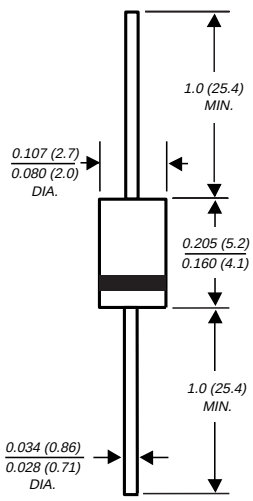
1N5817 THRU 1N5819

SCHOTTKY BARRIER RECTIFIER

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

DO-204AL



Dimensions in inches and (millimeters)

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



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°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°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°C (NOTE 1) T_A=100°C	I_R	1.0 10.0			mA
Typical thermal resistance (NOTE 2)	$R_{\Theta JA}$ $R_{\Theta JL}$	50.0 15.0			°C/W
Typical junction capacitance (NOTE 3)	C_J	110.0			pF
* Storage and operating junction temperature range	T_J, T_{STG}	-65 to +125			°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

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RATINGS AND CHARACTERISTIC CURVES 1N5817 THRU 1N5819

FIG. 1 - FORWARD CURRENT DERATING CURVE

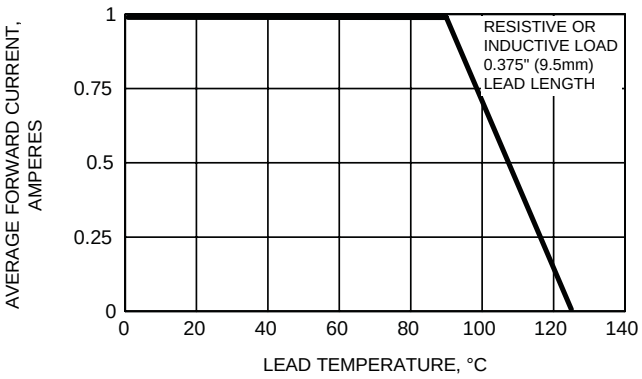


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

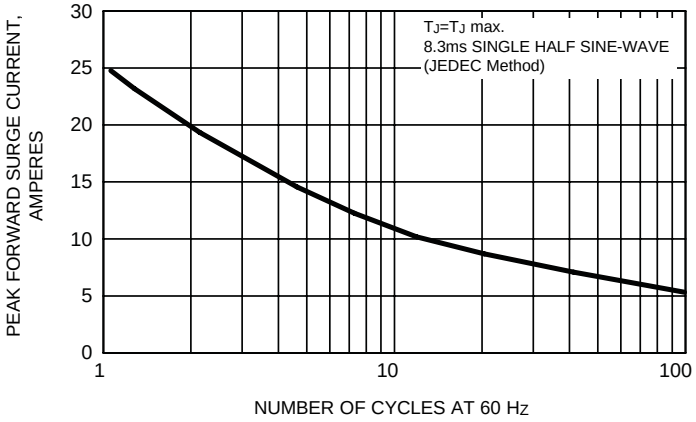


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

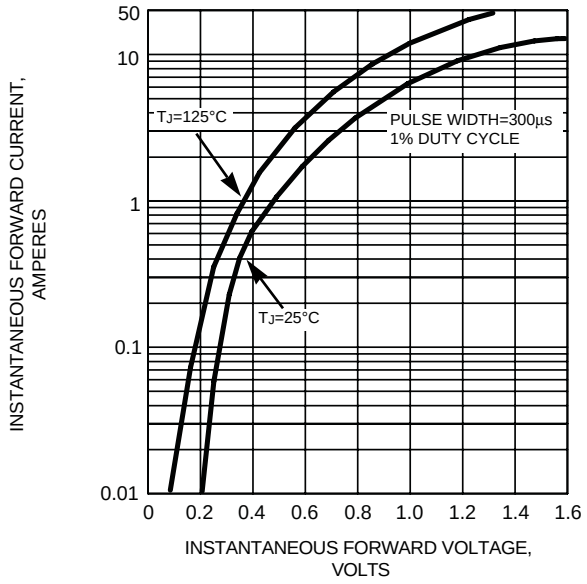


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

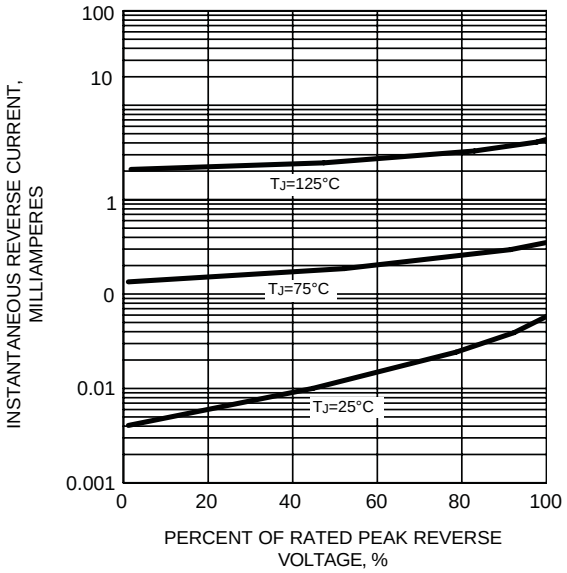


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

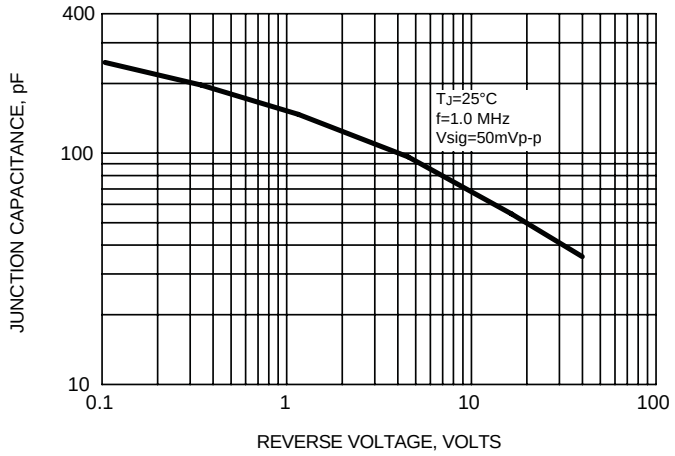
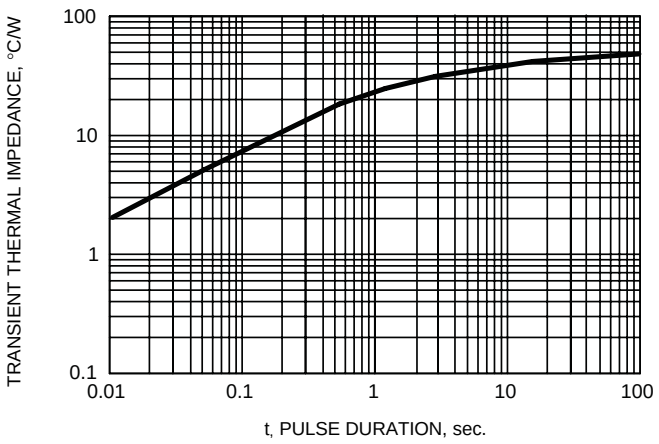


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



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