

# 1N5518BUR-1 thru 1N5546BUR-1

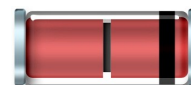
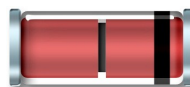


## Zener Diode Series, 500 mW

Rev. V2

### Features

- 1N5518BUR-1 - 1N5546BUR-1 Available in JAN, JANTX and JANTXV PER MIL-PRF-19500/437
- Low Reverse Leakage Characteristics
- Leadless Package for Surface Mount
- Metallurgically Bonded
- Also available in DO-35 Axial Lead Glass Package.



### Electrical Specifications: $T_A = +25^\circ\text{C}$ (unless otherwise specified)

JEDEC TYPE Number (Note 1)	Normal Zener Voltage $V_z$ @ IZT	Zener Test Current IZT	Maximum Zener Impedance B-C-D Suffix ZZT @ IZT	Maximum Reverse Leakage Current			B-C-D Suffix Maximum DC Zener Current IZM	B-C-D Suffix Maximum Noise Density @ IZ=250 mA ND	Regulation Factor $\Delta V_Z$ (Note 2)	Low VZ Current IZL
				IR	VR = Volts					
					$\mu\text{A}$	NON & A- Suffix				
Volts	mA	Ohms	$\mu\text{A}$			mA	$\mu\text{V} / \sqrt{\text{Hz}}$	Volts	mA	
1N5518BUR-1	3.3	20	26	5.0	0.90	1.0	115	0.5	0.90	2.0
1N5519BUR-1	3.6	20	24	3.0	0.90	1.0	105	0.5	0.90	2.0
1N5520BUR-1	3.9	20	22	1.0	0.90	1.0	98	0.5	0.85	2.0
1N5521BUR-1	4.3	20	18	3.0	1.0	1.5	88	0.5	0.75	2.0
1N5522BUR-1	4.7	10	22	2.0	1.5	2.0	81	0.5	0.60	1.0
1N5523BUR-1	5.1	5.0	26	2.0	2.0	2.5	75	0.5	0.65	0.25
1N5524BUR-1	5.6	3.0	30	2.0	3.0	3.5	68	1.0	0.30	0.25
1N5525BUR-1	6.2	1.0	30	1.0	4.5	5.0	61	1.0	0.20	0.01
1N5526BUR-1	6.8	1.0	30	1.0	5.5	6.2	56	1.0	0.10	0.01
1N5527BUR-1	7.5	1.0	35	0.5	6.0	6.8	51	2.0	0.05	0.01
1N5528BUR-1	8.2	1.0	40	0.5	6.5	7.5	46	4.0	0.05	0.01
1N5529BUR-1	9.1	1.0	45	0.1	7.0	8.2	42	4.0	0.05	0.01
1N5530BUR-1	10.0	1.0	60	0.05	8.0	9.1	38	4.0	0.10	0.01
1N5531BUR-1	11.0	1.0	80	0.05	9.0	9.9	35	5.0	0.20	0.01
1N5532BUR-1	12.0	1.0	90	0.05	9.5	0.8	32	10	0.20	0.01
1N5533BUR-1	13.0	1.0	90	0.01	10.5	11.7	29	15	0.20	0.01
1N5534BUR-1	14.0	1.0	100	0.01	11.5	12.6	27	20	0.20	0.01
1N5535BUR-1	15.0	1.0	100	0.01	12.5	13.5	25	20	0.20	0.01

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JEDEC TYPE Number (Note 1)	Normal Zener Voltage $V_Z$ @ IZT	Zener Test Current IZT	Maximum Zener Impedance B-C-D Suffix ZZT @ IZT	Maximum Reverse Leakage Current			B-C-D Suffix Maximum DC Zener Current IZM	B-C-D Suffix Maximum Noise Density @ IZ=250 mA ND	Regulation Factor $\Delta V_Z$ (Note 2)	Low VZ Current IZL
				IR	VR = Volts					
	Volts	mA	Ohms	$\mu\text{A}$	NON & A- Suffix	B-C-D-Suffix	mA	$\mu\text{V} / \sqrt{\text{Hz}}$	Volts	mA
1N5536BUR-1	16.0	1.0	100	0.01	13.0	14.4	24	20	0.20	0.01
1N5537BUR-1	17.0	1.0	100	0.01	14.0	15.3	22	20	0.20	0.01
1N5538BUR-1	18.0	1.0	100	0.01	15.0	16.2	21	20	0.20	0.01
1N5539BUR-1	19.0	1.0	100	0.01	16.0	17.1	20	20	0.20	0.01
1N5540BUR-1	20.0	1.0	100	0.01	17.0	18.0	19	20	0.20	0.01
1N5541BUR-1	22.0	1.0	100	0.01	18.0	19.8	17	25	0.25	0.01
1N5542BUR-1	24.0	1.0	100	0.01	20.0	21.6	16	30	0.30	0.01
1N5543BUR-1	25.0	1.0	100	0.01	21.0	22.4	15	35	0.35	0.01
1N5544BUR-1	28.0	1.0	100	0.01	23.0	25.2	14	40	0.40	0.01
1N5545BUR-1	30.0	1.0	100	0.01	24.0	27.0	13	45	0.45	0.01
1N5546BUR-1	33.0	1.0	100	0.01	28.0	29.7	12	50	0.50	0.01

1. No Suffix type numbers are +20% with guaranteed limits for only VZ, IR, and VF. Units with "A" suffix are +10% with guaranteed limits for VZ, IR, and VF. Units with guaranteed limits for all six parameters are indicated by a "B" suffix for +5.0% units, "C" suffix for +2.0% and "D" suffix for +1.0%.
2. Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of  $25^\circ\text{C} \pm 3^\circ\text{C}$ .
3. Zener impedance is derived by superimposing on IZT @ 60Hz rms a.c. current equal to 10% of IZT.
4. Reverse leakage currents are measured at VR as shown on the table.
5.  $\Delta V_Z$  is the maximum difference between VZ at IZT and VZ at IZL measured with the device junction in thermal equilibrium.

## Absolute Maximum Ratings

Parameter	Absolute Maximum
DC Power Dissipation	500 mW @ $T_L = +50^\circ\text{C}$
Forward Voltage	1.1 V @ 200 mA
DC Power Derating	10 mW / $^\circ\text{C}$ above $+125^\circ\text{C}$
Junction & Storage Temperature	$-65^\circ\text{C}$ to $+175^\circ\text{C}$

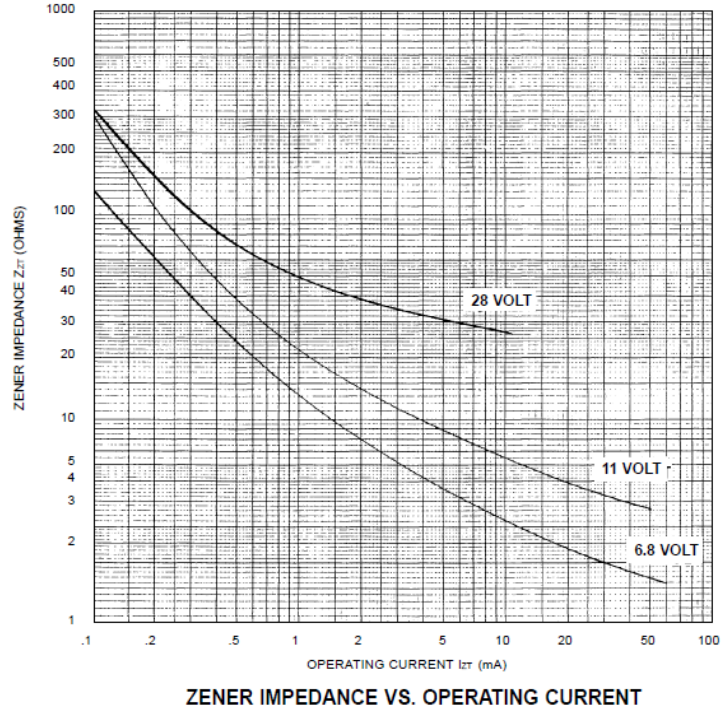
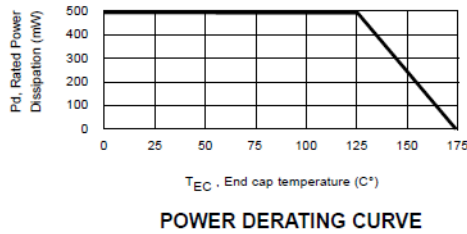
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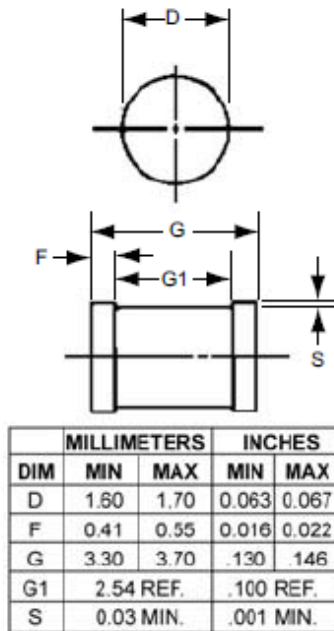
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## Graphs



## Outline Drawing



## DESIGN DATA

**CASE:** DO-213AA, Hermetically sealed glass case. (MELF, SOD-80, LL34)

**LEAD FINISH:** Tin / Lead

**THERMAL RESISTANCE:** ( $R_{\theta JEC}$ ): 100 °C/W maximum at L = 0 inch

**THERMAL IMPEDANCE:** ( $Z_{\theta JX}$ ): 25 °C/W maximum

**POLARITY:** Diode to be operated with the banded (cathode) end positive.

**MOUNTING SURFACE SELECTION:** The Axial Coefficient of Expansion (COE) Of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.

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