

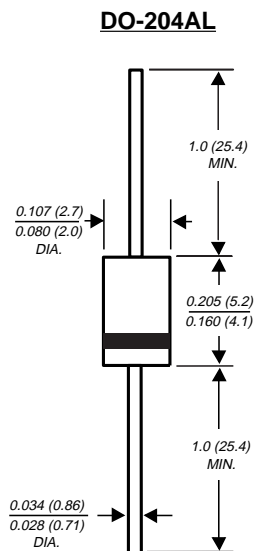
# 1N5817 THRU 1N5819

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 40 Volts    Forward Current - 1.0 Ampere

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Guardring for overvoltage protection
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ High surge capability
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension



Dimensions in inches and (millimeters)

### MECHANICAL DATA

**Case:** JEDEC DO-204AL molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.012 ounces, 0.34 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N5817	1N5818	1N5819	UNITS
* Maximum repetitive 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 non-repetitive peak reverse voltage	$V_{RSM}$	24	36	48	Volts
* Maximum average forward rectified current 0.375" (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) at $T_L=70^\circ\text{C}$	$I_{FSM}$	25.0			Amps
* Maximum instantaneous forward voltage at 1.0A (NOTE 1)	$V_F$	0.450	0.550	0.600	Volts
* Maximum instantaneous forward voltage at 3.1A (NOTE 1)	$V_F$	0.750	0.875	0.900	Volts
* Maximum instantaneous reverse current at rated DC reverse voltage $T_A=25^\circ\text{C}$ (NOTE 1) $T_A=100^\circ\text{C}$	$I_R$	1.0 10.0			mA
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$ $R_{\theta JL}$	50.0 15.0			$^\circ\text{C}/\text{W}$
Typical junction capacitance (NOTE 3)	$C_J$	110.0			pF
* Storage and operating junction temperature range	$T_J, T_{STG}$	-65 to +125			$^\circ\text{C}$

\*JEDEC registered values

#### NOTES:

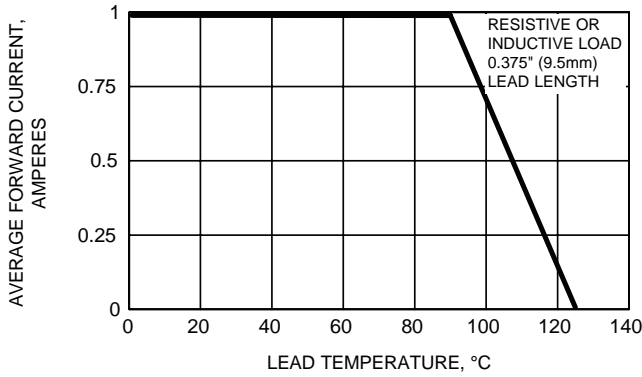
(1) Pulse test: 300µs pulse width, 1% duty cycle

(2) Thermal resistance from junction to lead, and/or to ambient P.C.B. mounted with 0.375" (9.5mm) lead length with 1.5 x 1.5" (38 x 38mm) copper pads

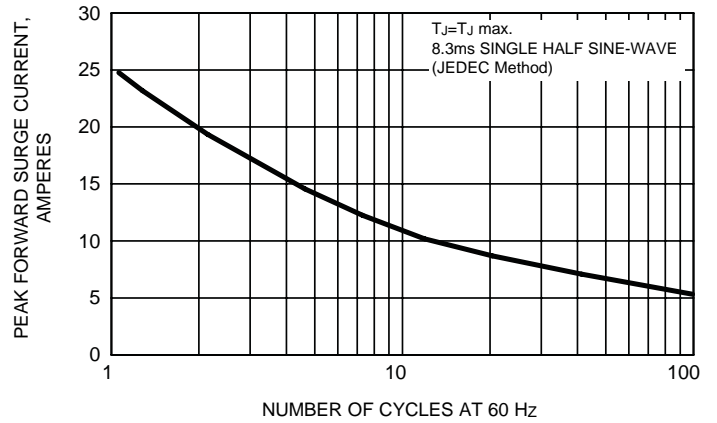
(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 volts

# RATINGS AND CHARACTERISTIC CURVES 1N5817 THRU 1N5819

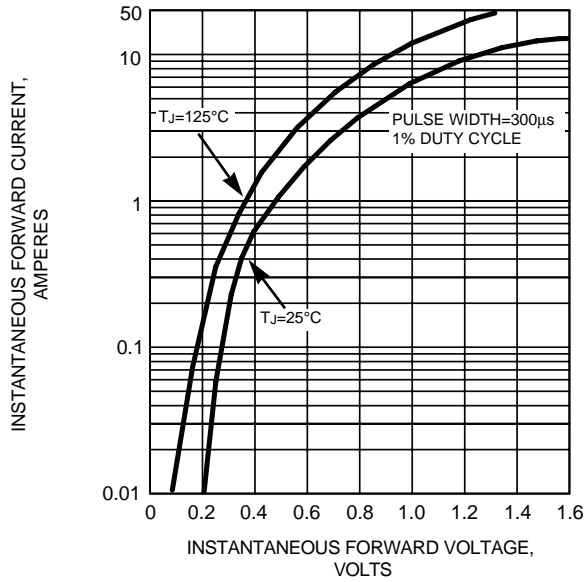
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



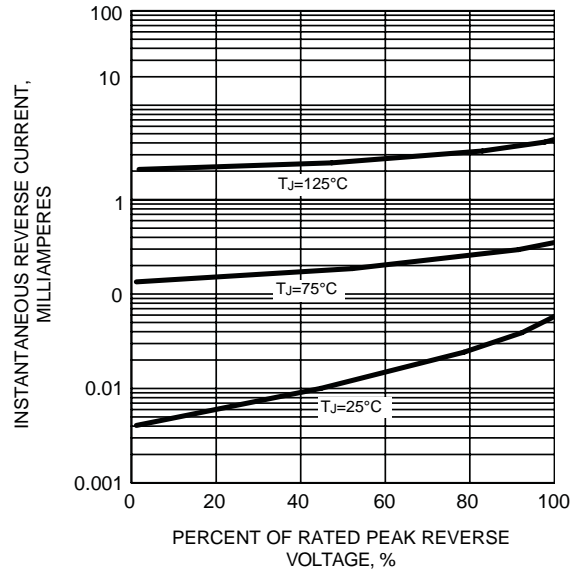
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



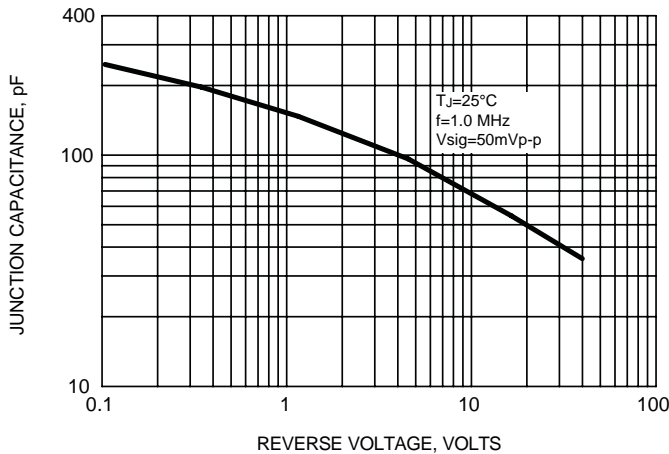
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



**FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE**

