

# 1N5907-1N5908

## 1500 WATT TRANSIENT VOLTAGE SUPPRESSOR

### FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

### MAXIMUM RATINGS

Ratings	1N5907	1N5908
1500W for 10/1000 $\mu$ s @ lead temperature $T_L = 25^\circ\text{C}$ with repetition rate of 0.01% or less		
Operating and storage temperature	-65 to +175 $^\circ$	-65 to +150 $^\circ\text{C}$
Thermal resistance (junction to lead) @ 0.375" from body	50 $^\circ\text{C}/\text{W}$	22 $^\circ\text{C}/\text{W}$
Thermal resistance (junction to ambient) when mounted on FR4 PC board with 4mm <sup>2</sup> copper pads and track width 1mm, length 25mm	110 $^\circ\text{C}/\text{W}$	82 $^\circ\text{C}/\text{W}$
DC power dissipation	1 watt @ $T_L = \leq 125^\circ\text{C}$ 3/8" from body, or 1 watt @ $T_A \leq 65^\circ\text{C}$ when mounted on FR4 PC board with 4 mm <sup>2</sup> copper pads and track width 1mm, length 25mm	5 watts @ $T_L = \leq 40^\circ\text{C}$ 3/8" from body, or 1.52 watts @ $T_A \leq 25^\circ\text{C}$ when mounted on FR4 PC board with 4 mm <sup>2</sup> copper pads and track width 1mm, length 25mm
Forward surge current	200A for 8.3ms half-sine wave @ $T_A = 25^\circ\text{C}$	
Solder temperatures	260 $^\circ\text{C}$ for 10 s(maximum)	

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

Part Number	Reverse stand-off voltage	Minimum breakdown voltage $V_{(BR)}$ @ 1 mA	Maximum standby current $I_D$ @ $V_{WM}$	Maximum clamping voltage $V_C$ @ $I_{PP1}$	Peak pulse current $I_{PP1}$	Maximum clamping voltage $V_C$ @ $I_{PP2}$	Peak pulse current $I_{PP2}$	Maximum clamping voltage $V_C$ @ $I_{PP3}$	Peak pulse current $I_{PP3}$
	$V_{WM}$ (1)	V	$\mu\text{A}$	V	A	V	A	V	A
1N5907	5.0	6.0	300	7.6	30	8.0	60	8.5	120
1N5908	5.0	6.0	300	7.6	30	8.0	60	8.5	120

### SYMBOLS AND DEFINITIONS

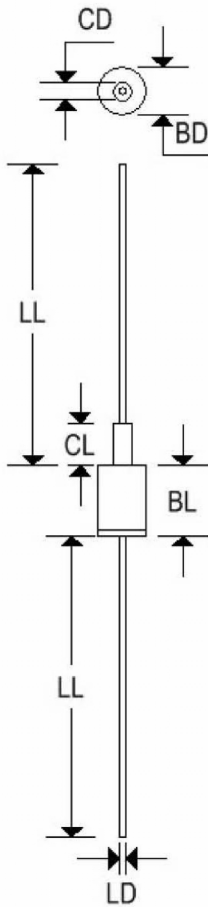
Symbol	Definition
$V_{WM}$	Standoff voltage: Applied reverse voltage to assure a nonconductive condition
$V_{(BR)}$	Breakdown voltage: The breakdown voltage of the device will exhibit at 25 $^\circ\text{C}$
$V_C$	Maximum clamping voltage: The maximum peak voltage appearing across the TVS when subjected to the peak pulse current in a one millisecond time interval. The peak pulse voltage is the combination of voltage rise due to both the series resistance and thermal rise and positive temperature coefficient
$I_{PP}$	Peak pulse current: The peak current during the impulse
$P_{PP}$	Peak pulse power: The pulse power as determined by the product of $V_C$ & $I_{PP}$
$I_D$	Standby current: The current at the standoff voltage ( $V_{WM}$ )
$I_{(BR)}$	Breakdown current: The current used for measuring breakdown voltage ( $V_{(BR)}$ )

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## MECHANICAL CHARACTERISTICS

<b>Case</b>	DO-13
<b>Marking</b>	Body painted, alpha-numeric
<b>Polarity</b>	Cathode band



	DO-13			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.235	-	5.970
BL	0.315	0.350	8.001	8.890
LD	0.027	0.035	0.686	0.762
LL	1.250	-	31.750	-
CD	-	0.100	-	2.540
CL	-	0.210	-	5.334

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