

- AVAILABLE IN JAN, JANTX, JANTXV AND JANS
PER MIL-PRF-19500/533
- 500 mW ZENER DIODES
- NON CAVITY CONSTRUCTION
- METALLURGICALLY BONDED

**1N6309US
THRU
1N6320US**

MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +175°C
Power Dissipation: 500 mW@T_{EC}=+125°C
Power Derating: 10 mW/°C above T_{EC}=+125°C
Forward Voltage: 1.4V dc @ I_F=1A dc (pulsed)

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

TYPE	V _{Z2} NOM. ±5% @ I _{Z2}	V _{Z1} MIN. @I _{Z1} 250μA	I _{Z2} TEST CURRENT	Z _Z @ I _{Z2}	Z _{ZK} @ 250μA	I _{ZM}	V _Z (reg) Δ V _Z (1)	I _{ZSM} SURGE	V _R	I _{R1} @ 25°C	I _{R2} @ TA= 150°C	N _D @250 μA 1-3 kHz
	VOLTS	VOLTS	mA	OHMS	OHMS	mA	VOLTS	AMPS	VOLTS	μA	μA	μV/√Hz
1N6309US	2.4	1.1	20	30	1200	177	1.5	2.5	1.0	100	200	1.0
1N6310US	2.7	1.2	20	30	1300	157	1.5	2.2	1.0	60	150	1.0
1N6311US	3.0	1.3	20	29	1400	141	1.5	2.0	1.0	30	100	1.0
1N6312US	3.3	1.5	20	24	1400	128	1.6	1.8	1.0	5.0	20	1.0
1N6313US	3.6	1.8	20	22	1400	117	1.6	1.65	1.0	3.0	12	1.0
1N6314US	3.9	2.0	20	20	1700	108	1.6	1.5	1.0	2.0	12	1.0
1N6315US	4.3	2.4	20	18	1400	99	0.9	1.4	1.0	2.0	12	1.0
1N6316US	4.7	2.8	20	16	1500	90	0.5	1.27	1.5	5.0	12	1.0
1N6317US	5.1	3.3	20	14	1300	83	0.4	1.17	2.0	5.0	12	1.0
1N6318US	5.6	4.3	20	8.0	1200	76	0.4	1.10	2.5	5.0	10	2.0
1N6319US	6.2	5.2	20	3.0	800	68	0.3	0.97	3.5	5.0	10	5.0
1N6320US	6.8	6.0	20	3.0	400	63	0.35	1.23	4.0	2.0	50	5.0

NOTE 1: Δ V_Z = V_Z @ 20 mAdc minus V_Z @ 2mAdc

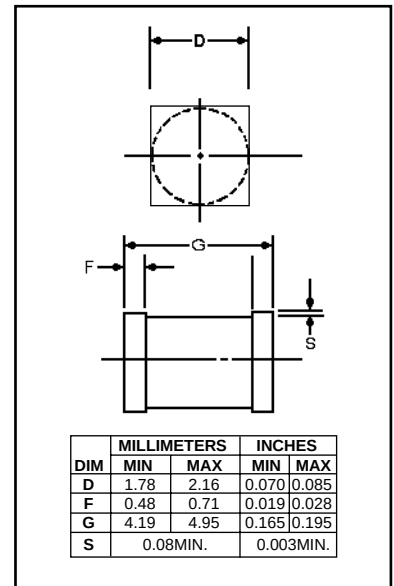


FIGURE 1

DESIGN DATA

CASE: D-5D, Hermetically sealed glass case, per MIL-PRF- 19500/533

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: (R_{ΘJC}): 50 °C/W maximum

THERMAL IMPEDANCE: (Z_{ΘJX}): 15 °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 + 4PPM / °C. The COE of the Mounting Surface System should be selected to provide a suitable match with this device.

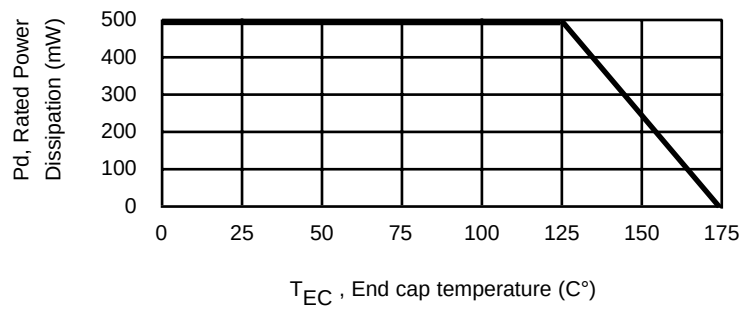


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1N6309US thru 1N6320US

FIGURE 2



POWER DERATING CURVE

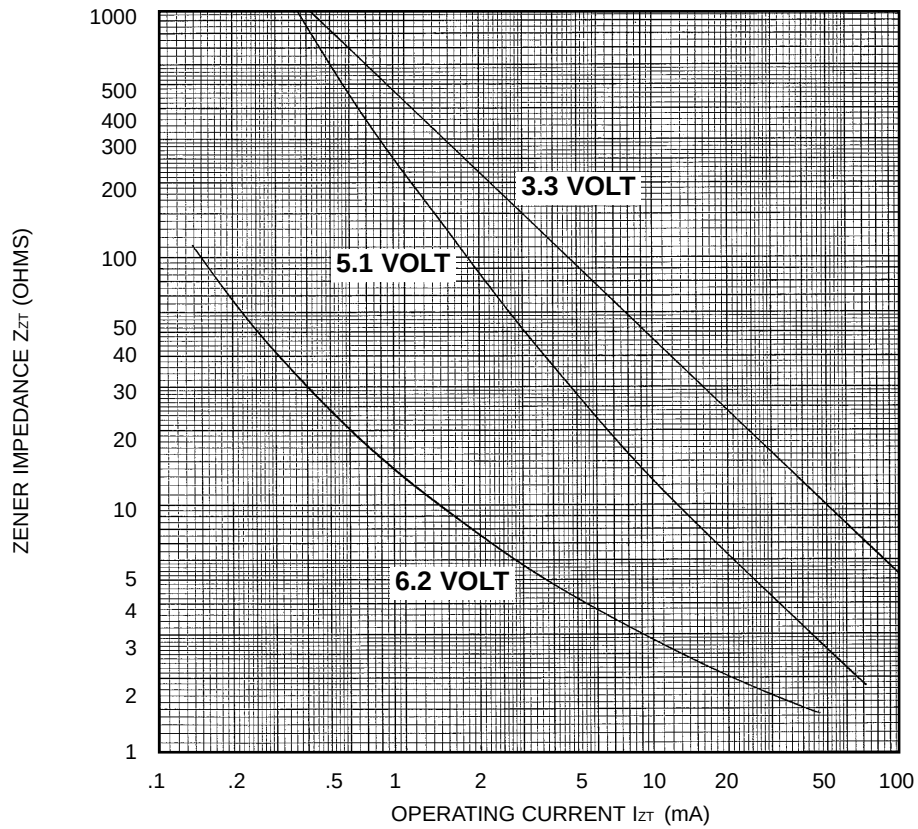


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT