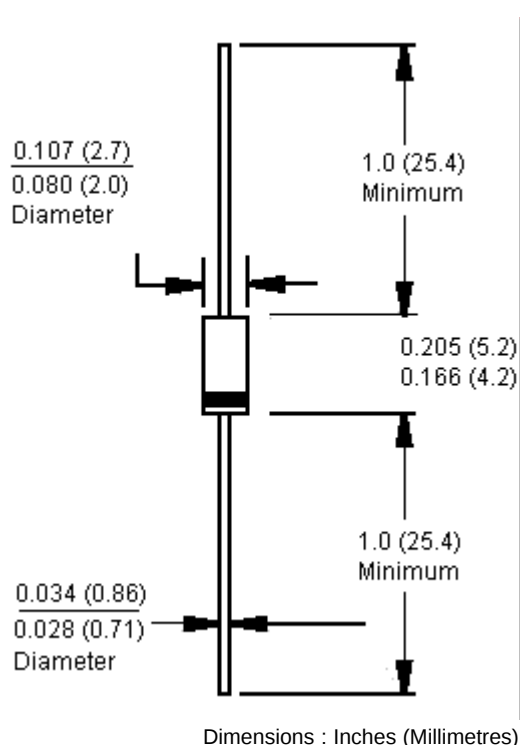


Features:

- Low profile package.
- Built-in strain relief.
- Glass passivated junction.
- Low inductance.
- Typical I_R less than 5.0 μ A above 11V.
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Plastic package has underwriters laboratory flammability classification 94V-0

DO-41



Mechanical Data

Case	: Moulded plastic DO-41.
Lead	: Pure tin plated lead free, solderable per MIL-STD-202, Method 2025.
Polarity	: Color band denotes cathode end.
Mounting position	: Any.
Weight	: 0.012 ounces, 0.3 gram.

1N47- Series



Maximum Ratings and Electrical Characteristics

Rating at 25°C Ambient Temperature Unless Otherwise Specified.

Type Number	Symbol	Value	Units
Peak Power Dissipation at $T_A = 50^\circ\text{C}$, Derate above 50°C (Note 1)	P_D	1.0 6.67	Watts mW/°C
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 2)	I_{FSM}	10.0	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

- Notes : 1. Mounted on 5.0mm² (0.013mm thick) land areas.
2. Measured on 8.3ms single half sine-wave or equivalent square wave,
duty cycle = 4 pulses per minute maximum.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

$V_F = 1.2\text{V}$ maximum, $I_F = 200\text{mA}$ for all types.

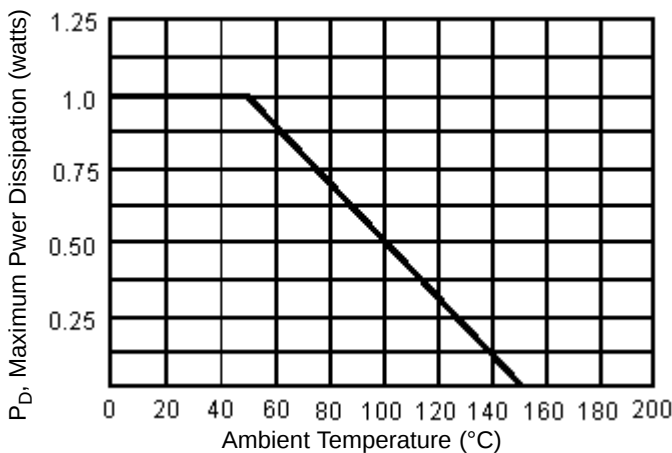
Power (Watt)	Zener Voltage V _Z at I _{ZT} Voltage			Test Current I _{ZT} mA	Maximum Zener Impedance (Note 4)		Leakage Current		Surge Current at T _A = 25°C I _r = mA (Note 5)	Part Number	
	Nom.				Z _{ZT} at I _{ZT} Ohms	Z _{ZK} at I _{ZK}		I _R @ V _R			
	(Notes 2 & 3)	Minimum	Maximum			Ohms	mA	uA Maximum			Volts
1	12	11.40	12.60	21	9	700	0.25	5.0	9.1	380	1N4742A
	13	12.35	13.65	19	10				9.9	344	1N4743A
	15	14.25	15.75	17	14				11.4	3.4	1N4744A
	16	15.20	16.80	15.5	16				12.2	285	1N4745A
	18	17.10	18.90	14.0	20	750			13.7	250	1N4746A
	20	19.00	21.00	12.5	22				15.2	225	1N4747A
	22	20.90	23.10	11.5	23				16.7	205	1N4748A
	24	22.80	25.20	10.5	25				18.2	190	1N4749A
	27	25.65	28.35	9.5	35	1000			20.6	170	1N4750A
	30	28.50	31.50	8.5	40				22.8	150	1N4751A
	33	31.35	34.65	7.5	45				25.1	135	1N4752A
	36	34.20	37.80	7.0	50				27.4	125	1N4753A
	47	44.65	49.35	5.5	80	1500			35.8	95	1N4756A
	51	48.45	53.55	5.0	95				38.8	90	1N4757A
	56	53.20	58.80	4.5	110	2000			42.6	80	1N4758A
	68	64.60	71.40	3.7	150				51.7	65	1N4760A
	75	71.25	78.75	3.3	175				56.0	60	1N4761A
	100	95.00	105.0	2.5	350				3000	76.0	45



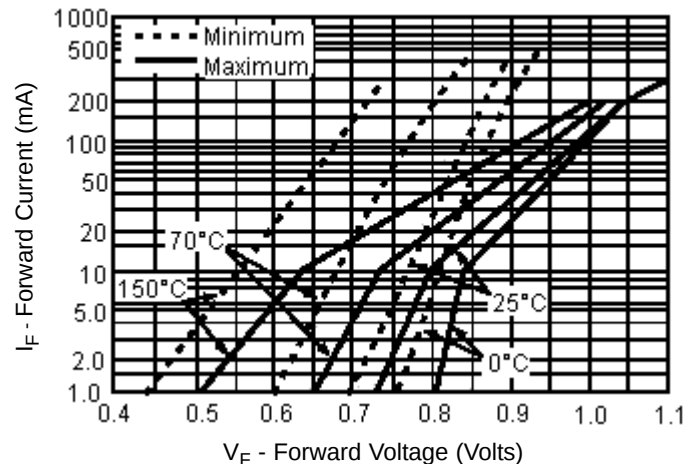
- Notes
- 1: Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$.
 - 2: Specials Available Include:
 - A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
 - B. Matched sets.
 - 3: Zener Voltage (VZ) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (TL) at $30\text{C} \pm 1\text{C}$, from the diode body.
 - 4: Zener Impedance (ZZ) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an accurate having and rms value equal to 10% of the dc zener current (IZT or IZK) is superimposed on IZT or IZK.
 - 5: Surge Current (Ir) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, IZT, per JEDEC registration; however, actual device capability is as described.

Ratings and Characteristics Curves (1N4742A thru 1N4753A, 1N4756A thru 1N4758A, 1N4760A, 1N4761A and 1N4764A

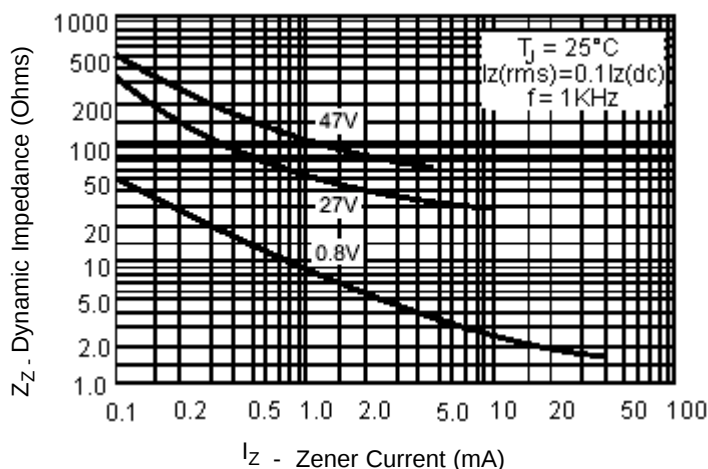
Power Temperature Derating Curve



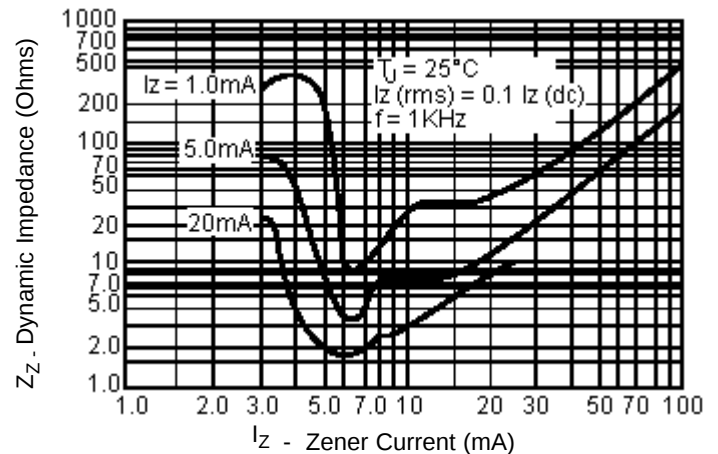
Typical Forward Characteristics



Effect of Zener Current on Zener Impedance



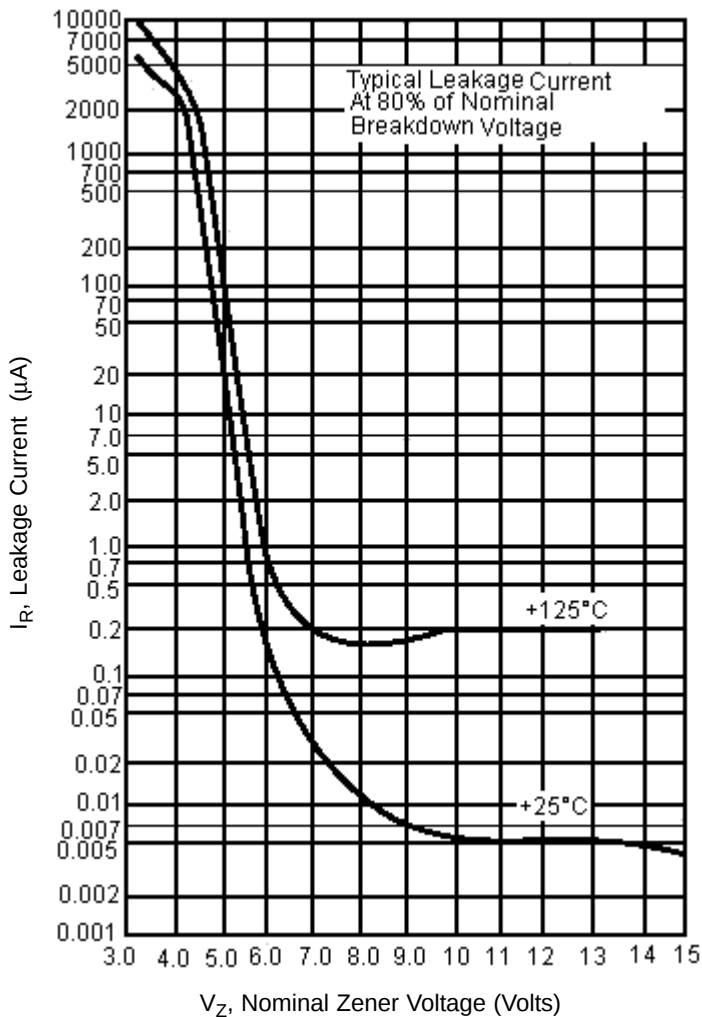
Effect of Zener Voltage on Zener Impedance



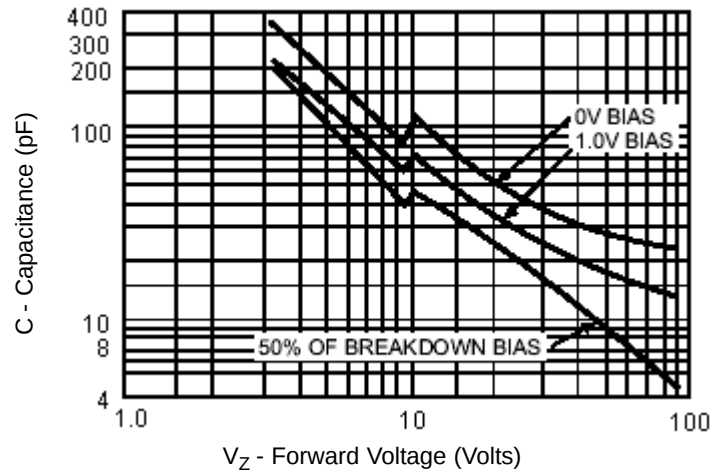
1N47- Series



Typical Leakage Current

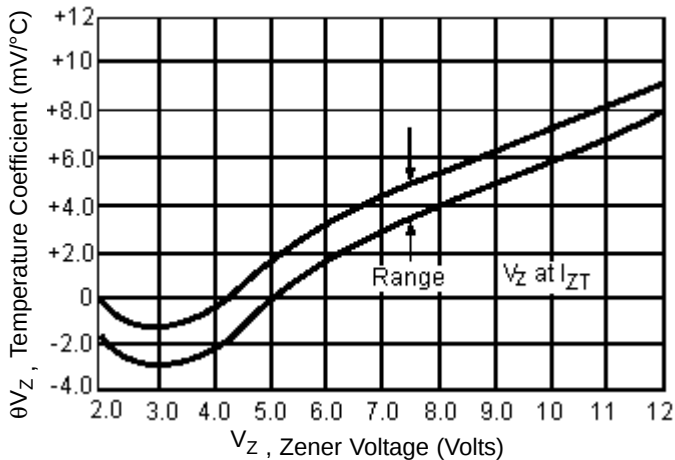


Typical Capacitance versus V_Z



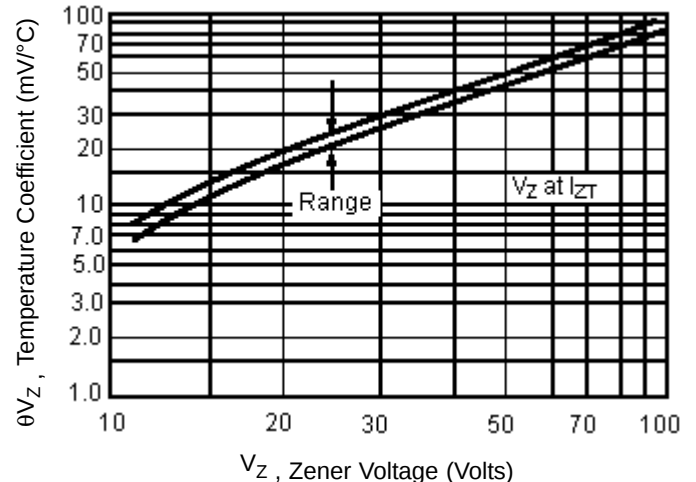
Temperature Coefficients

a - Range for Units to 12 Volts

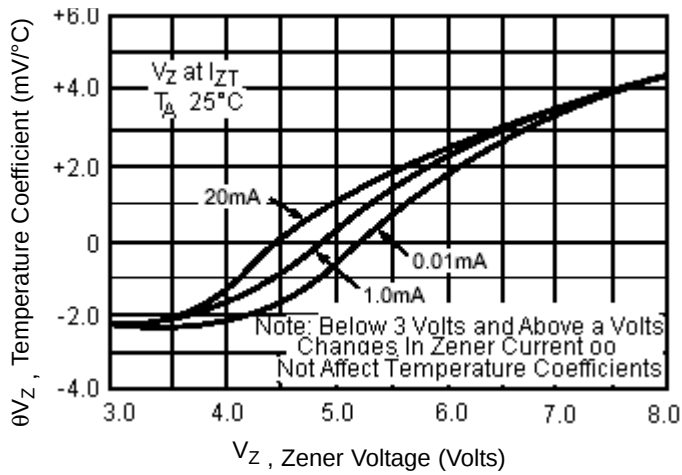


Temperature Coefficients

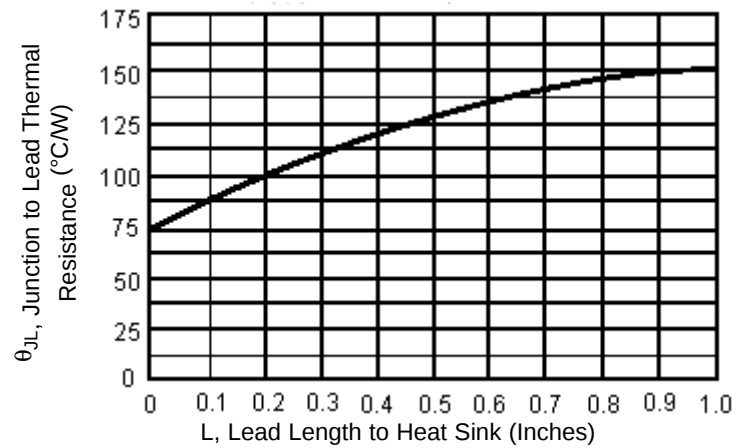
b - Range for Units to 12 to 100 Volts



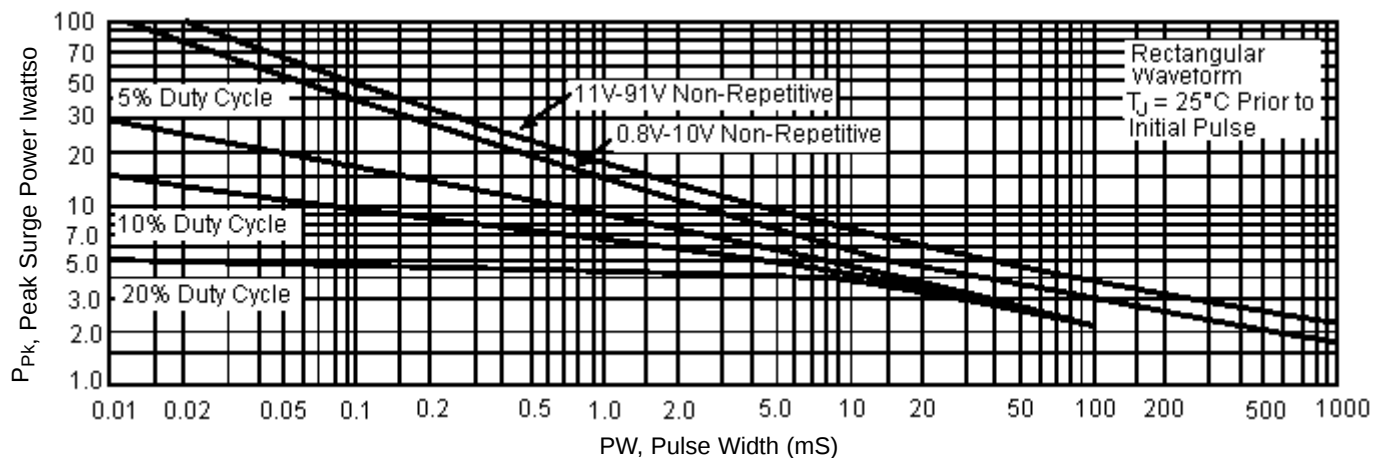
Effect of Zener Current



Typical Thermal Resistance versus Lead Length



Maximum Surge Power



Notes:

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