I <sub>F</sub> = 3.0A	0.750	0.875	0.90	
Peak Reverse Leakage Current at Rated DC Blocking Voltage (Note 5)	I <sub>RM</sub>	@ T <sub>A</sub> = +25°C	1.0			mA
		@ T <sub>A</sub> = +100°C	10			
Typical Total Capacitance (Note 6)	C <sub>T</sub>	110			pF	
Typical Thermal Resistance Junction to Lead (Note 7)	R <sub>θJL</sub>	15			°C/W	
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	50				
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-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.

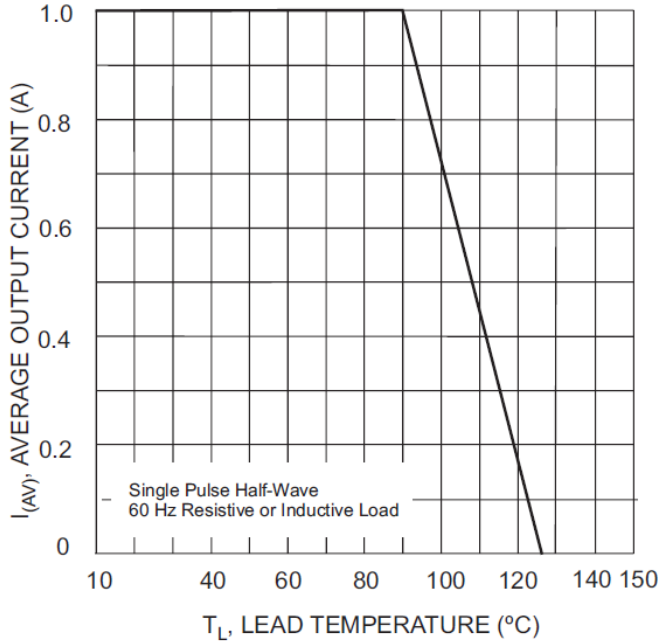


Fig. 1 Forward Current Derating Curve

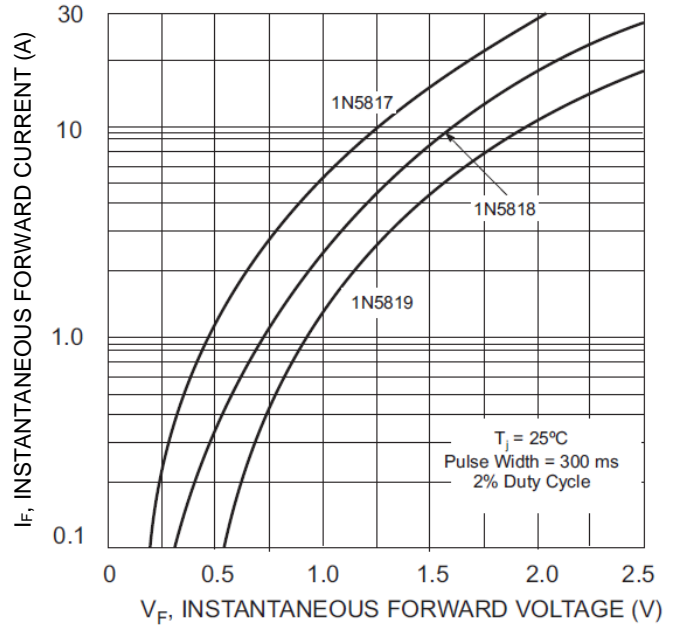


Fig. 2 Typical Forward Characteristics

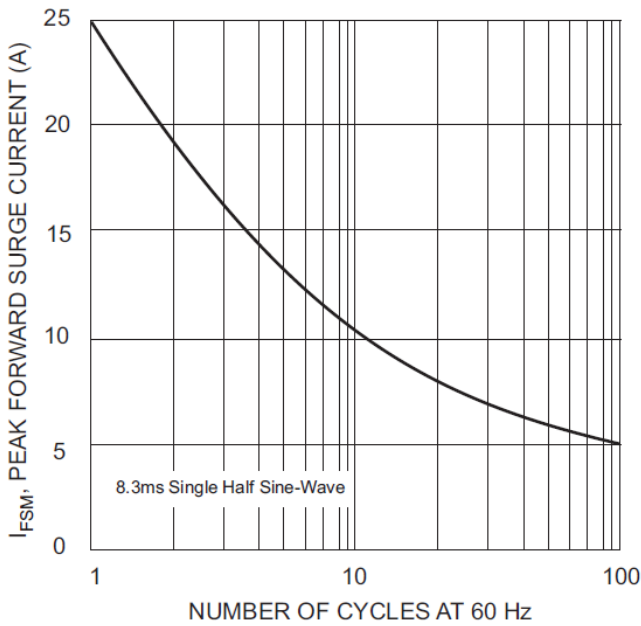


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

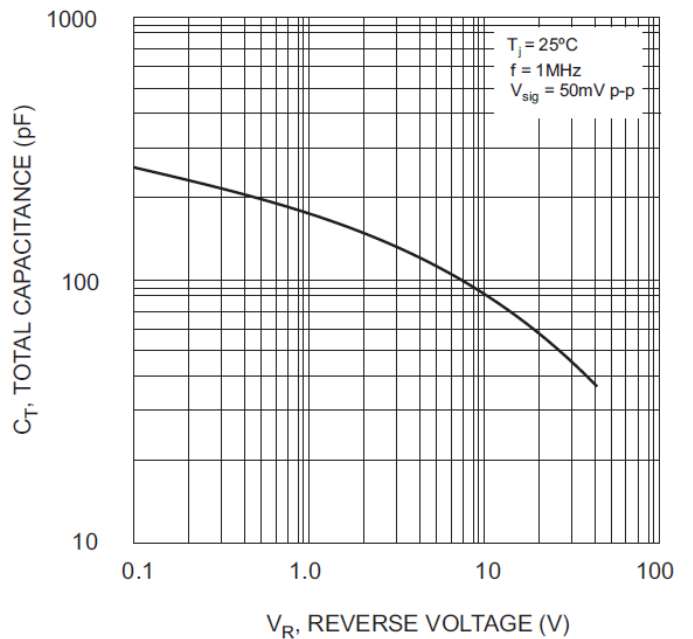
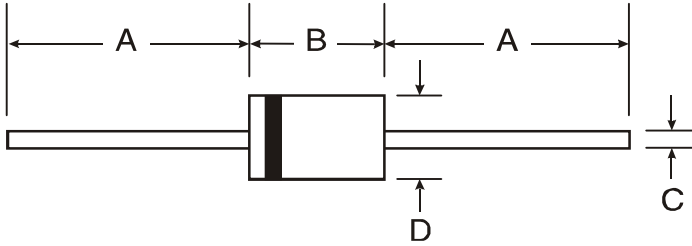


Fig. 4 Typical Total Capacitance

**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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