

1500W Bi-directional TVS Diode in DO-13 Package

Qualified per MIL-PRF-19500/507

DESCRIPTION:

This DO-13 hermetically sealed TVS diode series is military qualified per MIL-PRF-19500/507 and is targeted for space, commercial and military aircraft, military vehicles, shipboard markets and all high reliability applications.

FEATURES / BENEFITS:

- ✓ Hermetic sealed DO-13 package
- ✓ Parts are hot solder dipped
- ✓ JAN/ JANTX/ JANTXV available per MIL-PRF-19500/507
- ✓ VBR at $\pm 5\%$ tolerance

MAXIMUM RATINGS

- ✓ Operating & Storage Temperature: -65°C to $+175^{\circ}\text{C}$
- ✓ Junction Temperature: -65°C to $+175^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

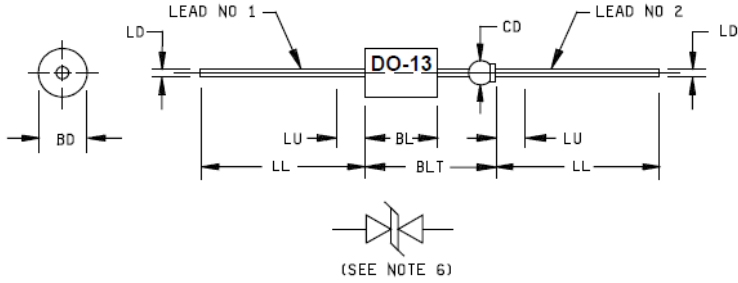
SERIES TYPE	MIN BREAKDOWN VOLTAGE $V_{(BR)} @ I_{(BR)}$		WORKING PEAK REVERSE VOLTAGE VRWM	MAXIMUM STANDBY CURRENT I_D	MAX. CLAMP. VOLTAGE VC @ I_{PP} $t_p = 1\text{ms}$	MAX. PEAK PULSE CURRENT $t_p = 1\text{ms}$, $t_r = 10\mu\text{s}$ I_{PP}	MAX. TEMP. COEFFICIENT
	Vdc	mA dc					
1500W	Vdc	mA dc	Vdc	$\mu\text{A dc}$	V(pk)	A(pk)	% / $^{\circ}\text{C}$
1N6036A	7.13	10	6.0	1000	11.3	132.0	0.061
1N6037A	7.79	10	7.0	500	12.1	124.0	0.065
1N6038A	8.65	10	7.5	200	13.4	112.0	0.068
1N6039A	9.50	1	8.5	50	14.5	103.0	0.073
1N6040A	10.50	1	9.0	10	15.6	96.0	0.075
1N6041A	11.40	1	10.0	5	16.7	90.0	0.078
1N6042A	12.40	1	11.0	5	18.2	82.0	0.081
1N6043A	14.30	1	12.0	5	21.2	71.0	0.084
1N6044A	15.20	1	13.0	5	22.5	67.0	0.086
1N6045A	17.10	1	15.0	5	25.2	59.5	0.088
1N6046A	19.00	1	17.0	5	27.7	54.0	0.090
1N6047A	20.90	1	18.0	5	30.6	49.0	0.092
1N6048A	22.80	1	20.0	5	33.2	45.0	0.094
1N6049A	25.70	1	22.0	5	37.5	40.0	0.096
1N6050A	28.50	1	25.0	5	41.4	36.0	0.097
1N6051A	31.40	1	28.0	5	45.7	33.0	0.098
1N6052A	34.20	1	30.0	5	49.9	30.0	0.098

TECHNICAL DATA
DATA SHEET 5165 REV. A.4

SERIES TYPE	MIN BREAKDOWN VOLTAGE $V_{(BR)} @ I_{(BR)}$		WORKING PEAK REVERSE VOLTAGE V_{RWM}	MAXIMUM STANDBY CURRENT I_D	MAX. CLAMP. VOLTAGE $V_C @ I_{PP}$ $t_p = 1ms$	MAX. PEAK PULSE CURRENT $t_p = 1ms,$ $t_r = 10\mu s$ I_{PP}	MAX. TEMP. COEFFICIENT
	Vdc	mA dc					
1500W	Vdc	mA dc	Vdc	μA_{dc}	V(pk)	A(pk)	% / °C
1N6053A	37.10	1	33.0	5	53.9	28.0	0.100
1N6054A	40.90	1	36.0	5	59.3	25.3	0.101
1N6055A	44.70	1	40.0	5	64.8	23.2	0.101
1N6056A	48.50	1	43.0	5	70.1	21.4	0.102
1N6057A	53.20	1	47.0	5	77.0	19.5	0.103
1N6058A	58.90	1	53.0	5	85.0	17.7	0.104
1N6059A	64.60	1	58.0	5	92.0	16.3	0.104
1N6060A	71.30	1	64.0	5	103.0	14.6	0.105
1N6061A	77.90	1	70.0	5	113.0	13.3	0.105
1N6062A	86.50	1	75.0	5	125.0	12.0	0.106
1N6063A	95.00	1	82.0	5	137.0	11.0	0.106
1N6064A	105.00	1	94.0	5	152.0	9.9	0.107
1N6065A	114.00	1	100.0	5	168.0	8.9	0.107
1N6066A	124.00	1	110.0	5	182.0	8.2	0.107
1N6067A	143.00	1	128.0	5	213.0	7.0	0.108
1N6068A	162.00	1	145.0	5	245.0	6.1	0.108
1N6069A	171.00	1	150.0	5	261.0	5.7	0.108
1N6070A	181.00	1	160.0	5	278.0	5.4	0.108
1N6071A	190.00	1	170.0	5	294.0	5.1	0.108
1N6072A	209.00	1	185.0	5	328.0	4.6	0.108

TECHNICAL DATA
DATA SHEET 5165 REV. A4

PACKAGE DIMENSIONS (inches/mm)



Symbol	Dimensions				Notes 1, 2
	Inches		Millimeters		
	Min	Max	Min	Max	
BD	.215	.235	5.46	5.97	
BL	.293	.357	7.44	9.07	3
BLT		.570		14.48	
CD	.045	.100	1.14	2.54	5
LD	.025	.035	0.64	0.89	
LL	1.000	1.625	25.40	41.28	
LU		.188		4.78	4

PKG: DO-13

NOTES:

1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. The major diameter is essentially constant along its length.
4. Within this zone, diameter may vary to allow for lead finishes and irregularities.
5. Dimension to allow for pinch or seal deformation anywhere along tubulation.
6. Symbol for bidirectional transient suppressor.
7. Lead 1 shall be electrically connected to the case.
8. In accordance with ASME Y14.5M, diameters are equivalent to ϕx symbology.

PART ORDERING INFORMATION

The following part numbers can be screened and tested to the military screening flow. The parts are marked in accordance with the testing performed, example:

Sensitron Screening Level	Part Number-- Leaded Package (example for 1N6041A)
1N	1N6041A
JAN	JAN1N6041A
JANTX	JANTX1N6041A
JANTXV	JANTXV1N6041A

SENSITRON **SEMICONDUCTOR**

1N6036A thru 1N6072A

1500W Transient Voltage
Suppressor Diodes

TECHNICAL DATA DATA SHEET 5165 REV. A.4

DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.