

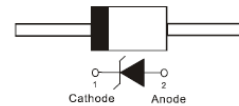
1W Zener Diodes

Features

- 1W Power Dissipation
- Built-in Strain Relief
- Low Inductance
- High Stability
- Zener Voltage from 3.3V to 75V
- High temperature soldering guaranteed: 260°C/10 seconds
/.037" (9.5mm) lead length,
- RoHS Compliance



DO-41(G)



Mechanical Data

Case:	DO-41(G), Glass
Terminals:	Axial leads, solderable per MIL-STD-202, Method 208
Weight:	0.012 ounce, 0.3 gram

Maximum Ratings *(T_{Ambient}=25°C unless noted otherwise)*

Symbol	Description	Value	Unit	Conditions
P_D	Power Dissipation above 25°C	1	W	
V_F	Forward Voltage	1.2	V	I _F =0.1 A
T_J	Max. Junction Temperature	150	°C	
T_{STG}	Storage Temperature Range	-65 to +150	°C	

1W Zener Diodes

1N4728A - 1N4761A

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

P/N	Nominal Zener Voltage				Maximum Zener Impedance			Maximum Reverse Leakage Current	
	$V_Z @ I_{ZT}$				$Z_{ZT} @ I_{ZT}$	$Z_{zk} @ I_{zk}$		$I_R @ V_R$	
	Nom. V_Z	Min. V_Z	Max. V_Z	I_{ZT} (mA)	Ω	Ω	mA	μA	V_R
1N4728A	3.3	3.14	3.47	76	10	400	1.0	100	1.0
1N4729A	3.6	3.42	3.78	69	10	400	1.0	100	1.0
1N4730A	3.9	3.71	4.10	64	9	400	1.0	50	1.0
1N4731A	4.3	4.09	4.52	58	9	400	1.0	10	1.0
1N4732A	4.7	4.47	4.94	53	8	500	1.0	10	1.0
1N4733A	5.1	4.85	5.36	49	7	550	1.0	10	1.0
1N4734A	5.6	5.32	5.88	45	5	600	1.0	10	2.0
1N4735A	6.2	5.89	6.51	41	2	700	1.0	10	3.0
1N4736A	6.8	6.46	7.14	37	3.5	700	1.0	5	4.0
1N4737A	7.5	7.13	7.88	34	4.0	700	0.5	5	5.0
1N4738A	8.2	7.79	8.61	31	4.5	700	0.5	5	6.0
1N4739A	9.1	8.65	9.56	28	5	700	0.5	0.5	7.0
1N4740A	10	9.50	10.50	25	7	700	0.25	0.5	7.6
1N4741A	11	10.45	11.55	23	8	700	0.25	0.1	8.4
1N4742A	12	11.40	12.60	21	9	700	0.25	0.1	9.1
1N4743A	13	12.35	13.65	19	10	700	0.25	0.1	9.9
1N4744A	15	14.25	15.75	17	14	700	0.25	0.1	11.4
1N4745A	16	15.20	16.80	15.5	16	700	0.25	0.1	12.2
1N4746A	18	17.10	18.90	14	20	750	0.25	0.1	13.7
1N4747A	20	19.00	21.00	12.5	22	750	0.25	0.1	15.2
1N4748A	22	20.90	23.10	11.5	23	750	0.25	0.1	16.7
1N4749A	24	22.80	25.20	10.5	25	750	0.25	0.1	18.2
1N4750A	27	25.65	28.35	9.5	35	750	0.25	0.1	20.6
1N4751A	30	28.50	31.50	8.5	40	1000	0.25	0.1	22.8
1N4752A	33	31.35	34.65	7.5	45	1000	0.25	0.1	25.1
1N4753A	36	34.20	37.80	7.0	50	1000	0.25	0.1	27.4
1N4754A	39	37.05	40.95	6.5	60	1000	0.25	0.1	29.7
1N4755A	43	40.85	45.15	6.0	70	1500	0.25	0.1	32.7

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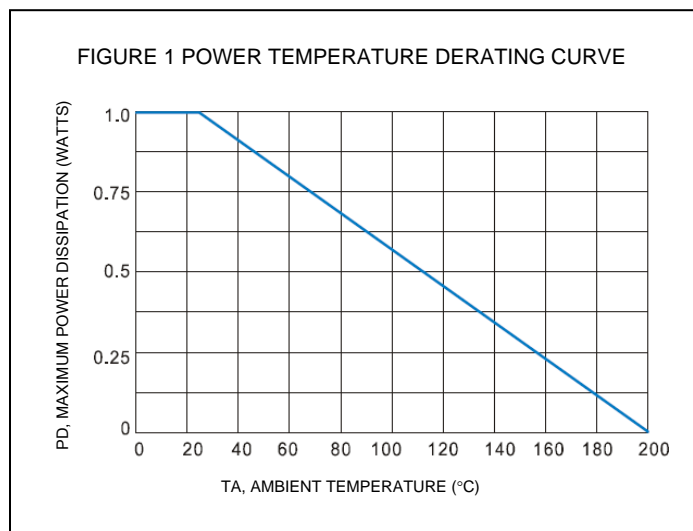
1N4728A - 1N4761A

P/N	Nominal Zener Voltage				Maximum Zener Impedance			Maximum Reverse Leakage Current	
	$V_Z @ I_{ZT}$				$Z_{ZT} @ I_{ZT}$	$Z_{zk} @ I_{zk}$		$I_R @ V_R$	
	Nom. V_Z	Min. V_Z	Max. V_Z	I_{ZT} (mA)	Ω	Ω	mA	μA	V_R
1N4756A	47	44.65	49.35	5.5	80	1500	0.25	0.1	35.8
1N4757A	51	48.45	53.55	5.0	95	1500	0.25	0.1	38.8
1N4758A	56	53.20	58.80	4.5	110	2000	0.25	0.1	42.6
1N4759A	62	58.90	65.10	4.0	125	2000	0.25	0.1	47.1
1N4760A	68	64.60	71.40	3.7	150	2000	0.25	0.1	51.7
1N4761A	75	71.25	78.75	3.3	175	2000	0.25	0.1	56.0

Note:

1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal Zener voltage of $\pm 5\%$
2. Specials Available Include:
 - A. Nominal Zener voltages between the voltages shown and tighter voltage tolerances.
 - B. Matched sets.
3. Zener Voltage (V_Z) Measurement. Guarantees the Zener voltage when measured at 90 seconds while maintaining the lead temperature (T_L) $30^\circ C \pm 1^\circ C$ from the diode body.
4. Zener Impedance (Z_Z) derivation. The Zener impedance is derived from the 60 cycle ac voltage, which results an ac current having an rms value equal to 10% of the dc Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}
5. Surge Current (I_R) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of $\frac{1}{2}$.

Characteristics Curves



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1N4728A - 1N4761A

FIGURE 2 TEMPERATURE COEFFICIENTS
(-55°C TO 150 °C TEMPERATURE RANGE; 90% OF THE UNITS ARE IN THE RANGES INDICATED.)

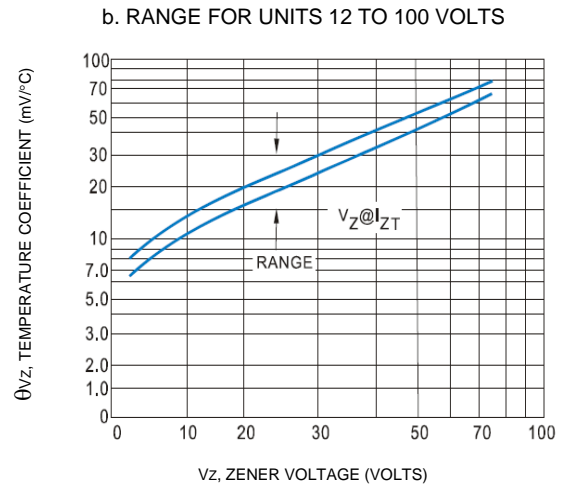
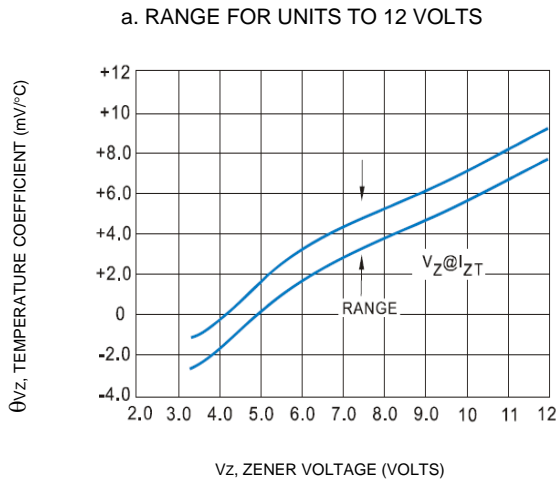


FIGURE 3 TYPICAL RESISTANCE VERSUS LEAD LENGTH

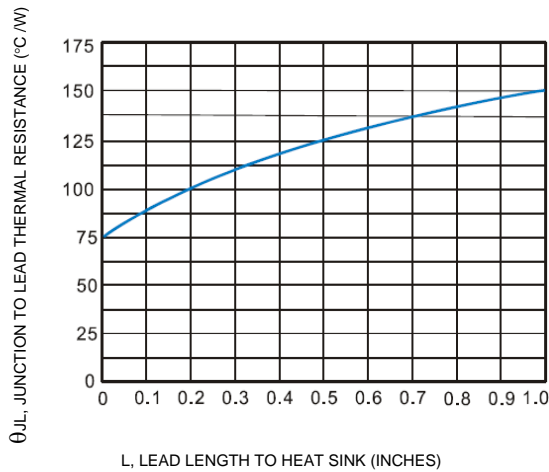
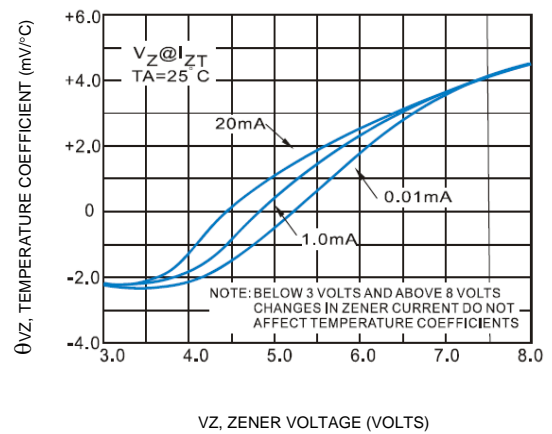


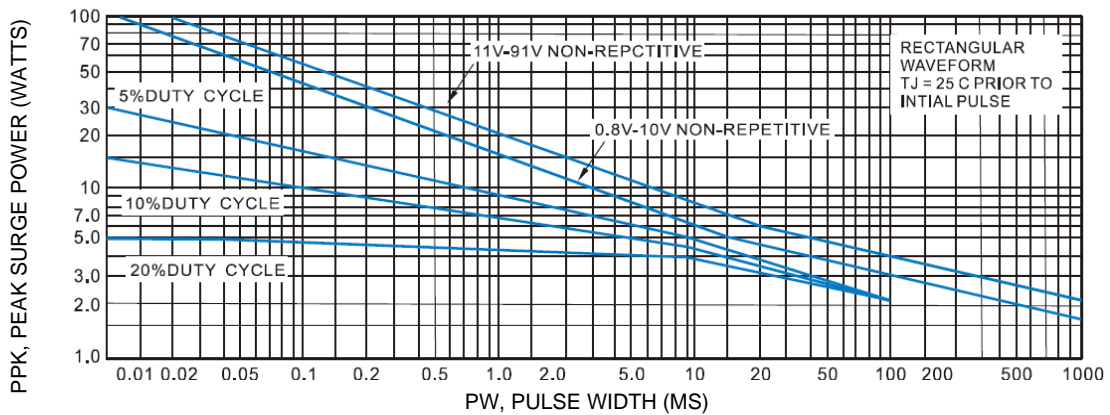
FIGURE 4 EFFECT OF ZENER CURRENT



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FIGURE 5 MAXIMUM SURGE POWER



This graph represents 90% data points
For worst-case design characteristics, multiply surge power by 2/3

FIGURE 6 EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE

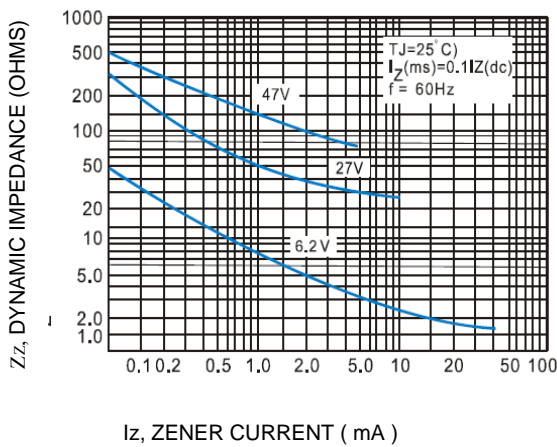
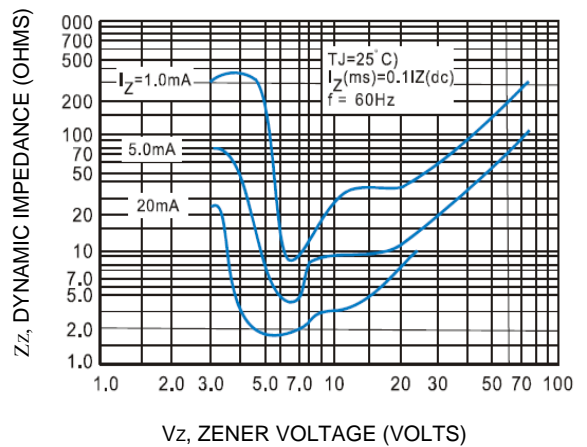


FIGURE 7 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE



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1N4728A - 1N4761A

FIGURE 8 TYPICAL LEAKAGE CURRENT

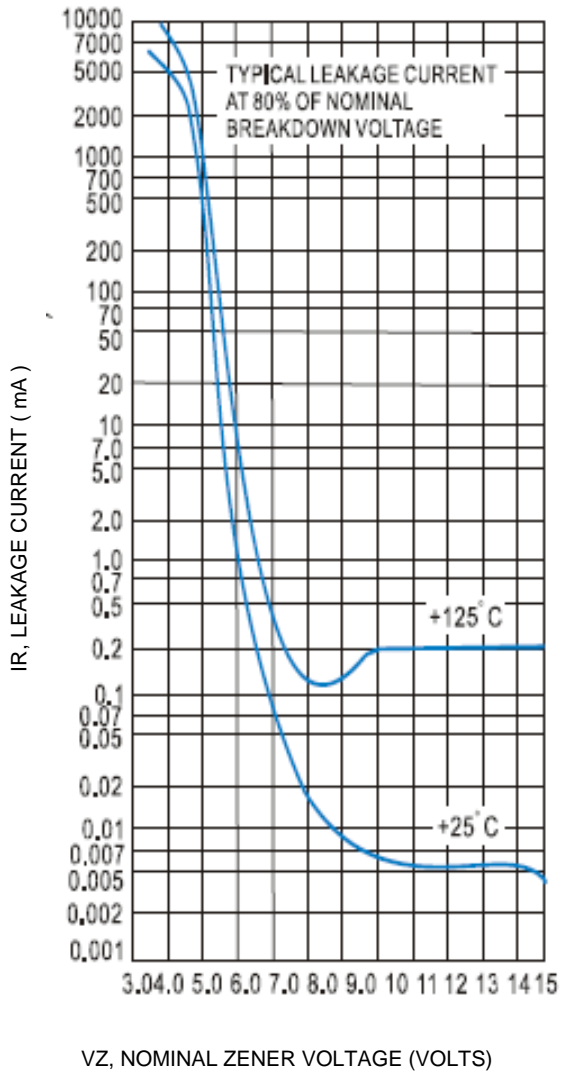


FIGURE 9 TYPICAL CAPACITANCE VERSUS V_Z

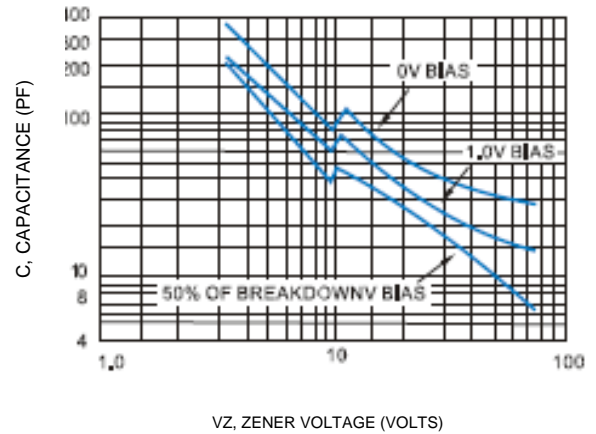
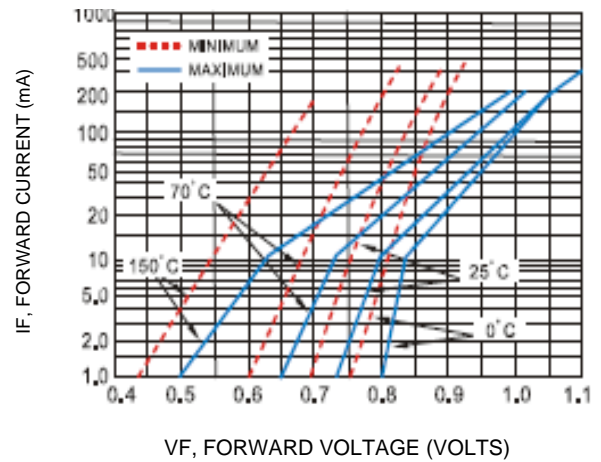


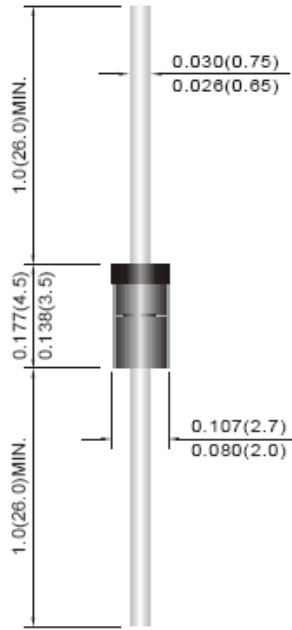
FIGURE 10 TYPICAL FORWARD CHARACTERISTICS



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1N4728A - 1N4761A

Dimensions in inches (mm)



DO-41(G)

Ordering Information

1N4728 A - xx - TR40



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