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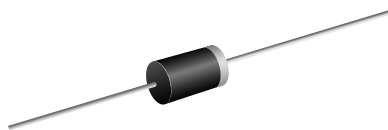
**JAMECO**<sup>®</sup>  
ELECTRONICS

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Jameco Part Number 1543939

## Schottky Barrier Rectifiers



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
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



### 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
$T_j \text{ max.}$	125 °C

### TYPICAL APPLICATIONS

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

### 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

### MAXIMUM RATINGS ( $T_A = 25 \text{ °C}$ 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" (9.5 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/ $\mu$ s
Storage temperature range	$T_J, T_{STG}$	- 65 to + 125			°C

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	1N5817	1N5818	1N5819	UNIT
Maximum instantaneous forward voltage <sup>(1)</sup>	at 1.0	$V_F$	0.450	0.550	0.600	V
Maximum instantaneous forward voltage <sup>(1)</sup>	at 3.1	$V_F$	0.750	0.875	0.900	V
Maximum average reverse current at rated DC blocking voltage <sup>(1)</sup>	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 100\text{ }^{\circ}\text{C}$	$I_R$	1.0 10			mA
Typical junction capacitance	at 4.0 V, 1.0 MHz	$C_J$	110			pF

**Note:**(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	1N5817	1N5818	1N5819	UNIT	
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	50 15			$^{\circ}\text{C/W}$	

**Note:**

(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

<b>ORDERING INFORMATION</b>				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
1N5819-E3/54	0.332	54	5500	13" Diameter Paper Tape & Reel
1N5819-E3/73	0.332	73	3000	Ammo Pack Packaging

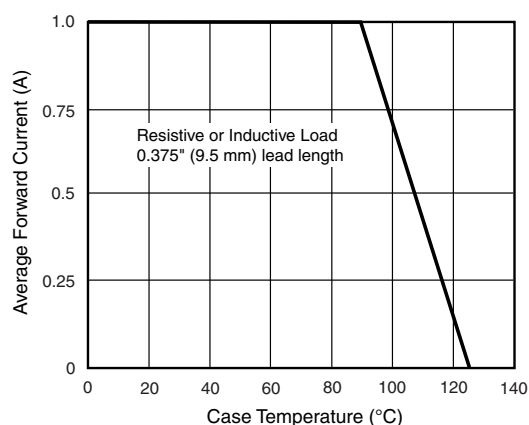
**RATINGS AND CHARACTERISTICS CURVES**( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Figure 1. Forward Current Derating Curve

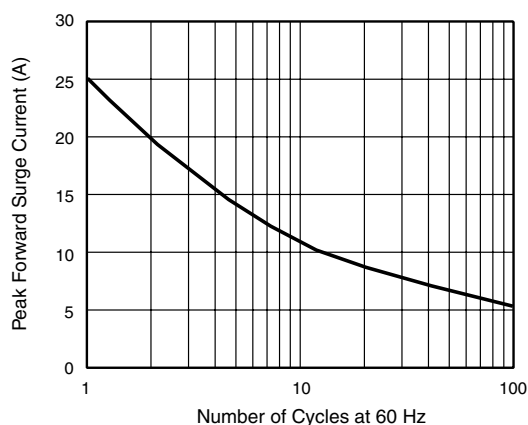


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

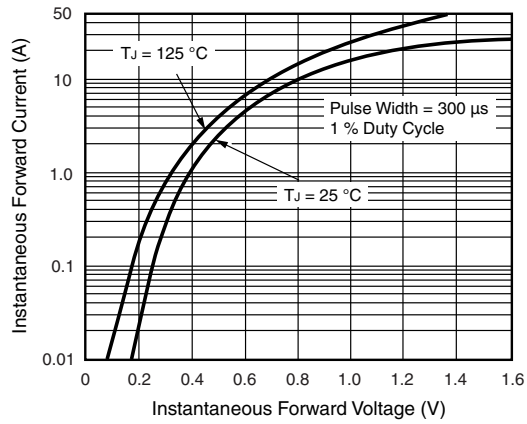


Figure 3. Typical Instantaneous Forward Characteristics

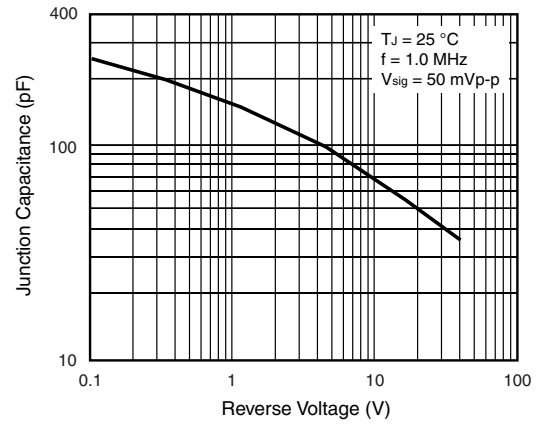


Figure 5. Typical Junction Capacitance

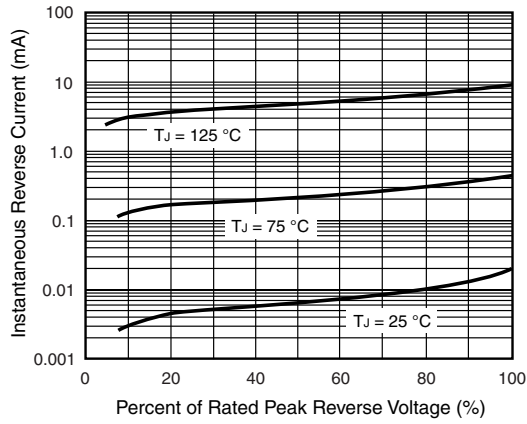


Figure 4. Typical Reverse Characteristics

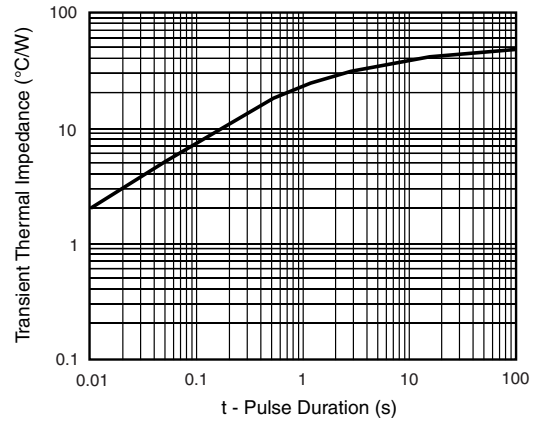
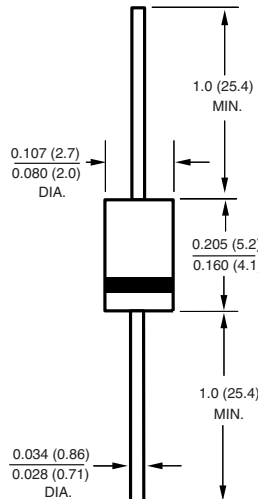


Figure 6. Typical Transient Thermal Impedance

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

#### DO-204AL (DO-41)





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