

Schottky Barrier Rectifier

1N5817 thru 1N5819

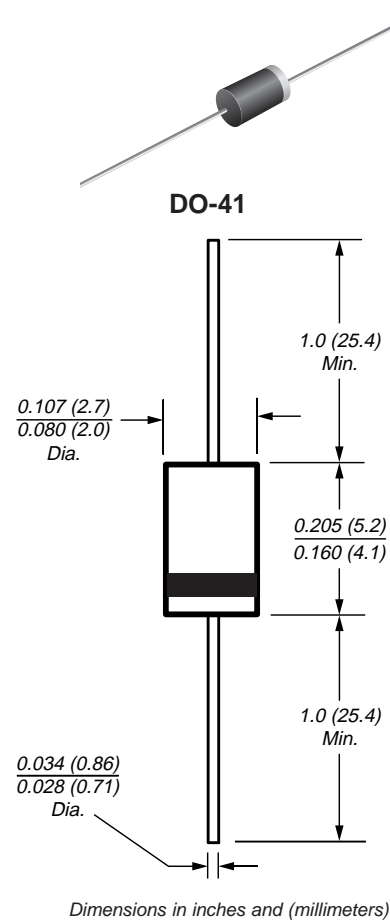
Reverse Voltage: 20 to 40V
Forward Current: 1.0A

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-41 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- High temperature soldering guaranteed: 250°C/10 seconds 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.34 g



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)	R _{θJA}	130			°C/W
– junction-to-ambient (plastic)	R _{θJA}	50			
– junction-to-lead (plastic)	R _{θJL}	15			
*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 T _A = 25°C at rated DC blocking voltage (Note 1) 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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

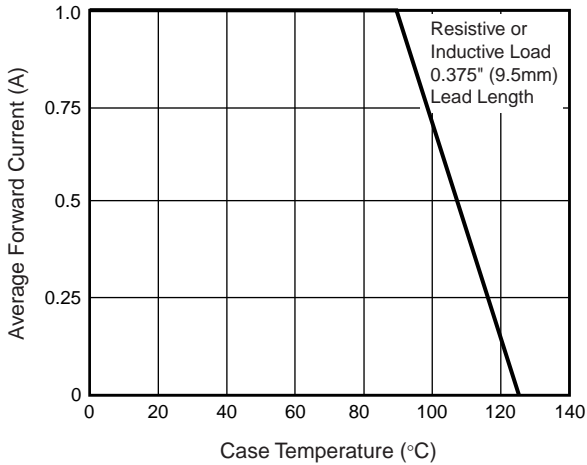


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

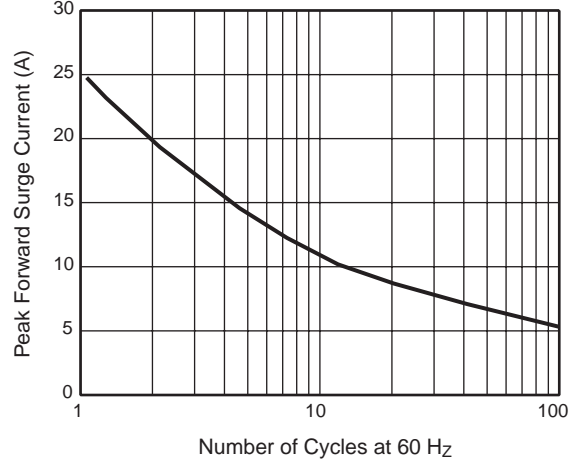


Fig. 3 - Typical Instantaneous Forward Characteristics

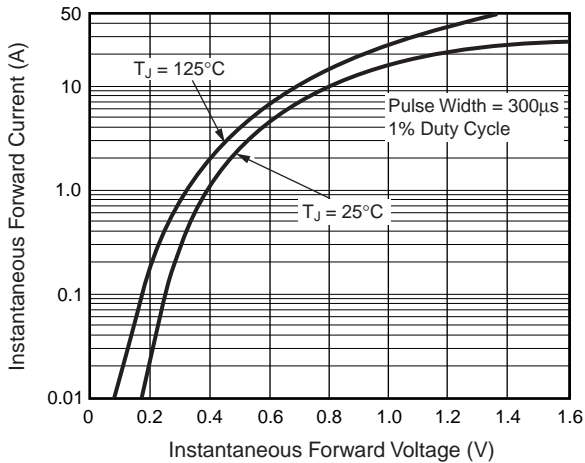


Fig. 4 - Typical Reverse Characteristics

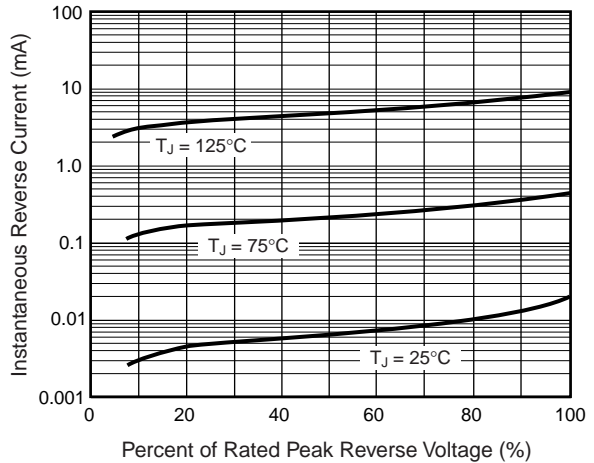


Fig. 5 - Typical Junction Capacitance

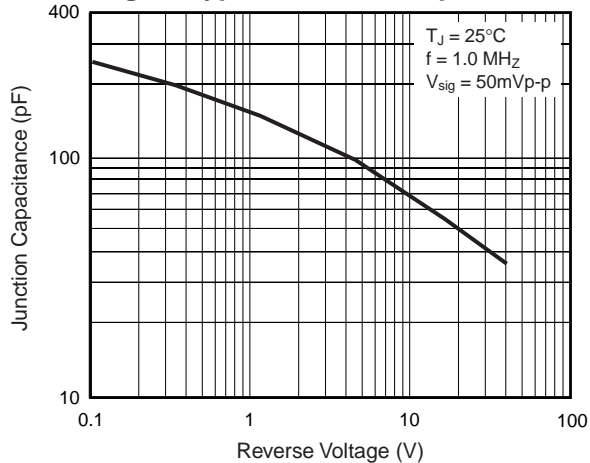


Fig. 6 - Typical Transient Thermal Impedance

