

# 1 AMP SCHOTTKY BARRIER RECTIFIERS

## FEATURES

- Metal semiconductor junction with guard ring
- Epitaxial Construction
- Low forward voltage drop
- High current capacity
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- **RoHS COMPLIANT**

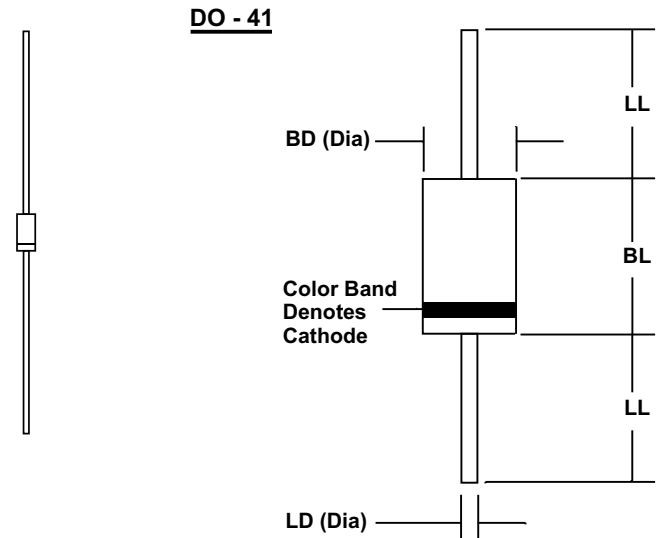
## MECHANICAL DATA

- Case: JEDEC DO-41, molded epoxy (U/L Flammability Rating 94V-0)
- Terminals: Plated axial leads
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Color band denotes cathode
- Mounting Position: Any
- Weight: 0.012 Ounces (0.34 Grams)

## MECHANICAL SPECIFICATION

ACTUAL SIZE OF  
DO-41 PACKAGE

SERIES 1N5817 - 1N5819



Sym	Minimum		Maximum	
	In	mm	In	mm
BL	0.160	4.1	0.205	5.2
BD	0.103	2.6	0.107	2.7
LL	1.00	25.4		
LD	0.028	0.71	0.034	0.86

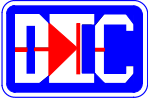
## MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive loads, derate current by 20%.

PARAMETER (TEST CONDITIONS)	SYMBOL	RATINGS			UNITS
		1N5817	1N5818	1N5819	
Series Number		1N5817	1N5818	1N5819	
Maximum DC Blocking Voltage	V <sub>RM</sub>	20	30	40	VOLTS
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	
Maximum Peak Recurrent Reverse Voltage	V <sub>RRM</sub>	20	30	40	
Average Forward Rectified Current @ T <sub>L</sub> = 90 °C (T <sub>L</sub> measured on cathode lead, 1/32 in. from case)	I <sub>O</sub>	1			AMPS
Peak Forward Surge Current ( 8.3 mSec single half sine wave superimposed on rated load)	I <sub>FSM</sub>	25			
Maximum Forward Voltage at 1 Amp DC	V <sub>FM</sub>	0.45	0.55	0.6	VOLTS
Maximum Forward Voltage at 3 Amps DC	V <sub>FM</sub>	0.75	0.875	0.9	
Maximum Average DC Reverse Current @ T <sub>L</sub> = 25°C At Rated DC Blocking Voltage (Note 1) @ T <sub>L</sub> = 100°C	I <sub>RM</sub>	1 10			mA
Typical Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	80			°C/W
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	110			pF
Junction Operating Temperature Range	T <sub>J</sub>	-65 to +125			°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150			

NOTES: (1) Lead temperature reference is cathode lead 1/32 in from case.  
 (2) Measured at 1MHz & applied reverse voltage of 4 volts

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## RATING & CHARACTERISTIC CURVES FOR SERIES 1N5817 - 1N5819

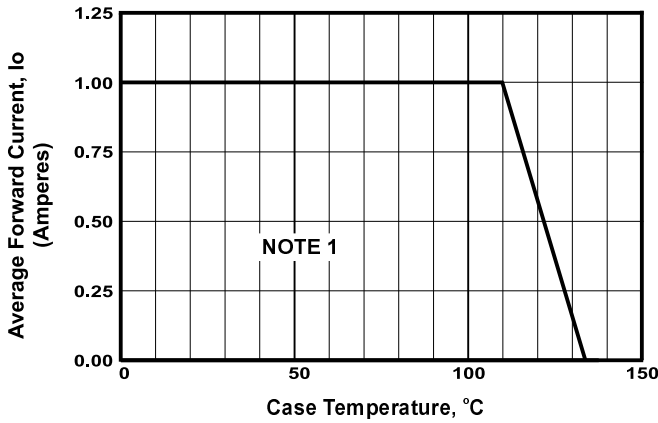


FIGURE 1. FORWARD CURRENT DERATING CURVE

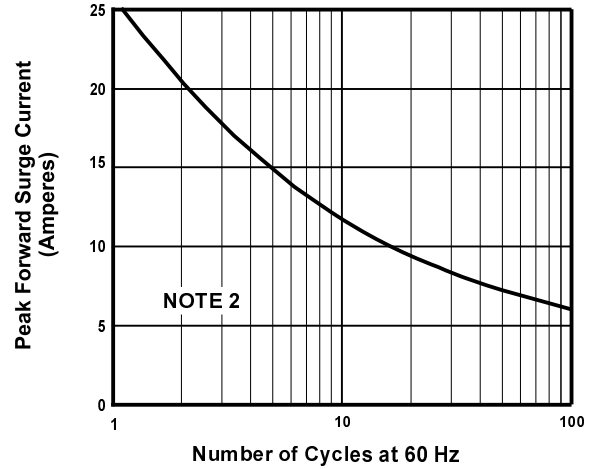


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

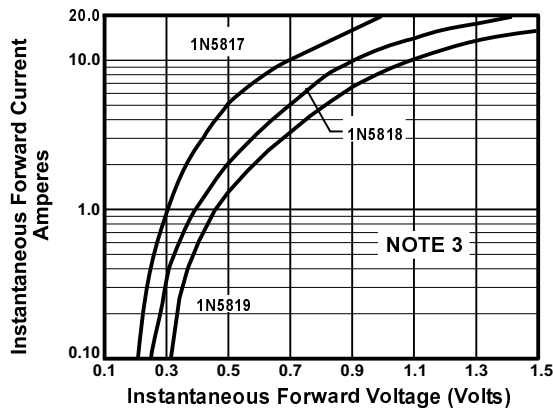


FIGURE 3. TYPICAL FORWARD CHARACTERISTICS

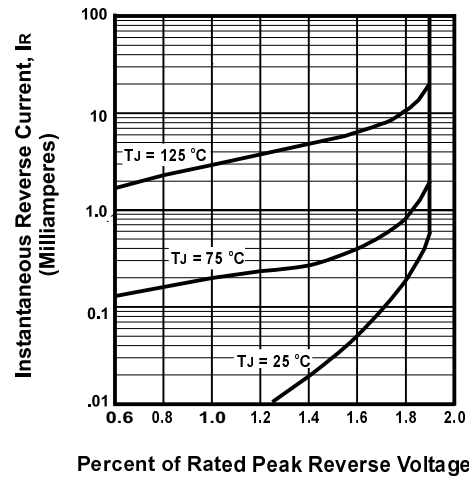


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

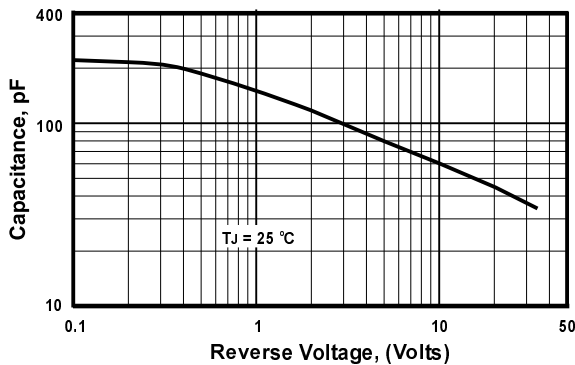


FIGURE 5. TYPICAL JUNCTION CAPACITANCE

### NOTES

- (1) Single Phase, Half Wave, 60 Hz, Resistive or Inductive Load, 0.375" (9mm) Lead Length
- (2) JEDEC Method, 8.3 mSec. Single Half Sine Wave
- (3)  $T_J = 25^\circ\text{C}$ , Pulse Width = 300  $\mu\text{Sec}$ , 1.0% Duty Cycle