



1N5817 THRU 1N5819

VOLTAGE RANGE

20 to 40 Volts

CURRENT

1.0 Ampere

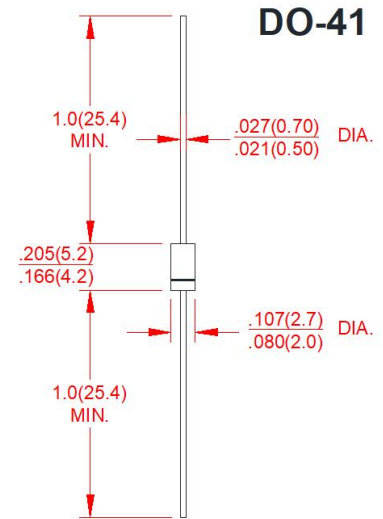
Features



- Fast switching
- Low forward voltage
- Low power loss for high efficiency
- High surge capability
- High temperature soldering guaranteed
250°C/10 seconds, 0.375" (9.5mm) lead length

Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Polarity :Color band denoted cathode end
- Mounting position: Any
- Weight: 0.012ounce, 0.33 grams



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER	SYMBOLS	1N5817	1N5818	1N5819	UNITS
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	Volts
Maximum RMS Voltage	V_{RMS}	14	21	28	Volts
Maximum DC Blocking Voltage	V_{DC}	20	30	40	Volts
Maximum Average Forward Rectified Current (FIG.1) 0.375" (9.5mm) lead length at $T_A=100^\circ\text{C}$	$I_{(AV)}$	1.0			Amp
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	30			Amps
Maximum Instantaneous Forward Voltage at 1.0A	V_F	0.50	0.55		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage at	$T_A = 25^\circ\text{C}$	0.1			mA
	$T_A = 125^\circ\text{C}$	20			
Maximum Full Load Reverse Current, full cycle Average 0.375" (9.5mm) lead length at $T_l=75^\circ\text{C}$	$I_{R(AV)}$	30			μA
Typical Junction Capacitance ^(NOTE 1)	C_j	60			pF
Typical Thermal Resistance ^(NOTE 2)	$R_{\theta JA}$	50			$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150			$^\circ\text{C}$

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance HERom Junction to Ambient at .375" (9.5mm) lead length, P.C. board mounted.

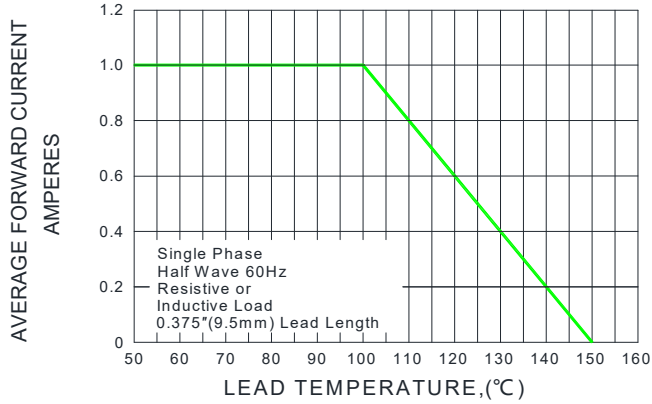


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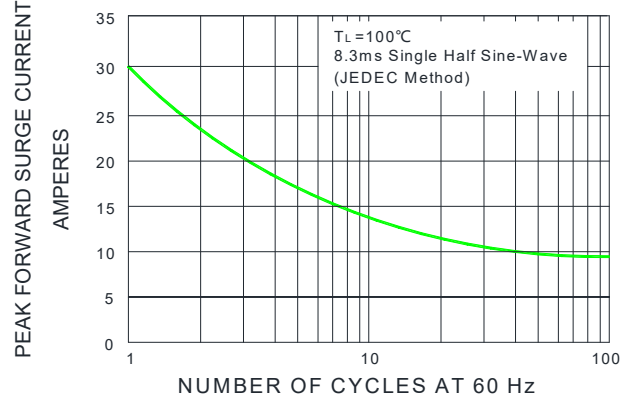
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Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

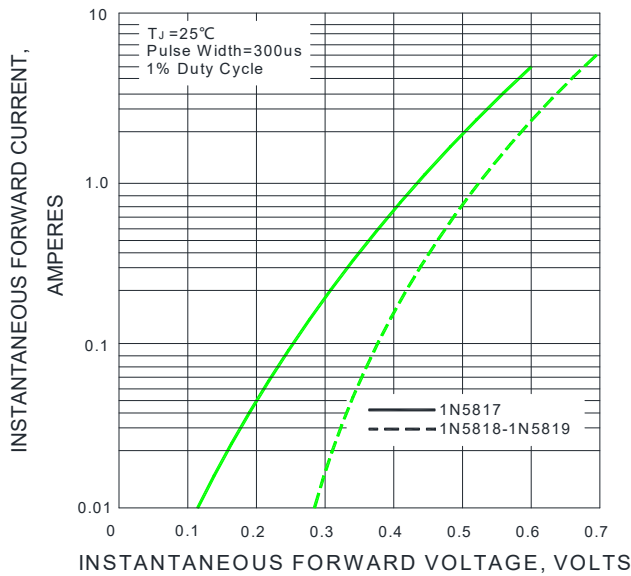
F1G.1-FORWARD CURRENT DERATING CURVE



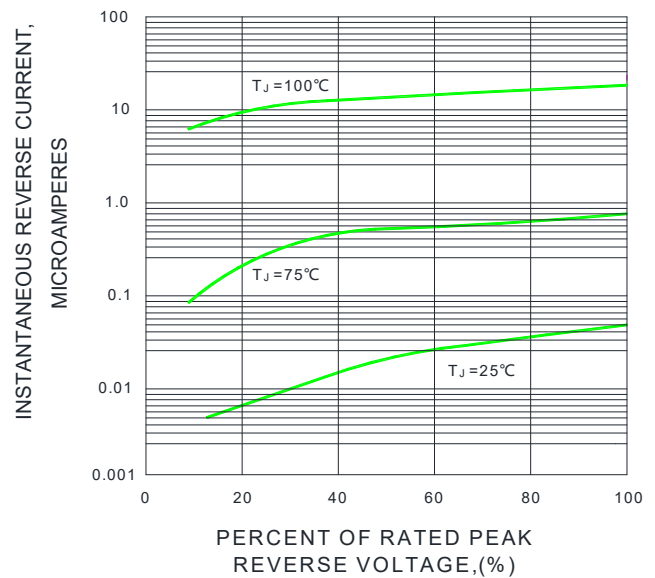
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



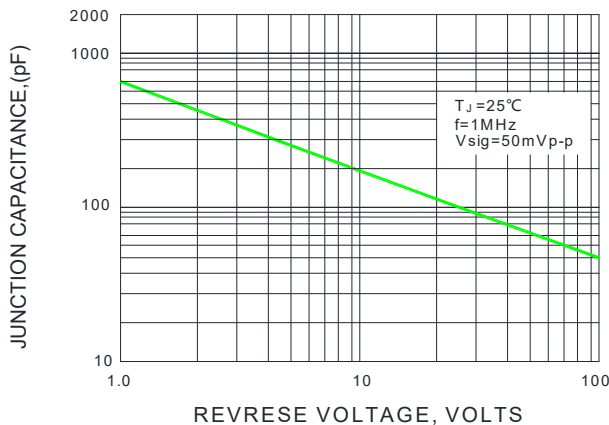
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS

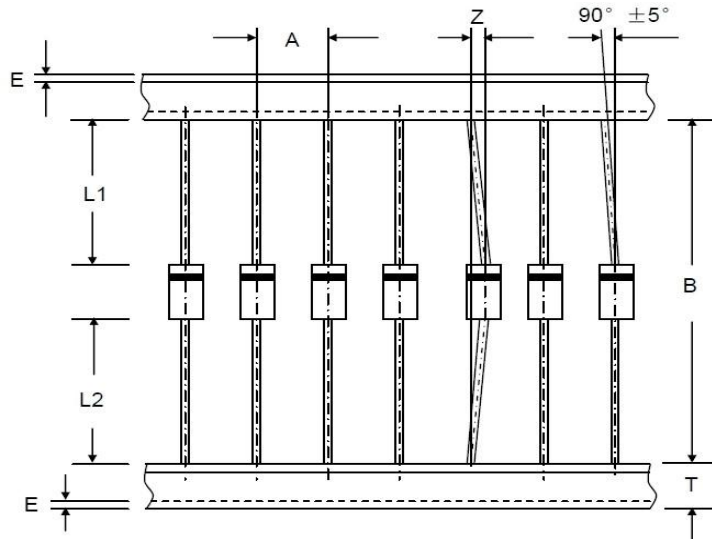


F1G.5-TYPICAL JUNCTION CAPACITANCE





Axial Lead Taping Specifications for Rectifiers

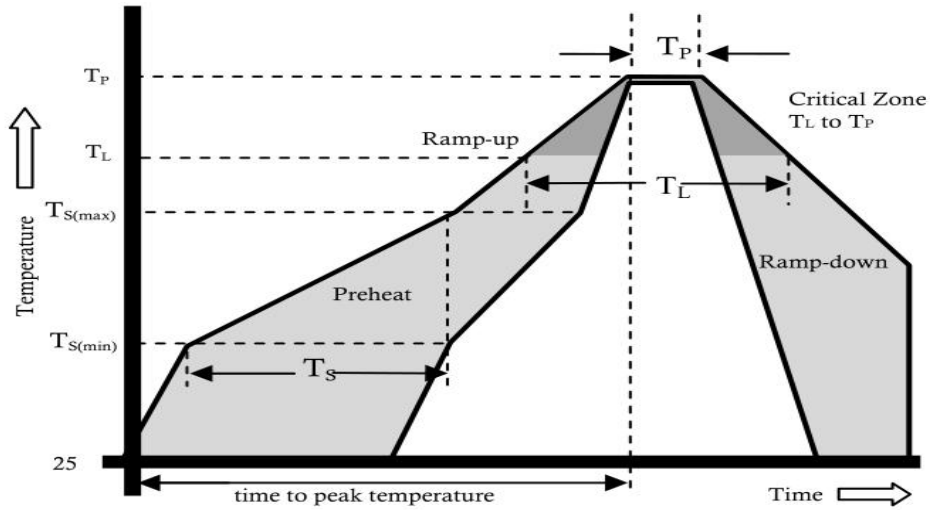


Component Outline	Component Pitch A	Inner Tape Pitch B		Cumulative Tolerance
	±0.5mm	+0.5mm	-0.4mm	
DO-204AL(DO-41)	5.0mm	52.4mm	26.0mm	2.0mm/20pitch

Item	Symbol	Specifications(mm)	Specifications(inch)
Component alignment	Z	1.2 max	0.048 max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8 max	0.032 max
Body eccentricity	IL1-L2I	1.0 max	0.040 max



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/sec. Max.
T_S (max) to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C



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Disclaimer

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