

- 9.1 VOLT NOMINAL ZENER VOLTAGE  $\pm 5\%$
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- LOW CURRENT RANGE: 0.5 AND 1.0 mA
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

1N4765  
thru  
1N4774A

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
DC Power Dissipation: 500mW @ +50°C  
Power Derating: 4 mW / °C above +50°C

## REVERSE LEAKAGE CURRENT

$I_R = 10 \mu A$  @ 25°C &  $V_R = 6$  Vdc

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

JEDEC TYPE NUMBER	ZENER VOLTAGE	ZENER TEST CURRENT	MAXIMUM DYNAMIC IMPEDANCE	MAXIMUM VOLTAGE TEMPERATURE STABILITY	TEMPERATURE RANGE	EFFECTIVE TEMPERATURE COEFFICIENT
	$V_Z @ I_{ZT}$ (Note 3)	$I_{ZT}$	$Z_{ZT}$ (Note 1)	$\Delta V_{ZT}$ (Note 2)	°C	% / °C
	VOLTS	mA	OHMS	mV	°C	% / °C
1N4765	9.1	0.5	350	68	0 to +75	0.01
1N4765A	9.1	0.5	350	141	-55 to +100	0.01
1N4766	9.1	0.5	350	34	0 to +75	0.005
1N4766A	9.1	0.5	350	70	-55 to +100	0.005
1N4767	9.1	0.5	350	14	0 to +75	0.002
1N4767A	9.1	0.5	350	28	-55 to +100	0.002
1N4768	9.1	0.5	350	6.8	0 to +75	0.001
1N4768A	9.1	0.5	350	14	-55 to +100	0.001
1N4769	9.1	0.5	350	3.4	0 to +75	0.0005
1N4769A	9.1	0.5	350	7	-55 to +100	0.0005
1N4770	9.1	1.0	200	68	0 to +75	0.01
1N4770A	9.1	1.0	200	141	-55 to +100	0.01
1N4771	9.1	1.0	200	34	0 to +75	0.005
1N4771A	9.1	1.0	200	70	-55 to +100	0.005
1N4772	9.1	1.0	200	14	0 to +75	0.002
1N4772A	9.1	1.0	200	28	-55 to +100	0.002
1N4773	9.1	1.0	200	6.8	0 to +75	0.001
1N4773A	9.1	1.0	200	14	-55 to +100	0.001
1N4774	9.1	1.0	200	3.4	0 to +75	0.0005
1N4774A	9.1	1.0	200	7	-55 to +100	0.0005

**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 i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard No.5.

**NOTE 3** Zener voltage range equals 9.1 volts  $\pm 5\%$ .

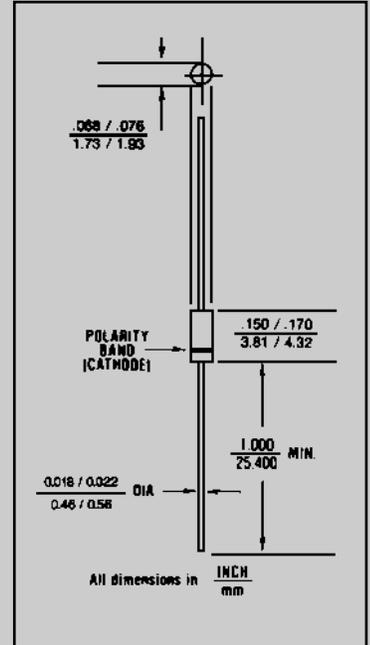


FIGURE 1

## DESIGN DATA

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

**LEAD MATERIAL:** Copper clad steel.

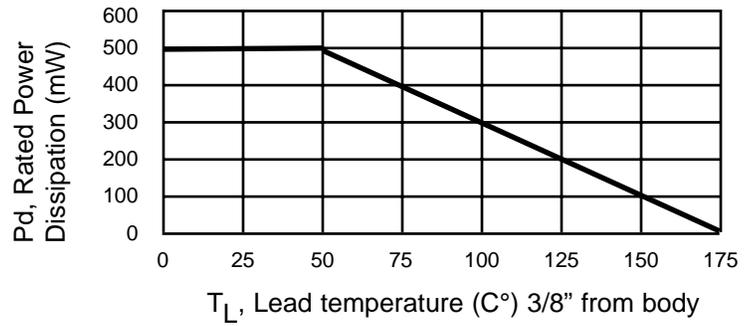
**LEAD FINISH:** Tin / Lead

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

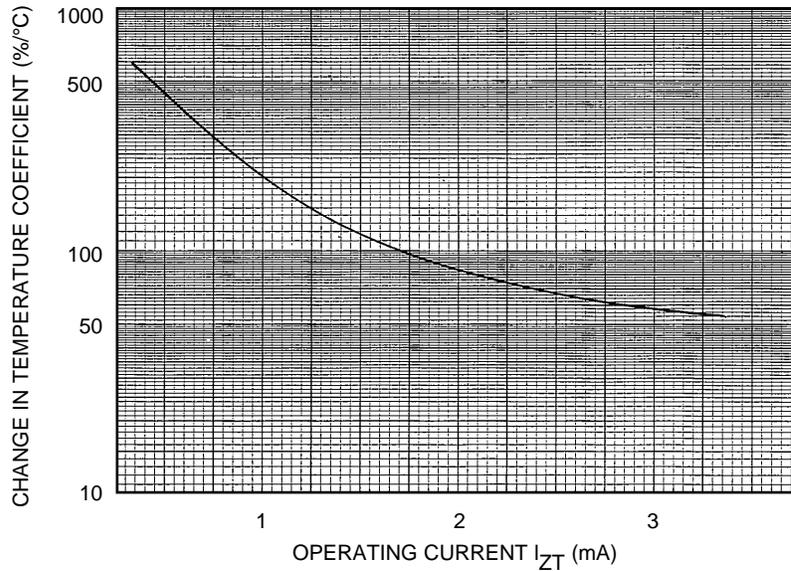
**MOUNTING POSITION:** ANY.



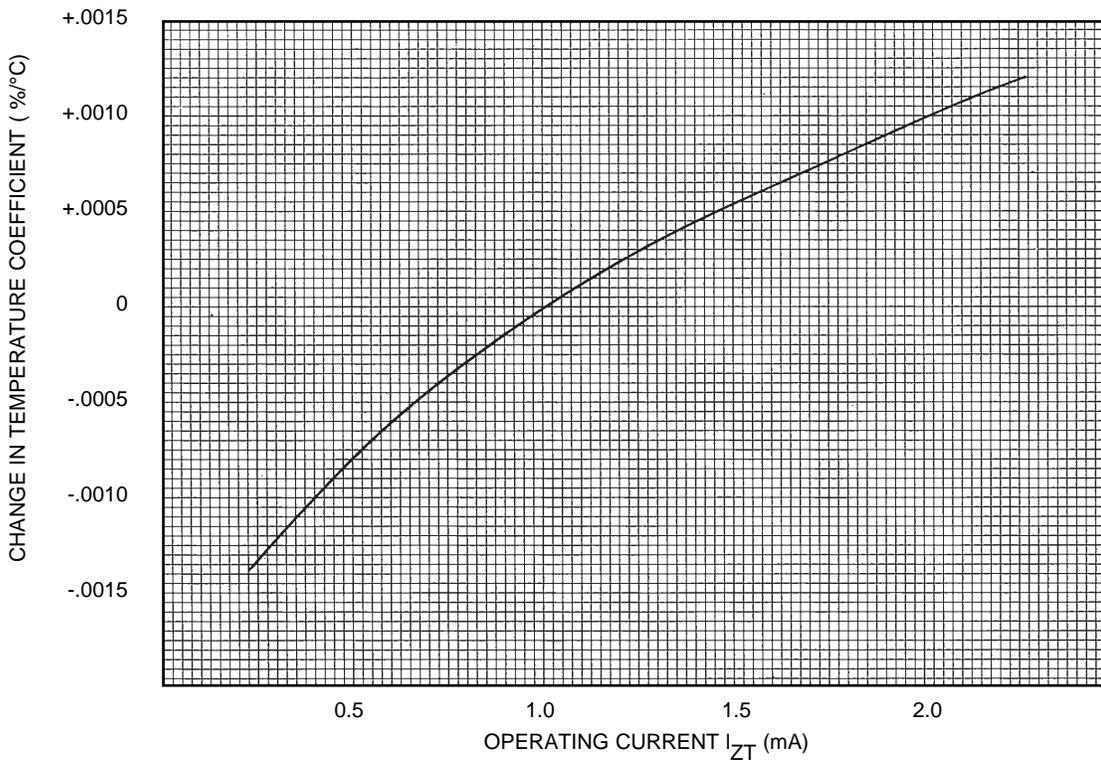
# 1N4765 thru 1N4774A



**FIGURE 2  
POWER DERATING CURVE**



**FIGURE 3  
ZENER IMPEDANCE VS. OPERATING CURRENT**



**FIGURE 4  
TYPICAL CHANGE OF TEMPERATURE COEFFICIENT  
WITH CHANGE IN OPERATING CURRENT**