



# 1N5817 THRU 1N5819

## SCHOTTKY BARRIER RECTIFIER

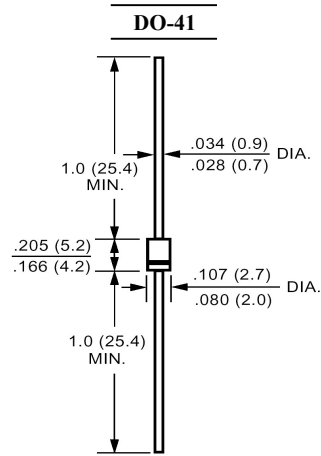
**REVERSE VOLTAGE:** 20 to 40 VOLTS  
**FORWARD CURRENT:** 1.0 AMPERE

### FEATURES

- High current capability
- 1.0 ampere operation at  $T_L=90^\circ\text{C}$  with no thermal runaway.
- Exceeds environmental standards of MIL-S-19500/228
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- Suffix "H" indicates Halogen-free parts, ex. 1N5817H.

### MECHANICAL DATA

Case : Molded plastic, DO-41  
 Epoxy : UL 94V-O rate flame retardant  
 Lead : Axial leads, solderable per MIL-STD-202, method 208 guaranteed  
 Polarity : Color band denotes cathode end  
 Mounting position : Any



Dimensions in inchs and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.  
 Single phase, half wave,  $60\text{Hz}$ , resistive or inductive load.  
 For capacitive load, derate current by 20%.

Parameter	Symbols	1N5817	1N5818	1N5819	Units
Maximum Recerrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	Volts
Maximum RMS Voltage	$V_{RMS}$	14	21	28	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	Volts
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at $T_L=90^\circ\text{C}$	$I_{(AV)}$	1.0			Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	25.0			Amp
Maximum Forward Voltage at 1.0A DC	$V_F$	0.450	0.550	0.600	Volts
Maximum Forward Voltage at 3.0A DC		0.750	0.875	0.900	
Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	$I_R$	0.2			mAmp
		10			
Typical Junction Capacitance (Note 1)	$C_J$	110			pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	50.0			$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150			$^\circ\text{C}$

#### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Thermal Resistance Junction to Ambient and form junction to lead at 0.5"(12.7mm) lead length P.C.B. Mounted.



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### RATINGS AND CHARACTERISTIC CURVES

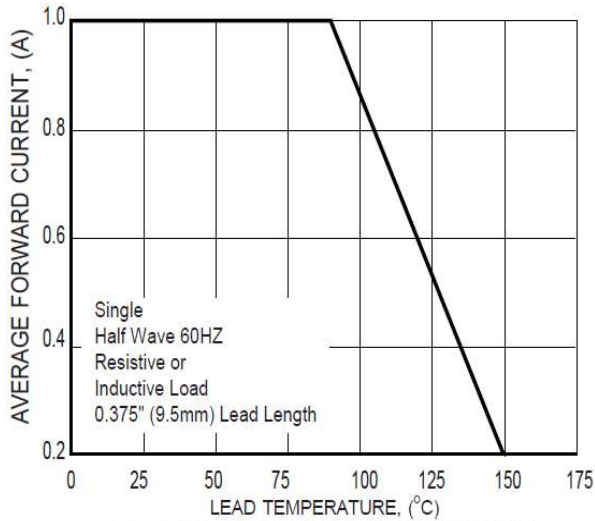


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

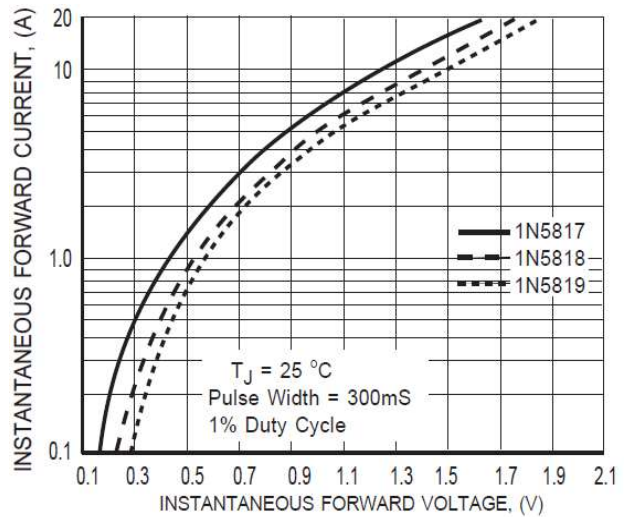


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

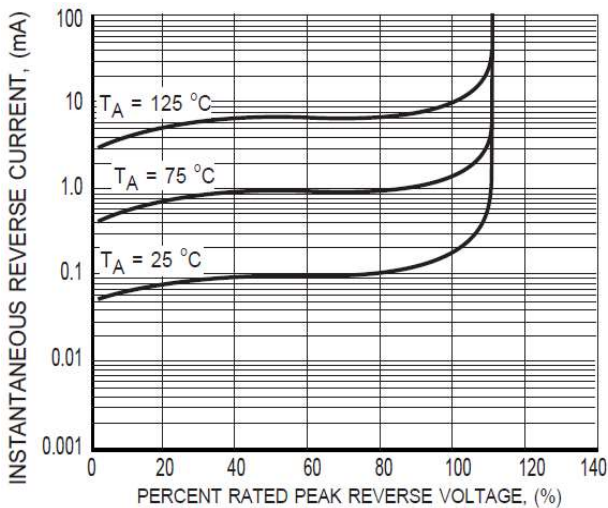


FIG.3 TYPICAL REVERSE CHARACTERISTICS

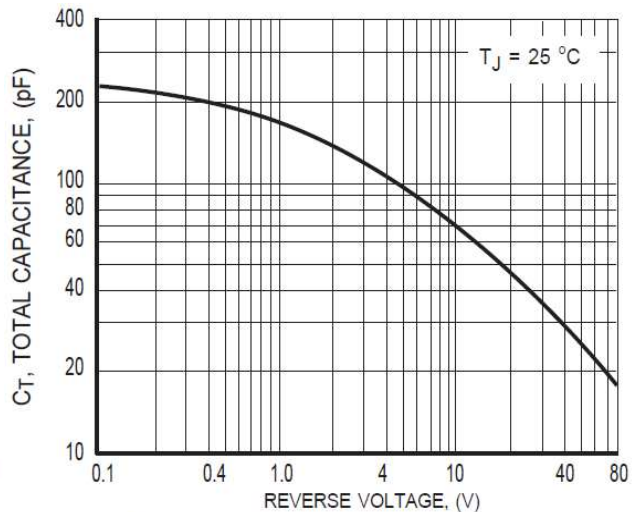


FIG.4 TYPICAL JUNCTION CAPACITANCE

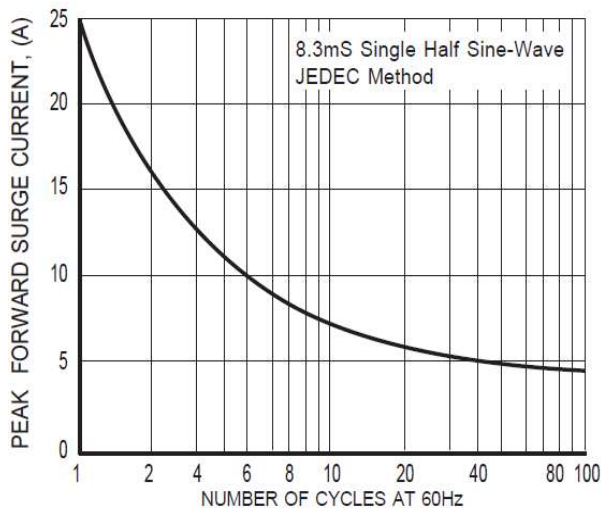


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



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### PACKING SPECIFICATION

COMPONENT OUTLINE	COMPONENT PITCH A	INNER TAPE PITCH B	CUMULATIVE PITCH TOLERANCE
DO-41	$\pm 0.5 \text{ mm}(0.020")$	$\pm 1.5 \text{ mm}(0.059")$	2.0mm / 20 pitch

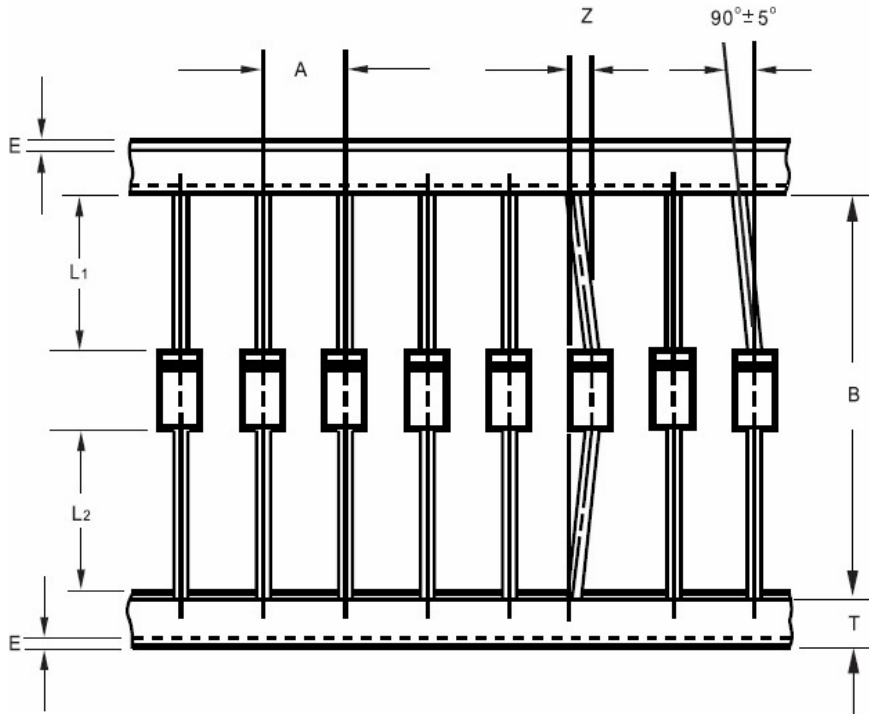


Fig.: Configuration of AXIAL LEAD TAPING

ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Component alignment	Z	1.2 max.	0.048 max.
Tape width	T	$6.0 \pm 0.4$	$0.236 \pm 0.016$
Exposed adhesive	E	0.8 max.	0.032 max.
Body eccentricity	$ L_1 - L_2 $	1.0 max.	0.040 max.

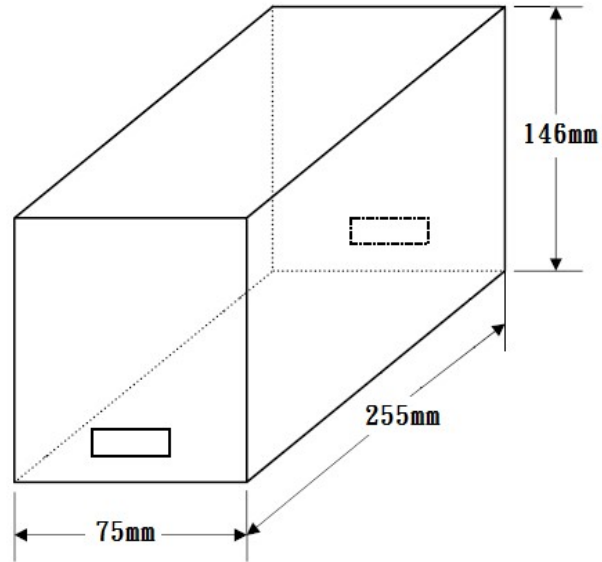
- Note:
1. Each component lead shall be sandwiched between tapes for a minimum of 3.2mm (0.126").
  2. The reel width "W" for 26mm taping is  $50.0 \pm 1.0 \text{ mm} (1.97" \pm 0.040")$ .



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## INNER BOX SIZE



Package	BOX		CARTON	
	Quantity(pcs)	Size(mm)	Quantity(pcs)	Size(mm)
DO-41	5K	255×75×146	50K	396×265×320