

# 1. DATA SHEET

## 1N4728A~1N4764A

### GLASS PASSIVATED JUNCTION SILICON ZENER DIODE

**VOLTAGE** 3.3 to 100 Volts **POWER** 1.0 Watts

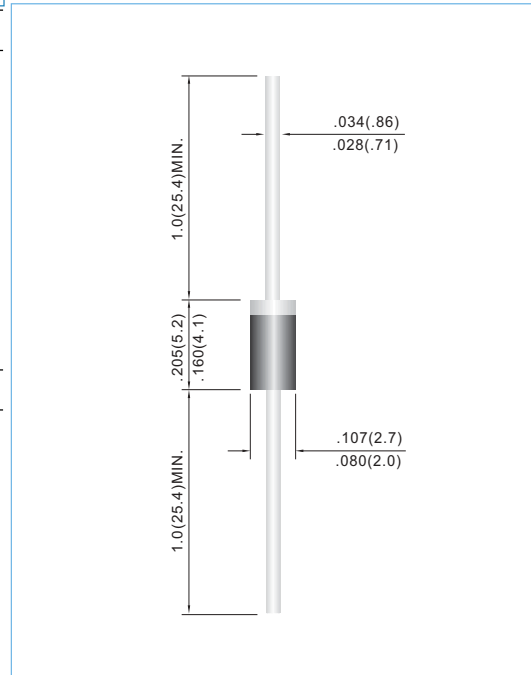
**DO-41/DO-41G** Unit: inch(mm)

#### FEATURES

- Low profile package
- Built-in strain relief
- Low inductance
- High temperature soldering : 260°C /10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

#### MECHANICAL DATA

- Case: Molded Glass DO-41G / Molded plastic DO-41
- Epoxy:UL 94V-O rate flame retardant
- Terminals: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes positive end
- Mounting position:Any
- Weight: 0.012 ounce, 0.3 gram
- Ordering information :  
Suffix : " -G " to order Molded Glass Package  
Suffix : " -P " to order Molded plastic Package
- Packing information  
B - 1K per Bulk box  
T/R - 5K per 13" paper Reel  
T/B - 2.5K per horiz. tape & Ammo box



Note :  
This outline drawing is model plastics.  
Its appearance size same as glass.

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Units
Power Dissipation at $T_{amb} = 25^\circ C$	$P_{TOT}$	1*	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ C$

\*Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance Junction to Ambient Air	$R_{thA}$	—	—	170*	$K/W$
Forward Voltage at $I_F = 200mA$	$V_F$	—	—	1.2	V

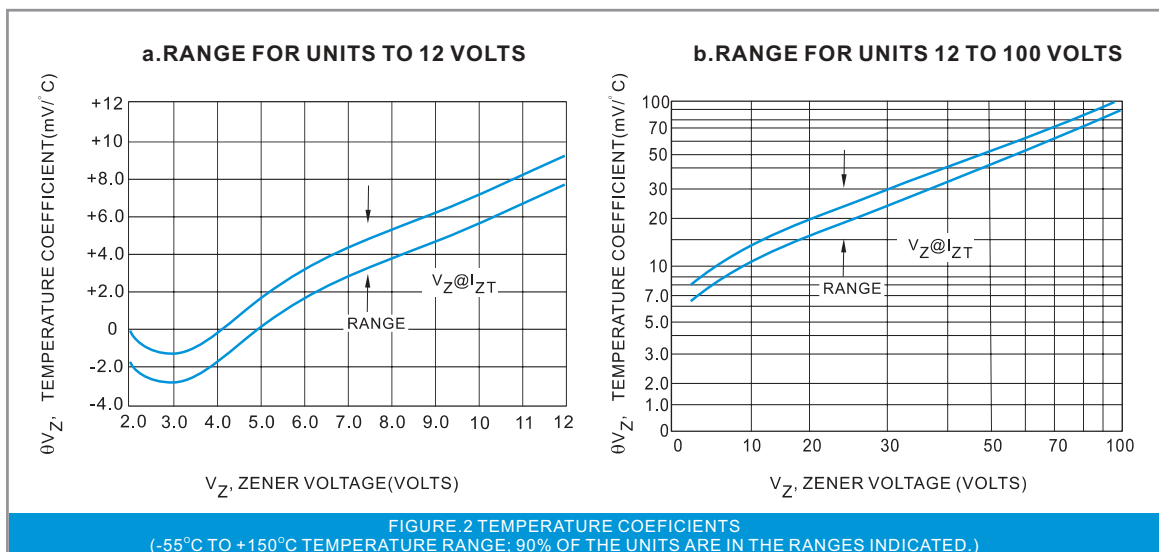
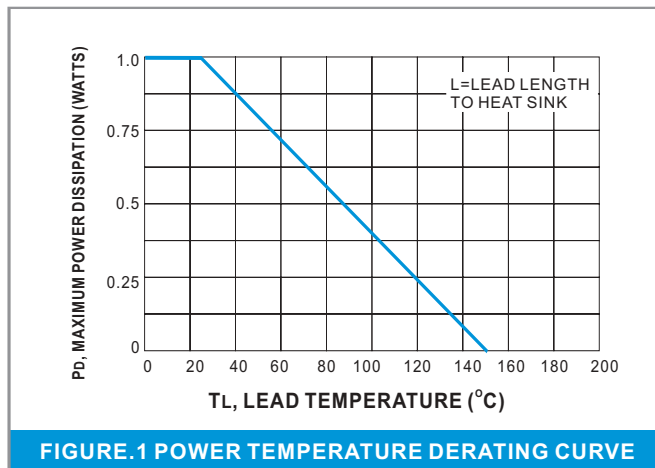
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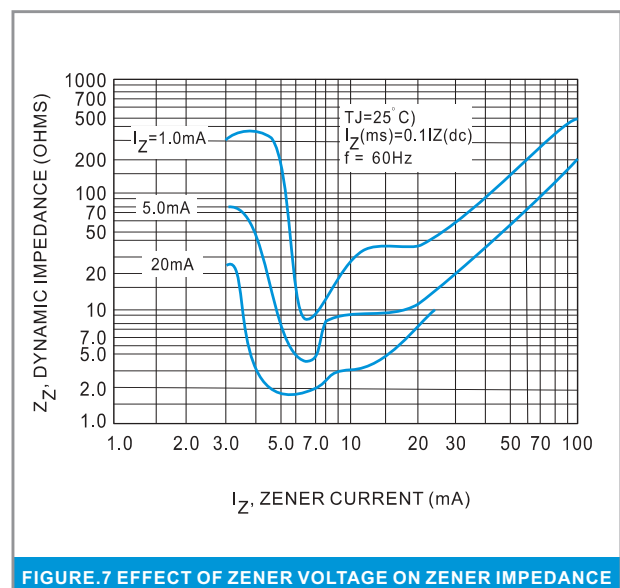
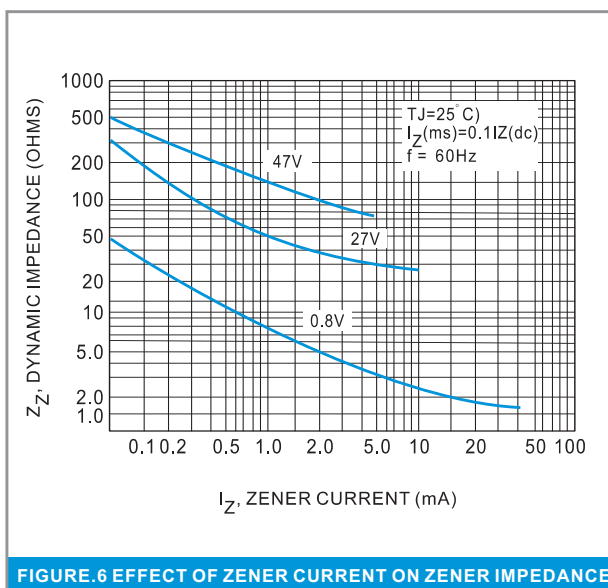
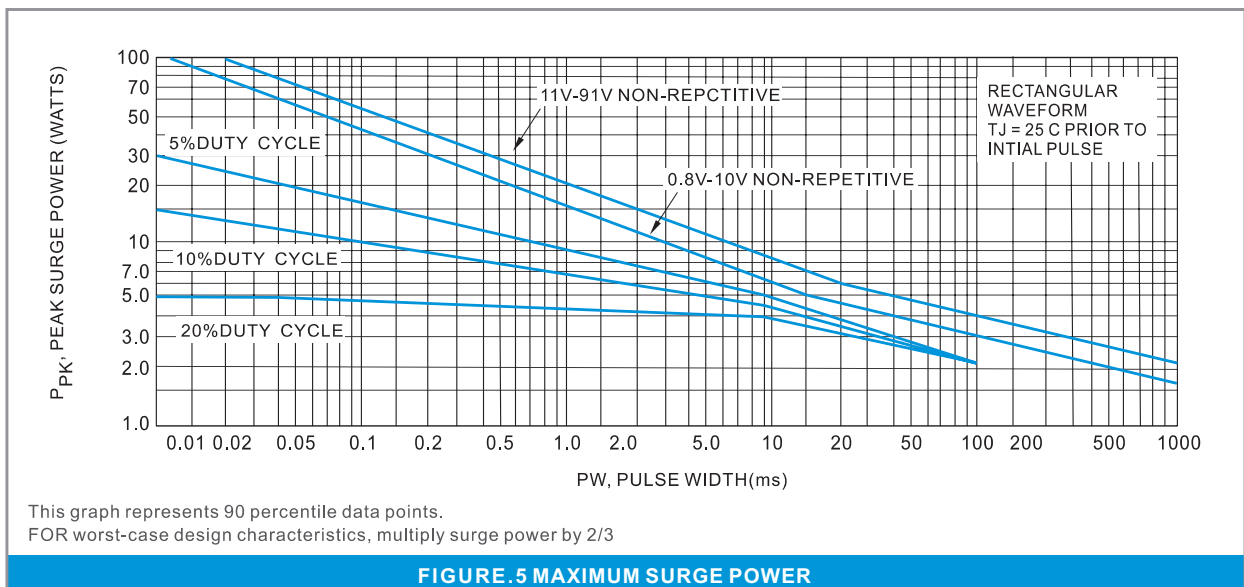
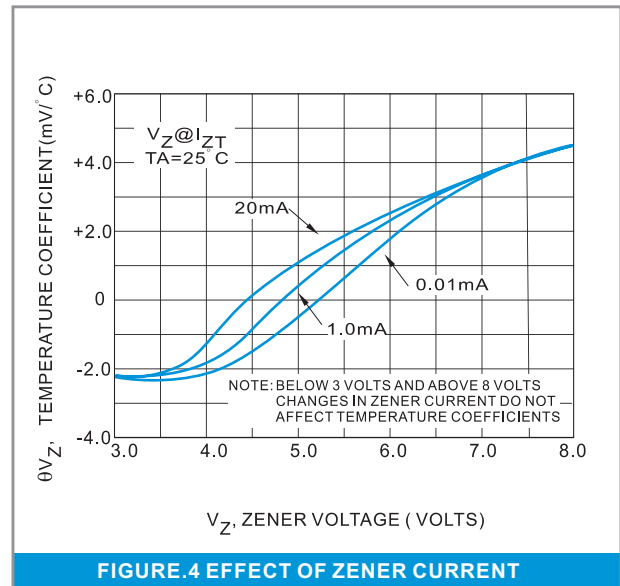
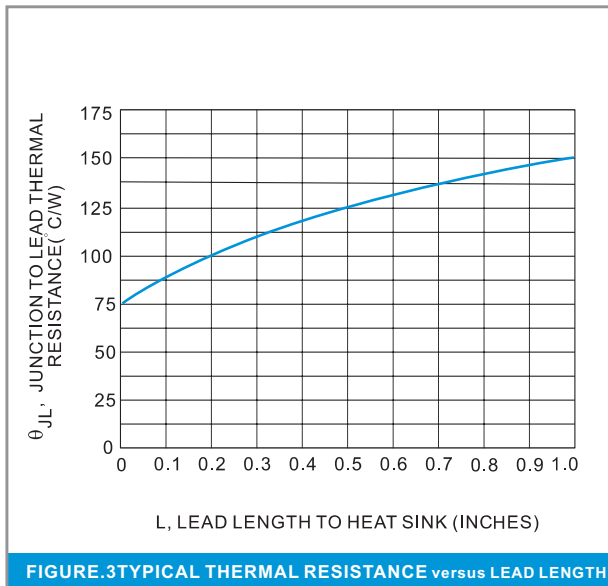
Part Number	Vz @ Ir			Ir	Maximum Zener Impedance			Maximum Leakage Current			Marking Code		Package
	Nom. V	Min. V	Max. V		Zzt @ Ir	Zzk @ Izk	Izk	Ik @ VR			DO-41	DO-41G	
				$\Omega$	$\Omega$	mA	$\mu$ A	V					
1.0 Watt ZENER													
1N4728A	3.3	3.1	3.5	76	10	400	1.0	100	1.0	-	4728A	DO-41G	
1N4729A	3.6	3.4	3.8	69	10	400	1.0	100	1.0	-	4729A	DO-41G	
1N4730A	3.9	3.7	4.1	64	9.0	400	1.0	50	1.0	-	4730A	DO-41G	
1N4731A	4.3	4.1	4.5	58	9.0	400	1.0	10	1.0	-	4731A	DO-41G	
1N4732A	4.7	4.5	4.9	53	8.0	500	1.0	10	1.0	-	4732A	DO-41G	
1N4733A	5.1	4.8	5.4	49	7.0	550	1.0	10	1.0	-	4733A	DO-41G	
1N4734A	5.6	5.3	5.9	45	5.0	600	1.0	10	2.0	-	4734A	DO-41G	
1N4735A	6.2	5.9	6.5	41	2.0	700	1.0	10	3.0	-	4735A	DO-41G	
1N4736A	6.8	6.5	7.1	37	3.5	700	1.0	10	4.0	-	4736A	DO-41G	
1N4737A	7.5	7.1	7.9	34	4.0	700	0.5	10	5.0	-	4737A	DO-41G	
1N4738A	8.2	7.8	8.6	31	4.5	700	0.5	10	6.0	-	4738A	DO-41G	
1N4739A	9.1	8.6	9.6	28	5.0	700	0.5	10	7.0	-	4739A	DO-41G	
1N4740A	10.0	9.5	10.5	25	7.0	700	0.25	10	7.6	-	4740A	DO-41G	
1N4741A	11.0	10.5	11.6	23	8.0	700	0.25	5.0	8.4	1N4741A	4741A	DO-41DO-41G	
1N4742A	12.0	11.4	12.6	21	9.0	700	0.25	5.0	9.1	1N4742A	4742A	DO-41DO-41G	
1N4743A	13.0	12.4	13.7	19	10	700	0.25	5.0	9.9	1N4743A	4743A	DO-41DO-41G	
1N4744A	15.0	14.3	15.8	17	14	700	0.25	5.0	11.4	1N4744A	4744A	DO-41DO-41G	
1N4745A	16.0	15.2	16.8	15.5	16	700	0.25	5.0	12.2	1N4745A	4745A	DO-41DO-41G	
1N4746A	18.0	17.1	18.9	14	20	750	0.25	5.0	13.7	1N4746A	4746A	DO-41DO-41G	
1N4747A	20.0	19.0	21.0	12.5	22	750	0.25	5.0	15.2	1N4747A	4747A	DO-41DO-41G	
1N4748A	22.0	20.9	23.1	11.5	23	750	0.25	5.0	16.7	1N4748A	4748A	DO-41DO-41G	
1N4749A	24.0	22.8	25.2	10.5	25	750	0.25	5.0	18.2	1N4749A	4749A	DO-41DO-41G	
1N4750A	27.0	25.7	28.4	9.5	35	750	0.25	5.0	20.6	1N4750A	4750A	DO-41DO-41G	
1N4751A	30.0	28.5	31.5	8.5	40	1000	0.25	5.0	22.8	1N4751A	4751A	DO-41DO-41G	
1N4752A	33.0	31.4	34.7	7.5	45	1000	0.25	5.0	25.1	1N4752A	4752A	DO-41DO-41G	
1N4753A	36.0	34.2	37.8	7.0	50	1000	0.25	5.0	27.4	1N4753A	4753A	DO-41DO-41G	
1N4754A	39.0	37.1	41.0	6.5	60	1000	0.25	5.0	29.7	1N4754A	4754A	DO-41DO-41G	
1N4755A	43.0	40.9	45.2	6.0	70	1500	0.25	5.0	32.7	1N4755A	4755A	DO-41DO-41G	
1N4756A	47.0	44.7	49.4	5.5	80	1500	0.25	5.0	35.8	1N4756A	4756A	DO-41DO-41G	
1N4757A	51.0	48.5	53.6	5.0	95	1500	0.25	5.0	38.8	1N4757A	4757A	DO-41DO-41G	
1N4758A	56.0	53.2	58.8	4.5	110	2000	0.25	5.0	42.6	1N4758A	4758A	DO-41DO-41G	
1N4759A	62.0	58.9	65.1	4.0	125	2000	0.25	5.0	47.1	1N4759A	4759A	DO-41DO-41G	
1N4760A	68.0	64.6	71.4	3.7	150	2000	0.25	5.0	51.7	1N4760A	4760A	DO-41DO-41G	
1N4761A	75.0	71.3	78.8	3.3	175	2000	0.25	5.0	56.0	1N4761A	4761A	DO-41DO-41G	
1N4762A	82.0	77.9	86.1	3.0	200	3000	0.25	5.0	62.2	1N4762A	4762A	DO-41DO-41G	
1N4763A	91.0	86.5	95.6	2.8	250	3000	0.25	5.0	69.2	1N4763A	4763A	DO-41DO-41G	
1N4764A	100.0	95.0	105.0	2.5	350	3000	0.25	5.0	76.0	1N4764A	4764A	DO-41DO-41G	

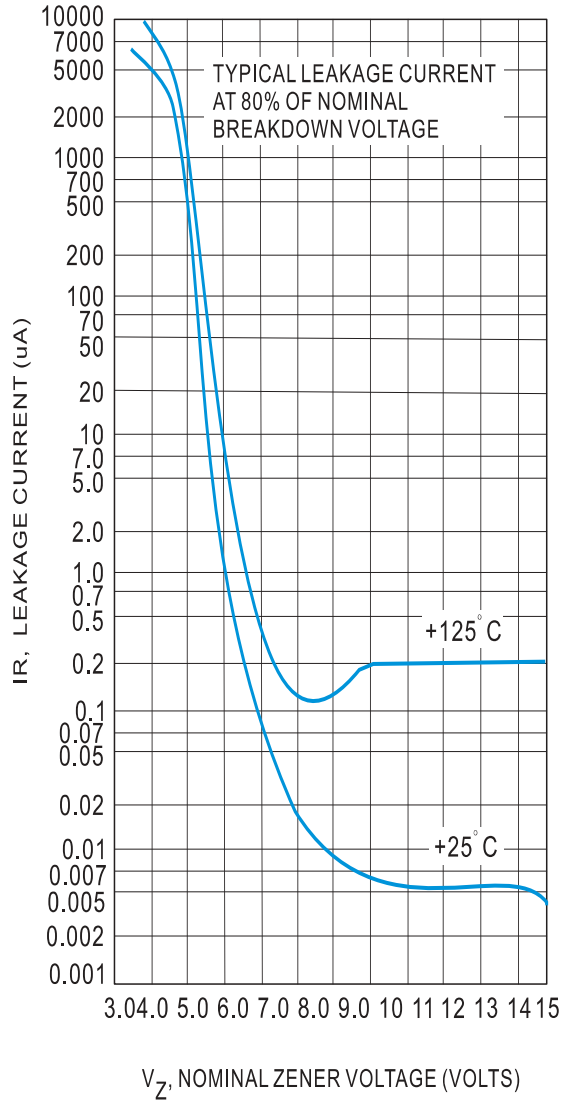
**NOTE:**

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 ( $T_L$ ) at  $30^\circ\text{C} \pm 1^\circ\text{C}$ , from the diode body.
4. Zener Impedance ( $Z_z$ ) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when 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 1/2

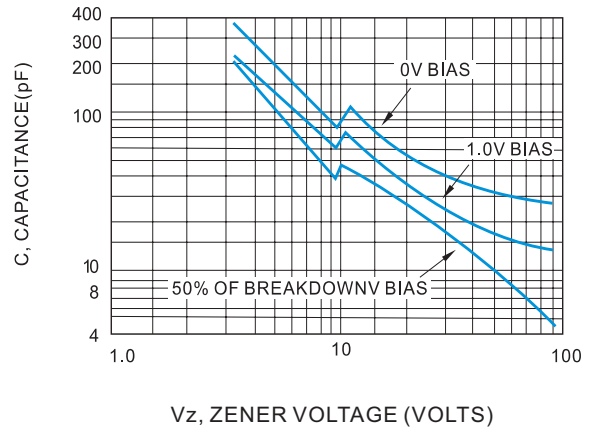
**RATING AND CHARACTERISTICS CURVES**



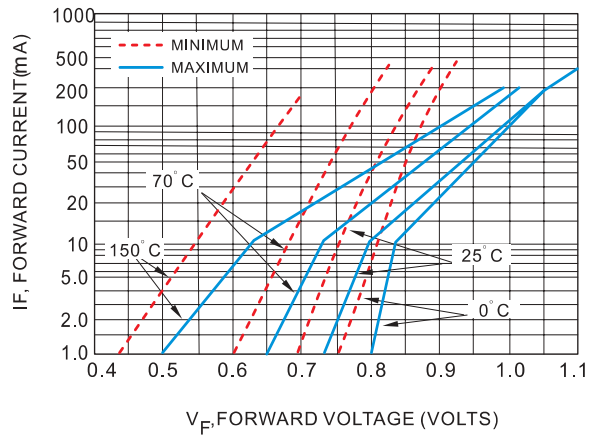




**FIGURE.8 TYPICAL LEAKAGE CURRENT**



**FIGURE.9 TYPICAL CAPACITANCE versus Vz**



**FIGURE.10 TYPICAL FORWARD CHARACTERISTICS**