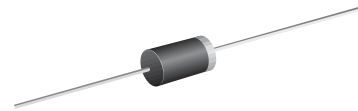




Schottky Barrier Rectifiers

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	20 V, 30 V, 40 V
I_{FSM}	25 A
V_F	0.45 V, 0.55 V, 0.60 V
T_j max.	125 °C



DO-204AL (DO-41)

Features

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High frequency operation
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DO-204AL (DO-41)

Epoxy meets UL 94V-0 Flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

Polarity: Color band denotes the cathode end

Typical Applications

For use in low voltage high frequency inverters, free wheeling, dc-to-dc converters, and polarity protection applications

Maximum Ratings

$T_A = 25\text{ °C}$ unless otherwise specified

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" (9.5 mm) lead length at $T_L = 90\text{ °C}$	$I_{F(AV)}$	1.0			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	25			A
Voltage rate of change (rated V_R)	dv/dt	10000			V/ μ s
Storage temperature range	T_J, T_{STG}	- 65 to + 125			°C

Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Test condition	Symbol	1N5817	1N5818	1N5819	Unit
Maximum instantaneous forward voltage	at 1.0 ⁽¹⁾	V_F	0.450	0.550	0.600	V
Maximum instantaneous forward voltage	at 3.1 ⁽¹⁾	V_F	0.750	0.875	0.900	V
Maximum average reverse current at rated DC blocking voltage ⁽¹⁾	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	I_R		1.0 10		mA
Typical junction capacitance	at 4.0 V, 1.0 MHz	C_J		110		pF

Notes:

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

Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	1N5817	1N5818	1N5819	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$		50 15		$^\circ\text{C/W}$

Notes:

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

Ratings and Characteristics Curves

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

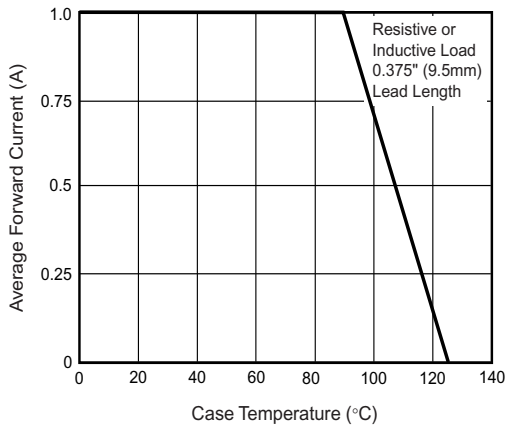


Figure 1. Forward Current Derating Curve

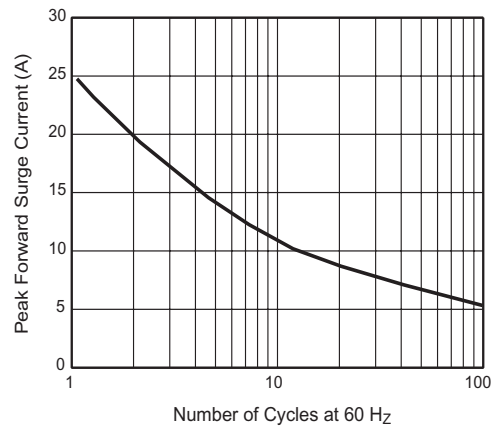


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

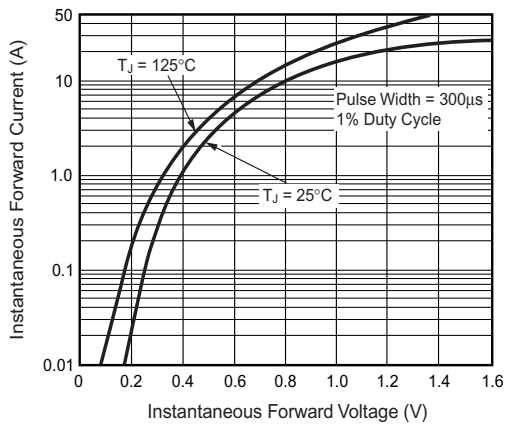


Figure 3. Typical Instantaneous Forward Characteristics

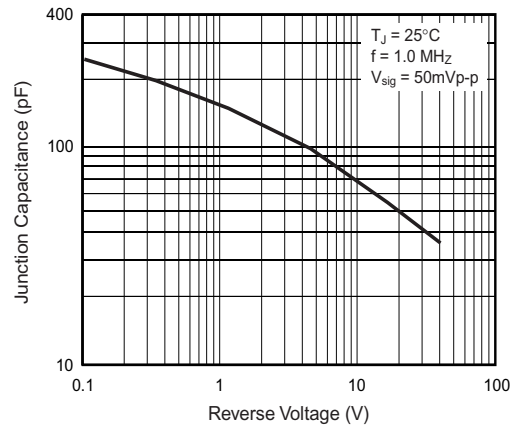


Figure 5. Typical Junction Capacitance

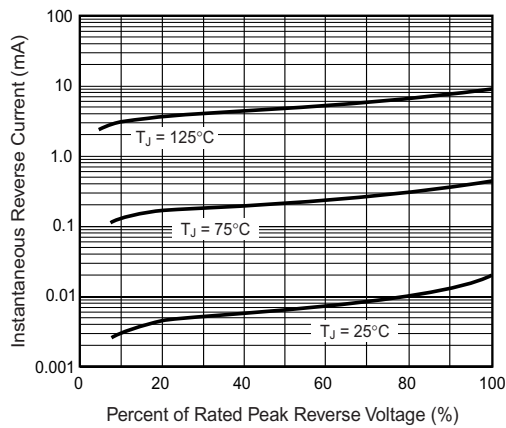


Figure 4. Typical Reverse Characteristics

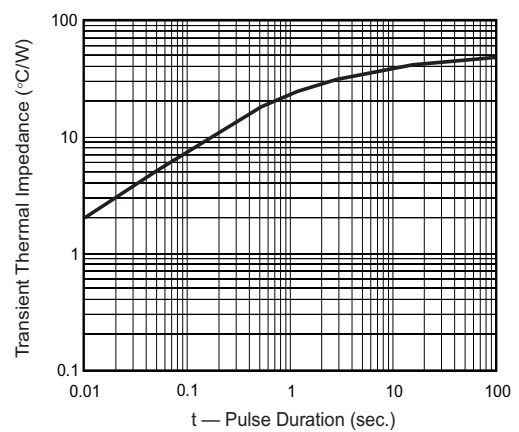
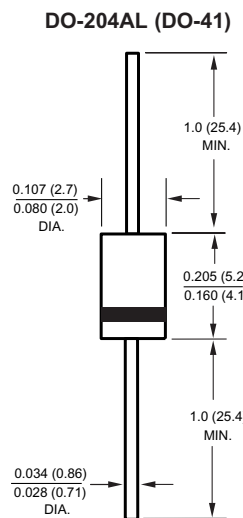


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)





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