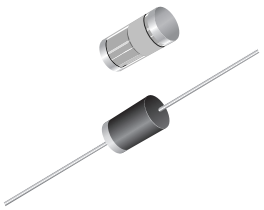
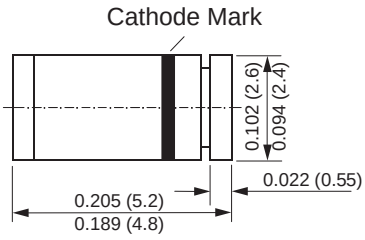
Schottky Barrier Rectifiers

Reverse Voltage 20 to 40V
Forward Current 1.0A



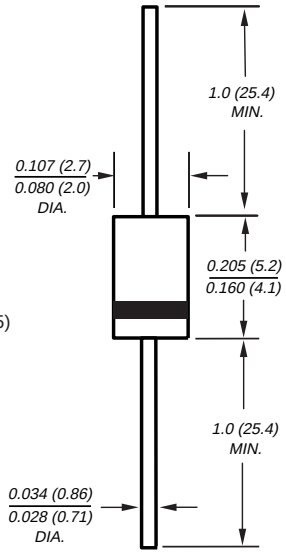
Glass MELF



Use "M" Suffix if body is MELF

Dimensions in inches and (millimeters)

DO-204AL (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-204AL molded plastic 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 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 – 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

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

Fig. 1 - Forward Current Derating Curve

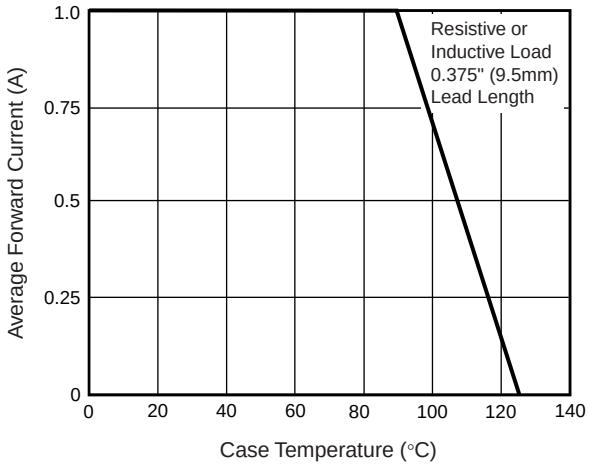


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

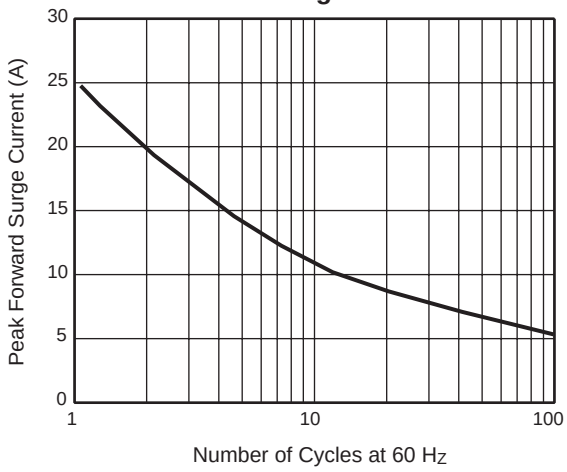


Fig. 3 - Typical Instantaneous Forward Characteristics

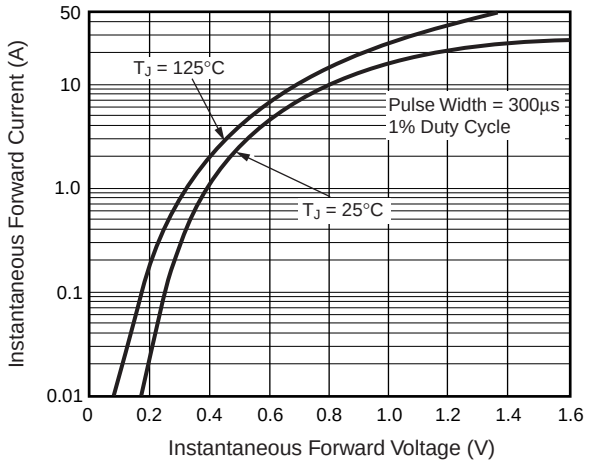


Fig. 4 - Typical Reverse Characteristics

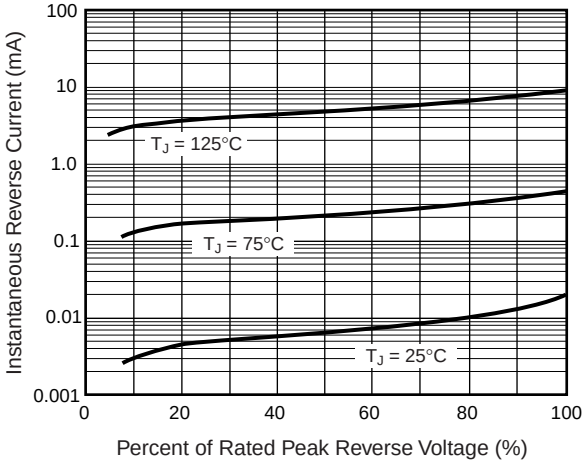


Fig. 5 - Typical Junction Capacitance

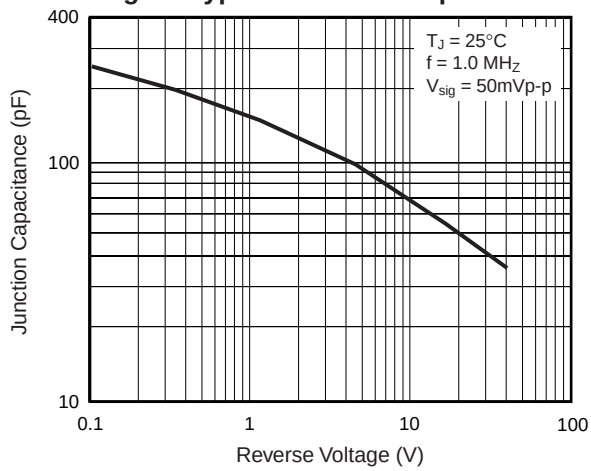


Fig. 6 - Typical Transient Thermal Impedance