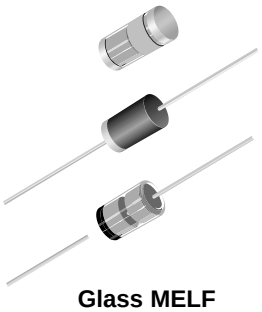
GENERAL SEMICONDUCTOR®

1N5817 thru 1N5819

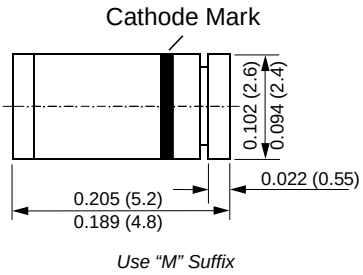
Schottky Barrier Rectifiers

Reverse Voltage 20 to 40V

Forward Current 1.0A



Glass MELF



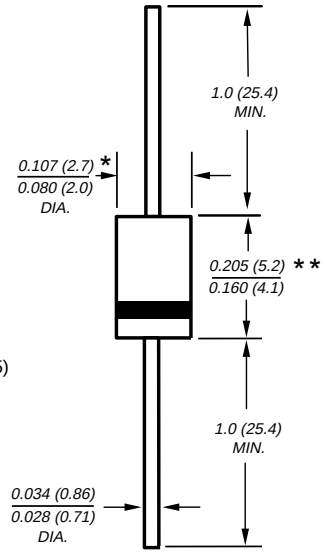
Use "M" Suffix

Dimensions in inches and (millimeters)

**2.6 mm max. for glass DO-41*

***4.1 mm max. for glass DO-41*

DO-204AL (DO-41)



Use "G" suffix if glass body DO-41

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low power loss, high efficiency
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection

Mechanical Data

Case: JEDEC DO-204 AL molded plastic body, glass body or glass MELF body

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

High temperature soldering guaranteed: 250°C/10 seconds at terminals for MELF and 0.375" (9.5mm) lead length, 5lbs (2.3kg) tension for axials

Polarity: Color band denotes cathode end (band is green on MELF)

Weight: plastic body DO-41: 0.34 gram
glass body DO-41: 0.35 gram
glass MELF: 0.25 gram

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	1N5817	1N5818	1N5819	Unit
* Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
* Maximum DC blocking voltage	V_{DC}	20	30	40	V
* Maximum non-repetitive peak reverse voltage	V_{RSM}	24	36	48	V
* Maximum average forward rectified current 0.375" (9.5mm) lead length at T_L=90°C	$I_{F(AV)}$	1.0			A
* Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=70°C	I_{FSM}	25			A
Typical thermal resistance – junction-to-ambient (glass) (Note 2) – junction-to-ambient (plastic) – junction-to-lead (plastic)	$R_{\Theta JA}$ $R_{\Theta JA}$ $R_{\Theta JL}$	130 50 15			°C/W
*Storage temperature range	T_J, T_{STG}	–65 to +125			°C

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	1N5817	1N5818	1N5819	Unit
* Maximum instantaneous forward voltage at 1.0 (Note 1)	V_F	0.450	0.550	0.600	V
* Maximum instantaneous forward voltage at 3.1 (Note 1)	V_F	0.750	0.875	0.900	V
* Maximum average reverse current at rated DC blocking voltage (Note 1) T_A = 25°C T_A = 100°C	I_R	1.0 10			mA
Typical junction capacitance at 4.0V, 1.0MHz	C_J	110			pF

*JEDEC registered values

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

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

11/6/00

1N5817 thru 1N5819

Schottky Barrier Rectifier

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

FIG. 1 - FORWARD CURRENT DERATING CURVE

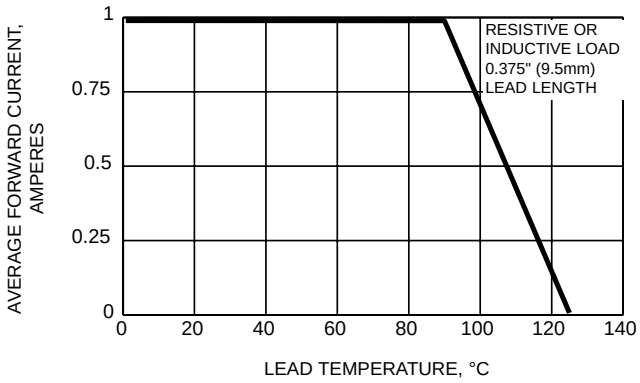


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

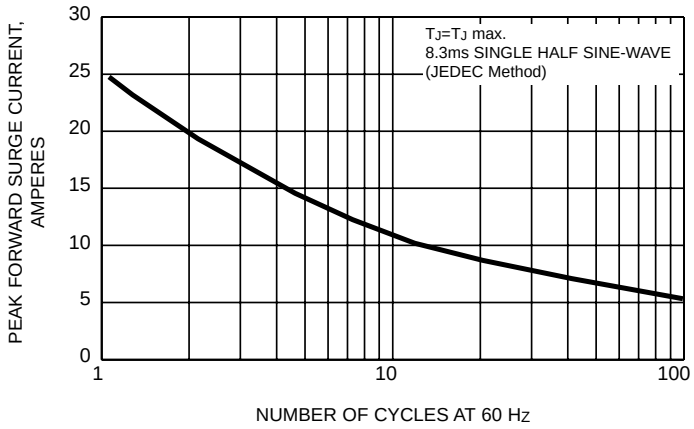


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

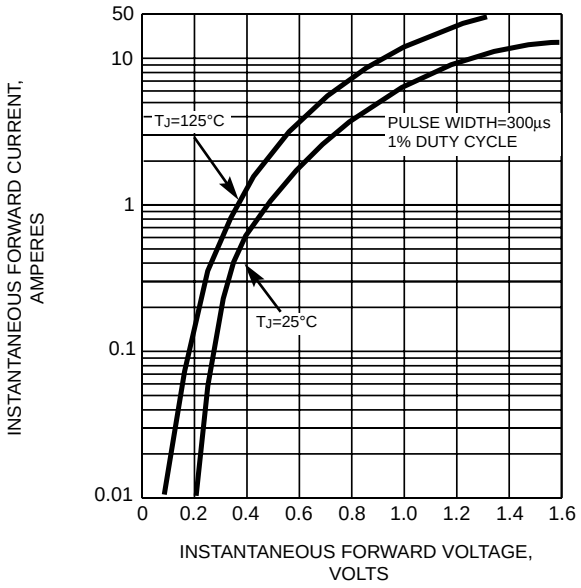


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

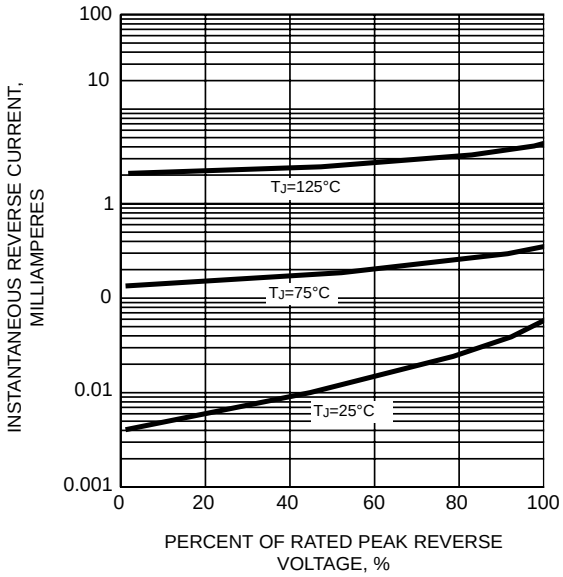


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

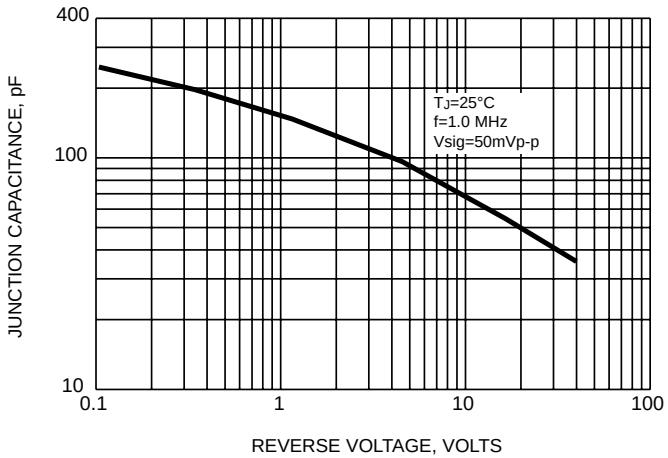


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE