

- 12.8 VOLT NOMINAL ZENER VOLTAGE  $\pm 5\%$
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- LOW NOISE
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

1N4896  
thru  
1N4915A

### MAXIMUM RATINGS

Operating Temperature:  $-65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$   
Storage Temperature:  $-65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$   
DC Power Dissipation: 500mW @  $+50^{\circ}\text{C}$   
Power Derating: 4 mW /  $^{\circ}\text{C}$  above  $+50^{\circ}\text{C}$

### REVERSE LEAKAGE CURRENT

$I_R = 15 \mu\text{A}$  @  $25^{\circ}\text{C}$  &  $V_R = 8\text{Vdc}$

ELECTRICAL CHARACTERISTICS @  $25^{\circ}\text{C}$ , unless otherwise specified.

JEDEC TYPE NUMBER	TEST CURRENT	VOLTAGE TEMPERATURE STABILITY	TEMPERATURE RANGE	EFFECTIVE TEMPERATURE COEFFICIENT	MAXIMUM DYNAMIC IMPEDANCE	MAXIMUM NOISE DENSITY
	$I_{ZT}$ (Note 3)	$^3V_{ZT}$ (Note 2)				
	mA	mV	$^{\circ}\text{C}$	$\%/^{\circ}\text{C}$	OHMS	$\mu\text{V}/\sqrt{\text{Hz}}$
1N4896	0.5	96	+25 to +100	0.01	400	0.8
1N4896A	0.5	198	-55 to +100	0.01	400	0.8
1N4897	0.5	48	+25 to +100	0.005	400	0.8
1N4897A	0.5	99	-55 to +100	0.005	400	0.8
1N4898	0.5	19	+25 to +100	0.002	400	0.8
1N4898A	0.5	40	-55 to +100	0.002	400	0.8
1N4899	0.5	10	+25 to +100	0.001	400	0.8
1N4899A	0.5	20	-55 to +100	0.001	400	0.8
1N4900	1.0	96	+25 to +100	0.01	200	0.4
1N4900A	1.0	198	-55 to +100	0.01	200	0.4
1N4901	1.0	48	+25 to +100	0.005	200	0.4
1N4901A	1.0	99	-55 to +100	0.005	200	0.4
1N4902	1.0	19	+25 to +100	0.002	200	0.4
1N4902A	1.0	40	-55 to +100	0.002	200	0.4
1N4903	1.0	10	+25 to +100	0.001	200	0.4
1N4903A	1.0	20	-55 to +100	0.001	200	0.4
1N4904	2.0	96	+25 to +100	0.01	100	0.25
1N4904A	2.0	198	-55 to +100	0.01	100	0.25
1N4905	2.0	48	+25 to +100	0.005	100	0.25
1N4905A	2.0	99	-55 to +100	0.005	100	0.25
1N4906	2.0	19	+25 to +100	0.002	100	0.25
1N4906A	2.0	40	-55 to +100	0.002	100	0.25
1N4907	2.0	10	+25 to +100	0.001	100	0.25
1N4907A	2.0	20	-55 to +100	0.001	100	0.25
1N4908	4.0	96	+25 to +100	0.01	50	0.22
1N4908A	4.0	198	-55 to +100	0.01	50	0.22
1N4909	4.0	48	+25 to +100	0.005	50	0.22
1N4909A	4.0	99	-55 to +100	0.005	50	0.22
1N4910	4.0	19	+25 to +100	0.002	50	0.22
1N4910A	4.0	40	-55 to +100	0.002	50	0.22
1N4911	4.0	10	+25 to +100	0.001	50	0.22
1N4911A	4.0	20	-55 to +100	0.001	50	0.22
1N4912	7.5	96	+25 to +100	0.01	25	0.20
1N4912A	7.5	198	-55 to +100	0.01	25	0.20
1N4913	7.5	48	+25 to +100	0.005	25	0.20
1N4913A	7.5	99	-55 to +100	0.005	25	0.20
1N4914	7.5	19	+25 to +100	0.002	25	0.20
1N4914A	7.5	40	-55 to +100	0.002	25	0.20
1N4915	7.5	10	+25 to +100	0.001	25	0.20
1N4915A	7.5	20	-55 to +100	0.001	25	0.20

**NOTE 1** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .

**NOTE 2** The maximum allowable change observed over the entire temperature range, per JEDEC standard No.5.

**NOTE 3** Zener voltage range equals 12.8 volts  $\pm 5\%$ .

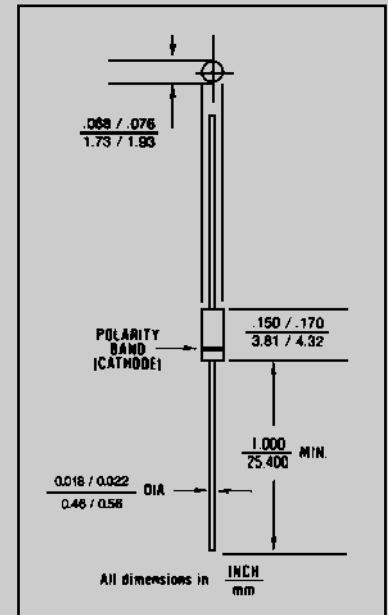


FIGURE 1

### DESIGN DATA

**CASE:** Hermetically sealed glass case. DO – 35 outline.

**LEAD MATERIAL:** Copper clad steel.

**LEAD FINISH:** Tin / Lead

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

**MOUNTING POSITION:** Any.



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# 1N4896 thru 1N4915A

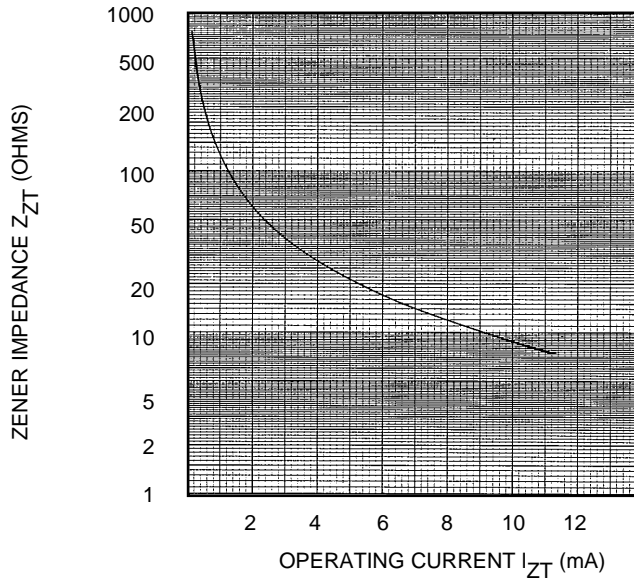


FIGURE 2

## ZENER IMPEDANCE VS. OPERATING CURRENT

CHANGE IN TEMPERATURE COEFFICIENT (%/°C)

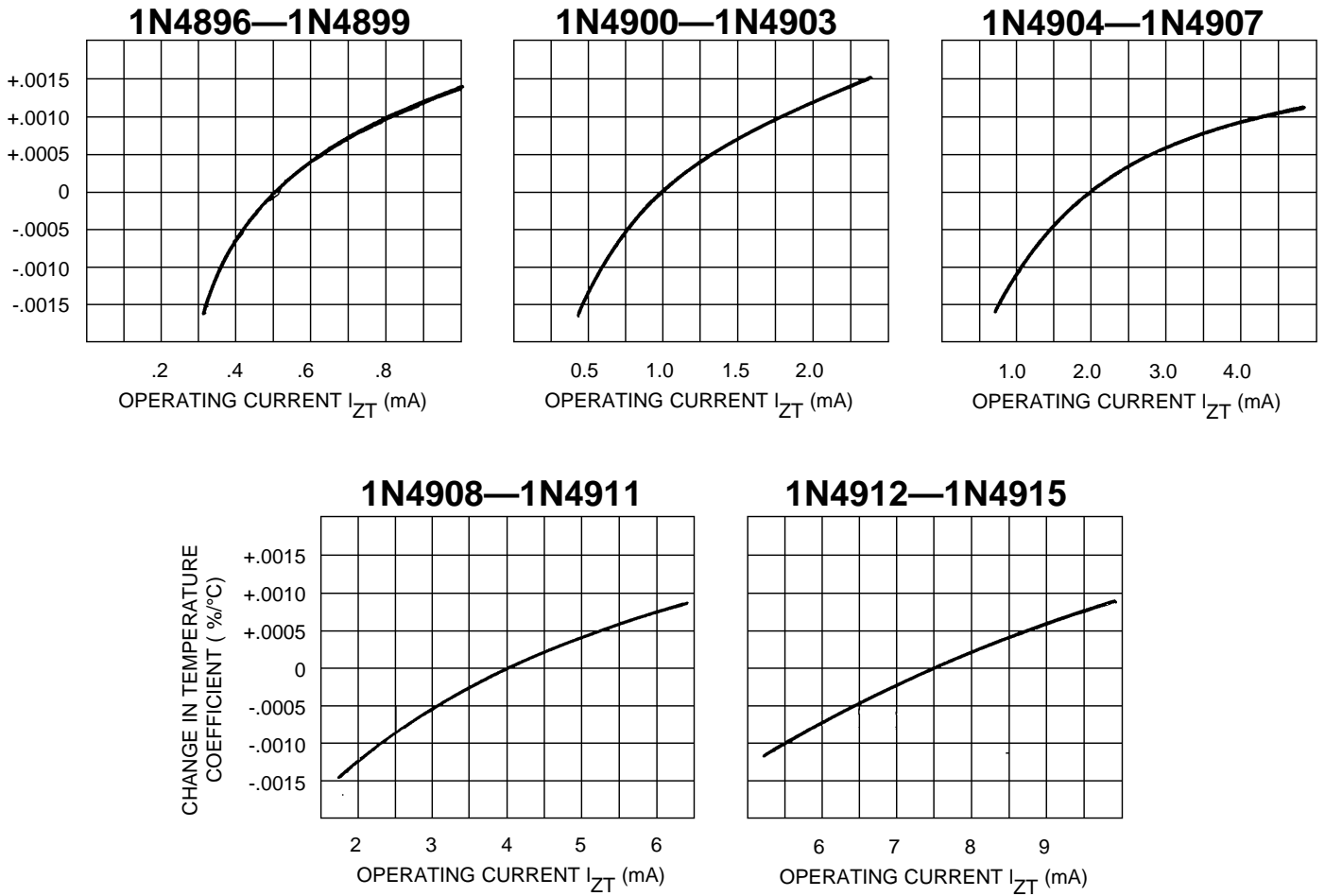


FIGURE 3

## TYPICAL CHANGE OF TEMPERATURE COEFFICIENT WITH CHANGE IN OPERATING CURRENT