

1N4728A-G SERIES

SILICON ZENER DIODE

VOLTAGE 3.3 to 75 Volt **POWER** 1 Watt

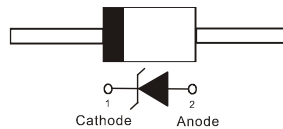
DO-41G Unit : inch(mm)

FEATURES

- Low inductance
- High temperature soldering : 260°C /10 seconds at terminals
- Glass package has Underwriters Laboratory Flammability Classification
- Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

- Case: Molded Glass DO-41G
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end
- Weight: 0.012 ounce, 0.317 gram



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Units |
|--------------------------------------------------|-----------|-------------|-------|
| Power Dissipation at $T_A \leq 50^\circ\text{C}$ | P_{TOT} | 1* | W |
| Junction Temperature | T_J | -65 to +200 | °C |
| Storage Temperature Range | T_{STG} | -65 to +200 | °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 | $R_{\theta JA}$ | -- | -- | 170* | °C/W |
| Forward Voltage at $I_F = 200\text{mA}$ | V_F | -- | -- | 1.2 | V |

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

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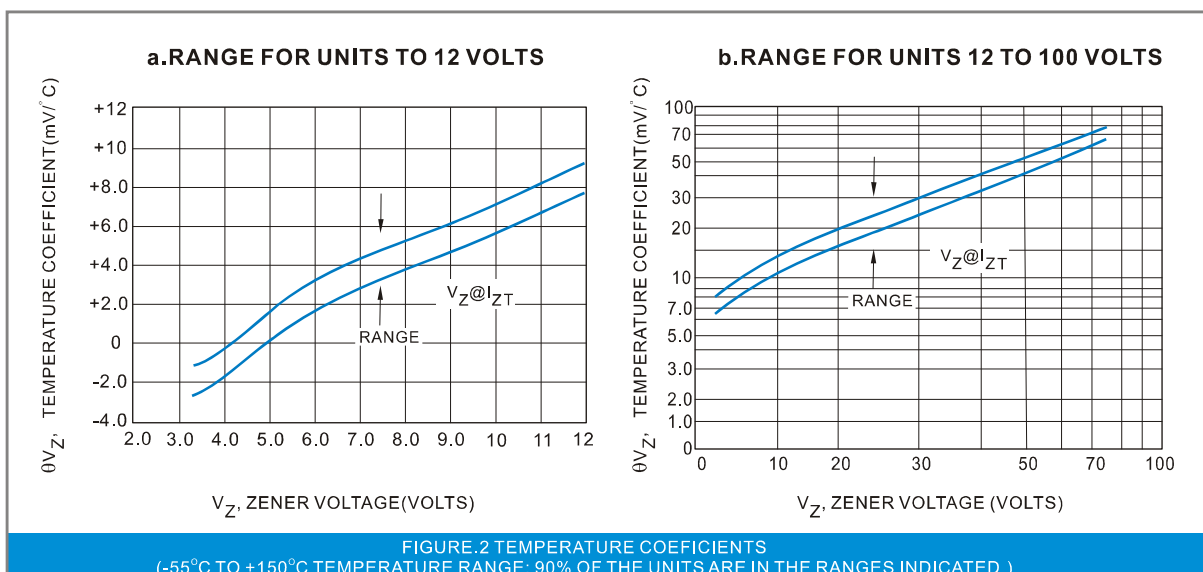
| Part Number | Nominal Zener Voltage | | | Max. Zener Impedance | | | | Maximum Leakage Current | | Marking Code |
|---------------------|----------------------------------|--------|--------|-----------------------------------|------|-----------------------------------|------|---------------------------------|------|--------------|
| | V _Z @ I _{ZT} | | | Z _{ZT} @ I _{ZT} | | Z _{ZK} @ I _{ZK} | | I _R @ V _R | | |
| | Nom. V | Min. V | Max. V | Ω | mA | Ω | mA | μA | V | |
| 1 Watt Zener Diodes | | | | | | | | | | |
| 1N4728A-G | 3.3 | 3.14 | 3.47 | 10 | 76 | 400 | 1 | 100 | 1 | 1N4728A |
| 1N4729A-G | 3.6 | 3.42 | 3.78 | 10 | 69 | 400 | 1 | 100 | 1 | 1N4729A |
| 1N4730A-G | 3.9 | 3.71 | 4.1 | 9 | 64 | 400 | 1 | 50 | 1 | 1N4730A |
| 1N4731A-G | 4.3 | 4.09 | 4.52 | 9 | 58 | 400 | 1 | 10 | 1 | 1N4731A |
| 1N4732A-G | 4.7 | 4.47 | 4.94 | 8 | 53 | 500 | 1 | 10 | 1 | 1N4732A |
| 1N4733A-G | 5.1 | 4.85 | 5.36 | 7 | 49 | 550 | 1 | 10 | 1 | 1N4733A |
| 1N4734A-G | 5.6 | 5.32 | 5.88 | 5 | 45 | 600 | 1 | 10 | 2 | 1N4734A |
| 1N4735A-G | 6.2 | 5.89 | 6.51 | 2 | 41 | 700 | 1 | 10 | 3 | 1N4735A |
| 1N4736A-G | 6.8 | 6.46 | 7.14 | 3.5 | 37 | 700 | 1 | 5 | 4 | 1N4736A |
| 1N4737A-G | 7.5 | 7.13 | 7.88 | 4 | 34 | 700 | 0.5 | 5 | 5 | 1N4737A |
| 1N4738A-G | 8.2 | 7.79 | 8.61 | 4.5 | 31 | 700 | 0.5 | 5 | 6 | 1N4738A |
| 1N4739A-G | 9.1 | 8.65 | 9.56 | 5 | 28 | 700 | 0.5 | 0.5 | 7 | 1N4739A |
| 1N4740A-G | 10 | 9.5 | 10.5 | 7 | 25 | 700 | 0.25 | 0.5 | 7.6 | 1N4740A |
| 1N4741A-G | 11 | 10.45 | 11.55 | 8 | 23 | 700 | 0.25 | 0.1 | 8.4 | 1N4741A |
| 1N4742A-G | 12 | 11.4 | 12.6 | 9 | 21 | 700 | 0.25 | 0.1 | 9.1 | 1N4742A |
| 1N4743A-G | 13 | 12.35 | 13.65 | 10 | 19 | 700 | 0.25 | 0.1 | 9.9 | 1N4743A |
| 1N4744A-G | 15 | 14.25 | 15.75 | 14 | 17 | 700 | 0.25 | 0.1 | 11.4 | 1N4744A |
| 1N4745A-G | 16 | 15.2 | 16.8 | 16 | 15.5 | 700 | 0.25 | 0.1 | 12.2 | 1N4745A |
| 1N4746A-G | 18 | 17.1 | 18.9 | 20 | 14 | 750 | 0.25 | 0.1 | 13.7 | 1N4746A |
| 1N4747A-G | 20 | 19 | 21 | 22 | 12.5 | 750 | 0.25 | 0.1 | 15.2 | 1N4747A |
| 1N4748A-G | 22 | 20.9 | 23.1 | 23 | 11.5 | 750 | 0.25 | 0.1 | 16.7 | 1N4748A |
| 1N4749A-G | 24 | 22.8 | 25.2 | 25 | 10.5 | 750 | 0.25 | 0.1 | 18.2 | 1N4749A |
| 1N4750A-G | 27 | 25.65 | 28.35 | 35 | 9.5 | 750 | 0.25 | 0.1 | 20.6 | 1N4750A |
| 1N4751A-G | 30 | 28.5 | 31.5 | 40 | 8.5 | 1000 | 0.25 | 0.1 | 22.8 | 1N4751A |
| 1N4752A-G | 33 | 31.35 | 34.65 | 45 | 7.5 | 1000 | 0.25 | 0.1 | 25.1 | 1N4752A |
| 1N4753A-G | 36 | 34.2 | 37.8 | 50 | 7 | 1000 | 0.25 | 0.1 | 27.4 | 1N4753A |
| 1N4754A-G | 39 | 37.05 | 40.95 | 60 | 6.5 | 1000 | 0.25 | 0.1 | 29.7 | 1N4754A |
| 1N4755A-G | 43 | 40.85 | 45.15 | 70 | 6 | 1500 | 0.25 | 0.1 | 32.7 | 1N4755A |
| 1N4756A-G | 47 | 44.65 | 49.35 | 80 | 5.5 | 1500 | 0.25 | 0.1 | 35.8 | 1N4756A |
| 1N4757A-G | 51 | 48.45 | 53.55 | 95 | 5 | 1500 | 0.25 | 0.1 | 38.8 | 1N4757A |
| 1N4758A-G | 56 | 53.2 | 58.8 | 110 | 4.5 | 2000 | 0.25 | 0.1 | 42.6 | 1N4758A |
| 1N4759A-G | 62 | 58.9 | 65.1 | 125 | 4 | 2000 | 0.25 | 0.1 | 47.1 | 1N4759A |
| 1N4760A-G | 68 | 64.6 | 71.4 | 150 | 3.7 | 2000 | 0.25 | 0.1 | 51.7 | 1N4760A |
| 1N4761A-G | 75 | 71.25 | 78.75 | 175 | 3.3 | 2000 | 0.25 | 0.1 | 56 | 1N4761A |

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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



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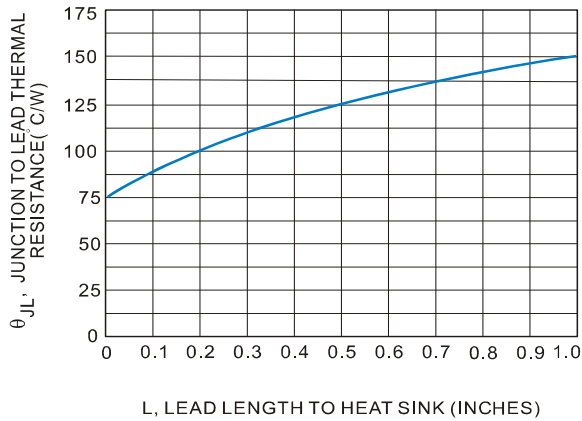


FIGURE.3 TYPICAL THERMAL RESISTANCE versus LEAD LENGTH

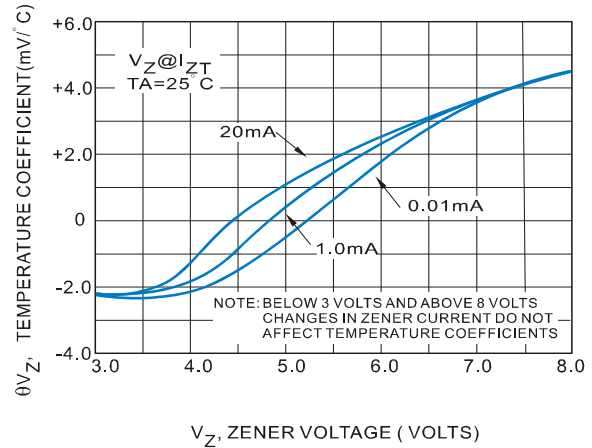
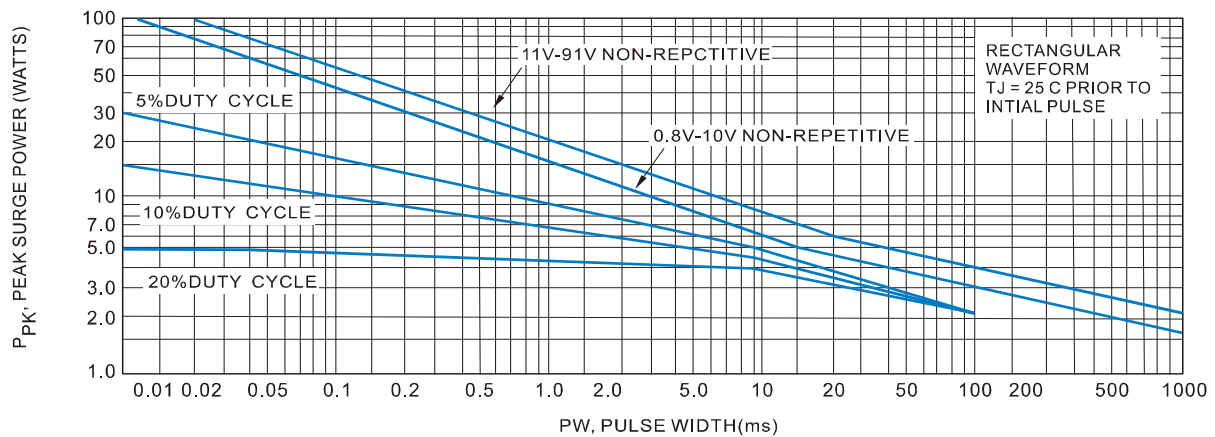


FIGURE.4 EFFECT OF ZENER CURRENT



This graph represents 90 percentile data points.
FOR worst-case design characteristics, multiply surge power by 2/3

FIGURE.5 MAXIMUM SURGE POWER

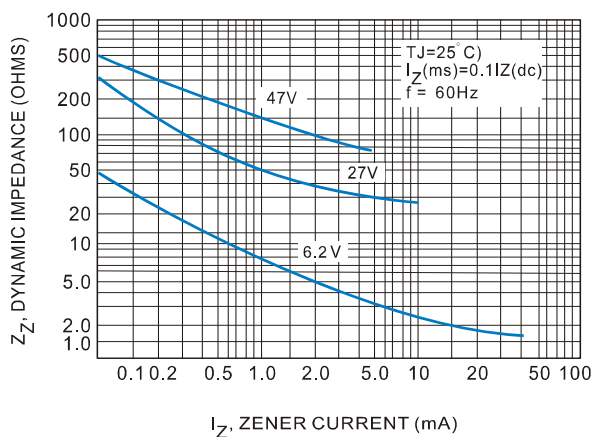


FIGURE.6 EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE



FIGURE.7 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

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FIGURE.8 TYPICAL LEAKAGE CURRENT

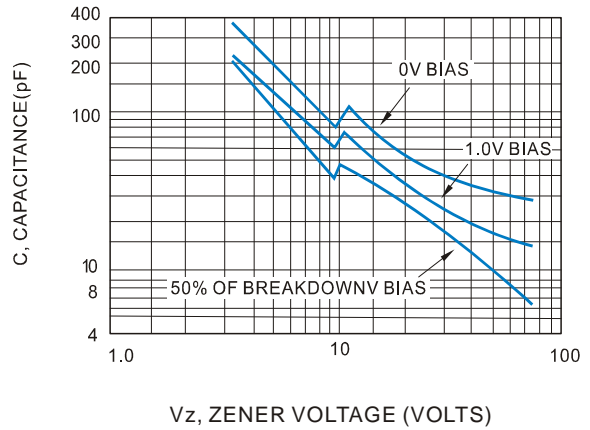


FIGURE.9 TYPICAL CAPACITANCE versus V_Z

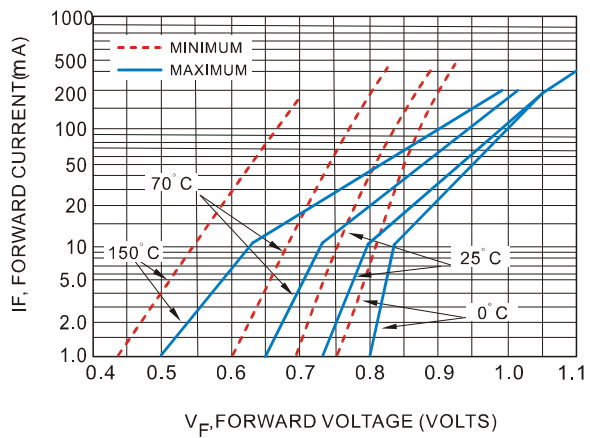


FIGURE.10 TYPICAL FORWARD CHARACTERISTICS

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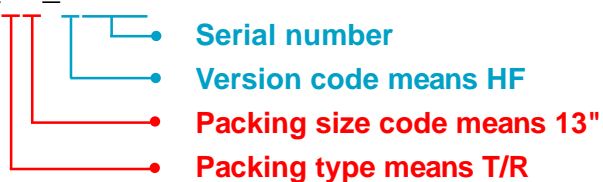
Part No_packing code_Version

1N4728A-G_AX_10001
1N4728A-G_AY_10001
1N4728A-G_BO_10001
1N4728A-G_R2_10001

For example :

RB500V-40_R2_00001

Part No.



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |

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