1N5817 thru 1N5819

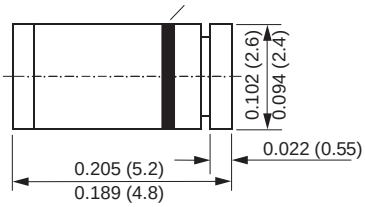
Vishay Semiconductors
formerly General Semiconductor

Schottky Barrier Rectifiers

Reverse Voltage 20 to 40V
Forward Current 1.0A

Glass MELF

Cathode Mark

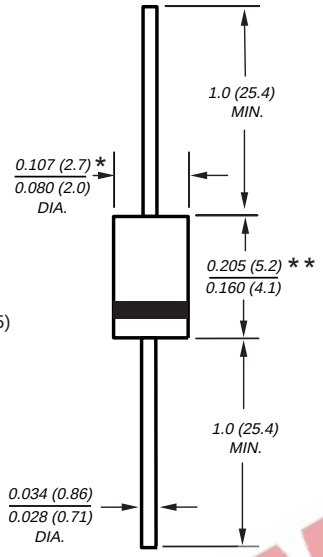


Use "M" Suffix if body is MELF

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: 0.34g
glass body DO-41: 0.35g
glass MELF: 0.25g

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 (Note 2) – junction-to-ambient (glass) – 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

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

Fig. 1 - Forward Current Derating Curve

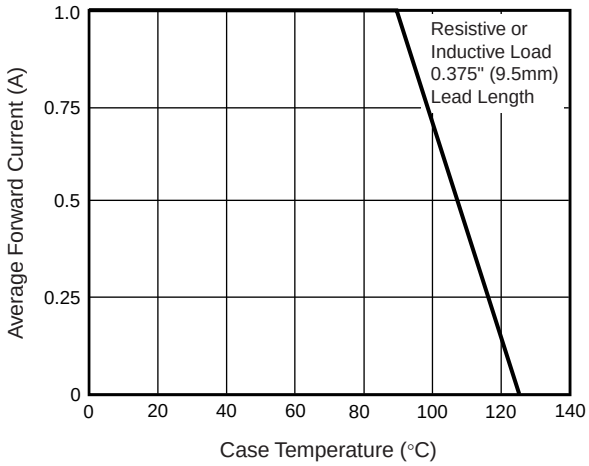


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

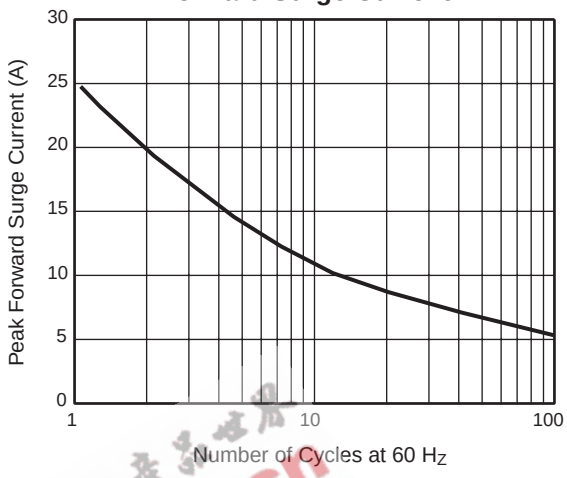


Fig. 3 - Typical Instantaneous Forward Characteristics

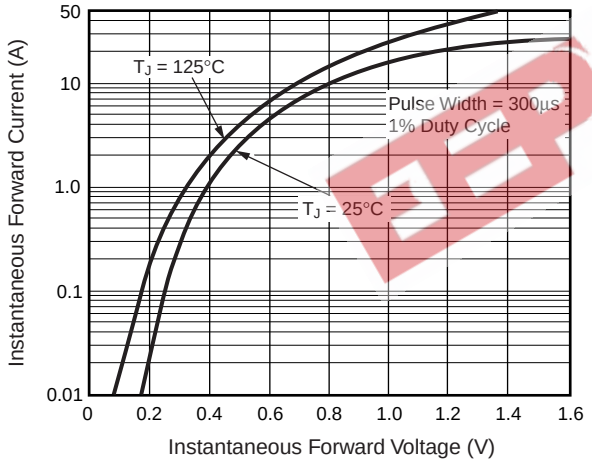


Fig. 4 - Typical Reverse Characteristics

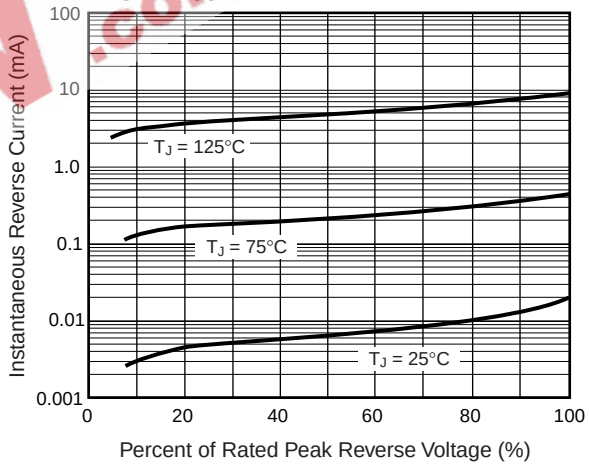


Fig. 5 - Typical Junction Capacitance

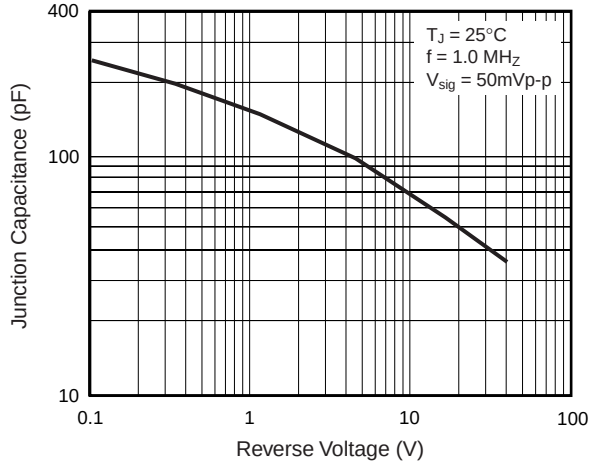


Fig. 6 - Typical Transient Thermal Impedance