DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

1N4765(A)-1N4774(A)

TEMPERATURE COMPENSATED ZENER DIODES

FEATURES

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding “-PBF” suffix.

MAXIMUM RATINGS

Characteristics	Values
Operating and storage temperature	-65 to +175°C
DC power dissipation	500mW @ 50°C
Power derating	4mW/°C above 50°C

I_R = 10µA @ 25°C and V_R = 6V

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Part 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}	ΔZ_{ZT} (Note 1)	V_{ZT} (Note 2)		
	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

1. Zener impedance is derived by superimposing on I_{ZT} a 60Hz rms ac current equal to 10% of I_{ZT}
2. The maximum allowable change observed over the entire temperature range will not exceed the specified mV at any discrete temperature between the established limits
3. Zener voltage range equals 9.1 volts ±5%

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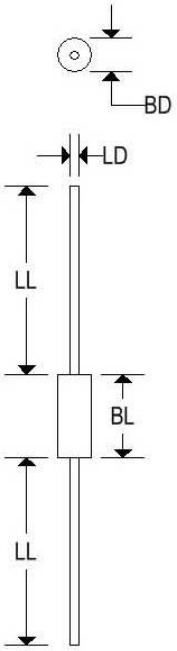
MECHANICAL CHARACTERISTICS

Case:	DO-35
Marking:	Body painted, alpha-numeric
Polarity:	Cathode band



	DO-35			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.055	0.090	1.400	2.290
BL	0.120	0.200	3.050	5.080
LD	0.018	0.022	0.460	0.560
LL	1.000	1.500	25.400	38.100

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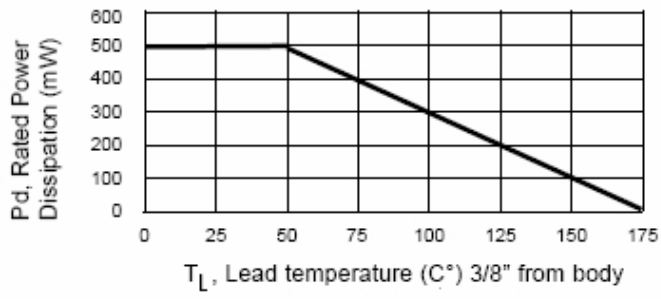
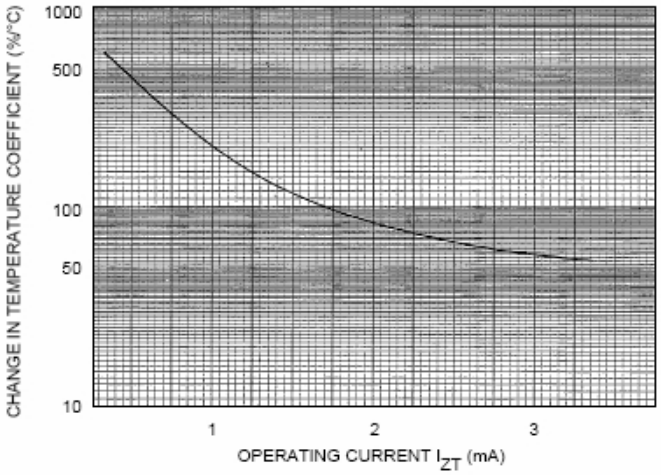


POWER DERATING CURVE



ZENER IMPEDANCE VS. OPERATING CURRENT

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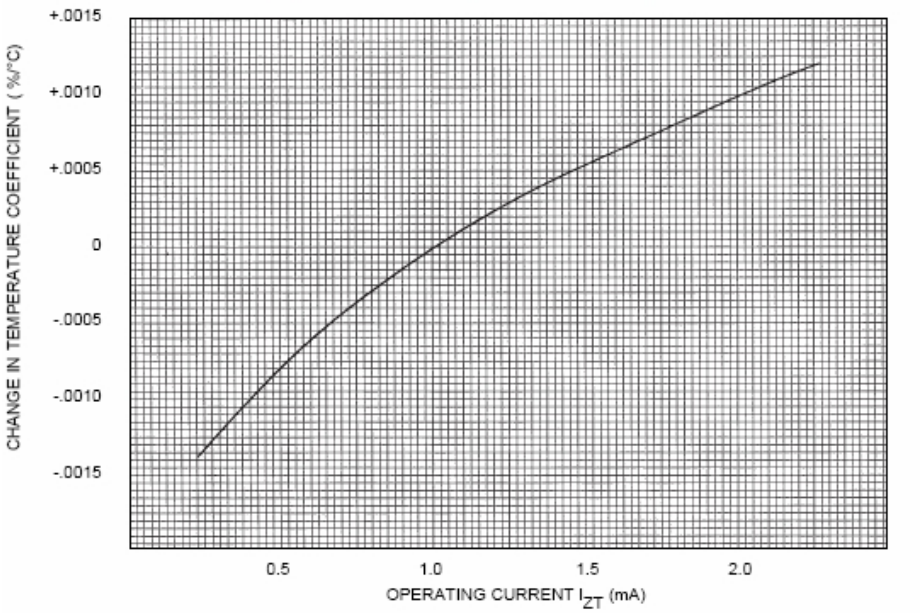

TYPICAL CHANGE OF TEMPERATURE COEFFICIENT WITH CHANGE IN OPERATING CURRENT

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TEMPERATURE COMPENSATED ZENER DIODES

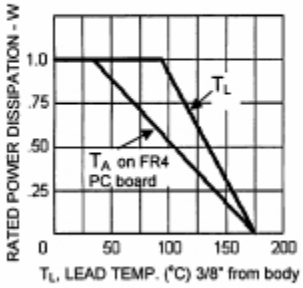

FIGURE 1
Power Derating Curve

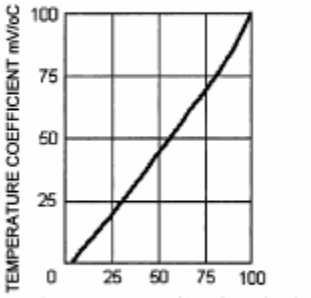

FIGURE 2
Temp. Coeff. vs. Zener Voltage

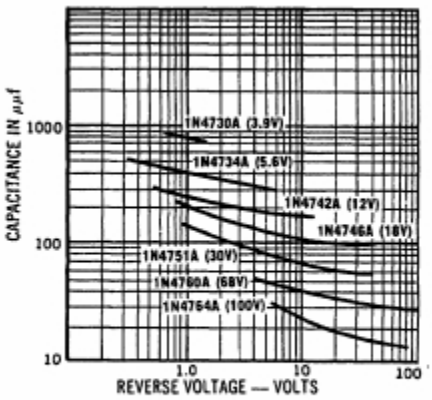

FIGURE 3
Capacitance vs. Voltage
for Representative Types