

# 1N5555P-1N5558P

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

1500 Watts for 10/1000 $\mu$ s with repetition rate of 0.01% or less* at lead temperature ( $T_L$ ) 25°C	
Operating and Storage Temperatures	-65 to +175°C
Thermal Resistance	50°C/W junction to lead at 0.375" from body or 110°C/W junction to ambient when mounted on FR4 PC board with 4 mm <sup>2</sup> copper pads and track width 1mm, length 25mm
DC Power Dissipation *	1 Watt @ $T_L = 25^\circ\text{C}$ 3/8 from body
Forward Surge Current	200 Amps for 8.3 ms half-sine wave @ $T_A = 25^\circ\text{C}$
Solder Temperatures	260°C for 10 s (maximum)

\* TVS devices are not typically used for dc power dissipation and are instead operated at or less than their rated standoff voltage ( $V_{WM}$ ) except for transients that briefly drive the device into avalanche breakdown ( $V_{BR}$  to  $V_C$  region).

## ELECTRICAL CHARACTERISTICS

Type (note 1)	Minimum Breakdown Voltage	Test Current	Rated Standoff Voltage	Maximum (RMS) Reverse Voltage	Maximum Standby Current	Maximum Peak Reverse Voltage	Maximum Peak Pulse Current	Maximum Temperature Coefficient
	$V_{(BR)} @ I_{(BR)}$	$I_{(BR)}$	$V_{WM}$	$V_{WM(RMS)}$	$I_D @ V_{WM}$	$V_C @ I_{PP}$	$I_{PP}$	$\alpha V_{(BR)}$
	V	mA	V	V	$\mu\text{A}$	V	A	%/°C
1N5555P	33.0	1.0	30.5	21.5	5	47.5	32	+0.93
1N5556P	43.7	1.0	40.3	28.5	5	63.5	24	+0.94
1N5557P	54.0	1.0	49.0	34.5	5	78.5	19	+0.96
1N5558P	191.0	1.0	175	124.0	5	265.0	5.7	+1.00

Note 1: A TVS is normally selected according to the rated “Standoff Voltage”  $V_{WM}$  that should be equal to or greater than the dc or continuous peak operating voltage level.

## SYMBOLS AND DEFINITIONS

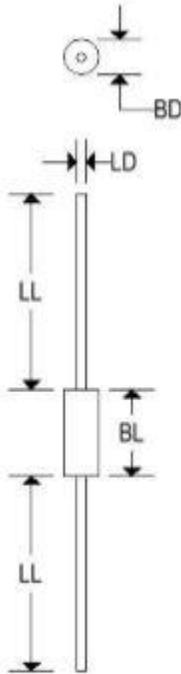
$V_{WM}$	Standoff Voltage: Applied Reverse Voltage to assure a nonconductive condition
$V_{(BR)}$	Breakdown Voltage: This is the Breakdown Voltage the device will exhibit at 25°C
$V_C$	Maximum Clamping Voltage: The maximum peak voltage appearing across the TVS when subjected to the peak pulse current 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 ( $\alpha V_{(BR)}$ )
$I_{PP}$	Peak Pulse Current: The peak current during the impulse
$P_{PP}$	Peak Pulse Power: The pulse power as determined by the product of $V_C$ and $I_{PP}$
$I_D$	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

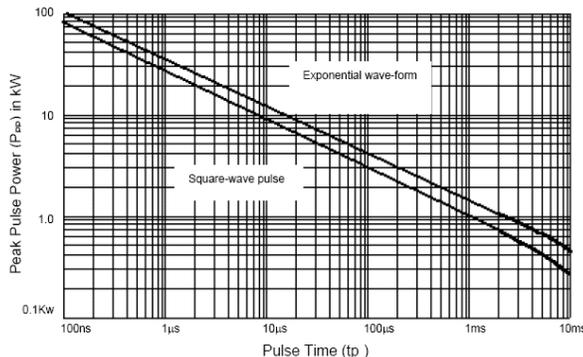
<b>Case</b>	DO-201, Plastic
<b>Marking</b>	Alpha Numeric, Body Painted
<b>Polarity</b>	Cathode Band



	DO-201			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.190	0.250	4.826	6.350
BL	0.285	0.375	7.239	9.525
LD	0.038	0.042	0.965	1.067
LL	1.000	-	25.400	-

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NOTE: Peak power defined as peak voltage times peak current

