

# POWER ZENERS

## 6 Watt, Military, 10 Watt Military

UZ7706L and UZ7806L SERIES  
UZ7706 and UZ7806 SERIES

4

### FEATURES

- High Surge Rating
- Small Physical Size
- Leaded and Stud Packages Available

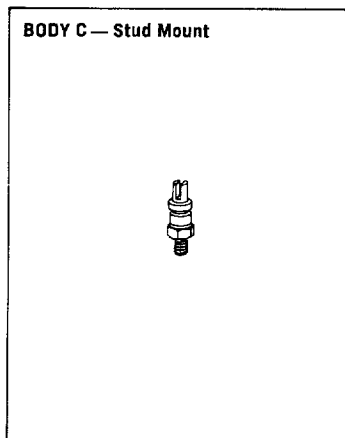
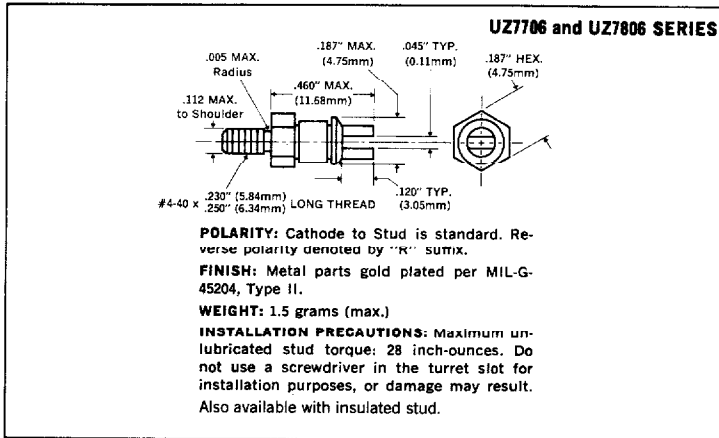
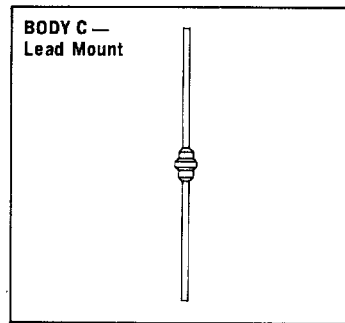
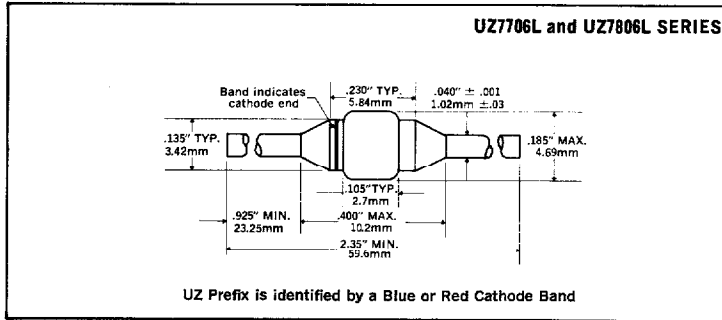
### DESCRIPTION

Fused-in-glass, metallurgically bonded  
6 watt leaded zeners and 10 watt  
stud-type zeners.

### ABSOLUTE MAXIMUM RATINGS

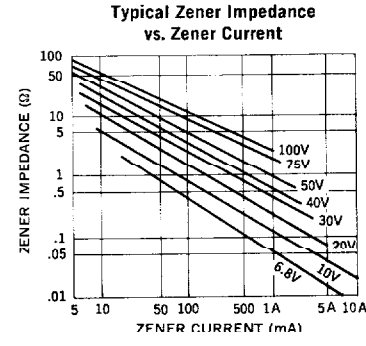
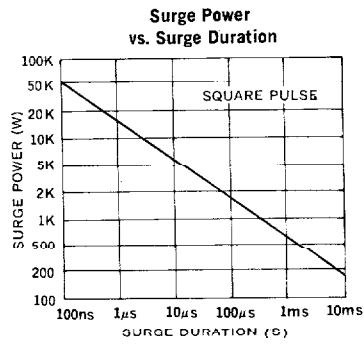
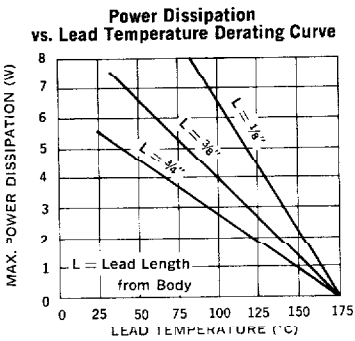
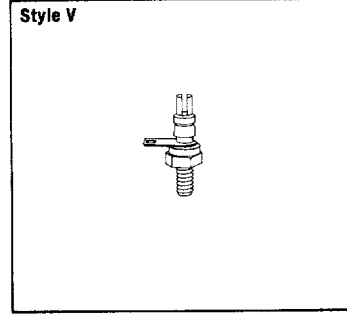
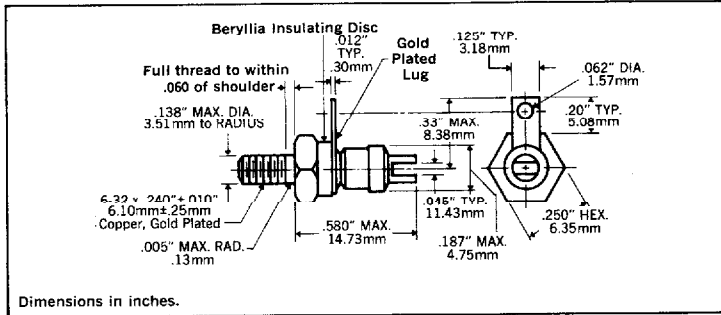
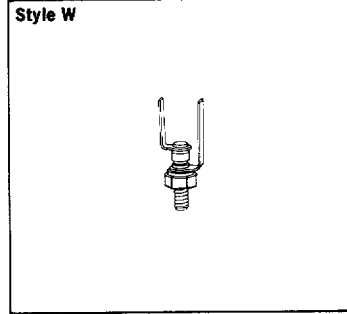
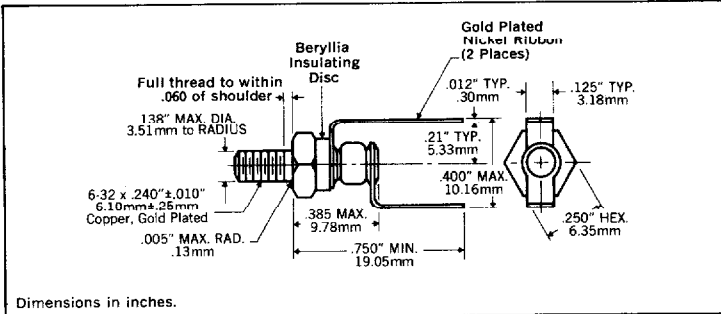
Zener Voltage, $V_z$	6.8 to 100V
Continuous Current	See Table
Surge Current (8.3ms)	See Table
Surge Power	See Graph
Power	UZ7706L & UZ7806L See Lead Temperature Derating Curve
	UZ7706 & UZ7806 @ 100°C Case 10W
Storage and Operating Temperature	-65°C to +175°C

### MECHANICAL SPECIFICATIONS



**Microsemi Corp.**  
**Watertown**  
The diode experts

**MECHANICAL SPECIFICATIONS**





Type *		Electrical Specifications at 25°C							Maximum Ratings	
		nominal Zener Voltage † V <sub>Z</sub> @ I <sub>ZT</sub>	Test Current I <sub>ZT</sub>	Max. Zener impedance § Z <sub>Z</sub> @ I <sub>ZT</sub>	Maximum Reverse Leakage Current			Typ. Temp. Coeff. T <sub>C</sub> @ I <sub>ZT</sub>	Maximum Continuous Current* I <sub>ZM</sub>	Maximum Surge Current ‡ I <sub>S</sub>
					I <sub>R</sub> @ V <sub>R</sub>	± 5% V <sub>R</sub>	± 10% V <sub>R</sub>			
±5% Tolerance	±10% Tolerance	Volts	mA	Ohms	µA	Volts	Volts	%/°C	mA	Amps
UZ7706	UZ7806	6.8	350	0.6	1000	5.2	4.9	.04	1350	50
UZ7707	UZ7807	7.5	325	0.7	800	5.7	5.4	.04	1250	41
UZ7708	UZ7808	8.2	300	0.8	200	6.2	5.9	.05	1150	31
UZ7709	UZ7809	9.1	275	1.0	150	6.9	6.6	.05	1020	29
UZ7710	UZ7810	10.0	250	1.0	100	7.6	7.2	.06	950	26
UZ7712	UZ7812	12	200	1.3	75	9.1	8.6	.07	770	23
UZ7713	UZ7813	13	200	1.5	50	9.9	9.3	.07	700	21
UZ7714	UZ7814	14	175	1.5	40	10.6	10.1	.07	640	20
UZ7715	UZ7815	15	150	2.0	30	11.4	10.8	.07	600	17
UZ7716	UZ7816	16	150	2.5	20	12.2	11.5	.07	550	15
UZ7718	UZ7818	18	130	3.5	20	13.7	12.9	.08	500	13
UZ7720	UZ7820	20	120	4.0	20	15.2	14.4	.08	440	12
UZ7722	UZ7822	22	100	4.5	20	16.7	15.8	.08	390	11
UZ7724	UZ7824	24	100	5.0	20	18.2	17.3	.08	360	10
UZ7727	UZ7827	27	90	6.0	20	20.6	19.4	.09	310	9
UZ7730	UZ7830	30	80	8	20	22.8	21.6	.090	280	8.5
UZ7733	UZ7833	33	70	10	10	25.1	23.7	.090	260	7.5
UZ7736	UZ7836	36	60	12	10	27.4	25.9	.090	240	7.0
UZ7740	UZ7840	40	60	15	10	30.4	28.8	.095	210	6.4
UZ7745	UZ7845	45	50	20	10	34.2	32.4	.095	180	5.5
UZ7750	UZ7850	50	50	22	10	38.0	36.0	.095	170	4.6
UZ7756	UZ7856	56	40	30	10	42.6	40.3	.095	160	4.1
UZ7760	UZ7860	60	40	35	10	45.6	43.2	.095	150	3.7
UZ7770	UZ7870	70	35	40	10	53.2	50.4	.095	130	3.3
UZ7775	UZ7875	75	30	45	10	56.0	54.0	.095	120	3.1
UZ7780	UZ7880	80	30	60	10	60.8	57.6	.095	110	2.9
UZ7790	UZ7890	90	25	75	10	68.4	64.8	.095	100	2.6
UZ7710	UZ7210	100	20	90	10	76.0	72.0	.100	90	2.3

For optional high reliability screening, see UZ706-UZ140HR data sheet.

Power Rating: Stud Mounted: 10 Watts at 100°C Case derate linearly to zero at 175°C Case.

Lead Mounted: See lead temperature derating curve.

Temperature Range: Operating and storage -65°C to 175°C.

- \* Specify 20% tolerance by changing the second numeral of type number from 8 to 9 (UZ7809 becomes UZ7909) or from 2 to 3 (UZ7210 becomes UZ7310). Specify leaded version by adding an L suffix (UZ7809 becomes UZ7809L).
- † All zener voltages are measured with an automated test set using a 35 msec test time. Longer or shorter test times will have a corresponding effect on the measured value due to heating effects.
- § Zener impedance is derived from the 60-cycle voltage created when AC current with RMS value of 10% of DC zener test current is superimposed on the test current.
- \* Ratings Based on 100°C Case temperature; for leaded devices multiply by 0.6.
- ‡ Figures shown are for a peak sinusoidal surge current of 8.3ms duration, non-repetitive. The 8.3ms square pulse rating is 71% of the value shown.