

DATA SHEET

GDZJ2.0~GDZJ56

AXIAL LEAD ZENER DIODES

VOLTAGE 2.0 to 56 Volts

POWER 500 mWatts

DO-34/DO-35

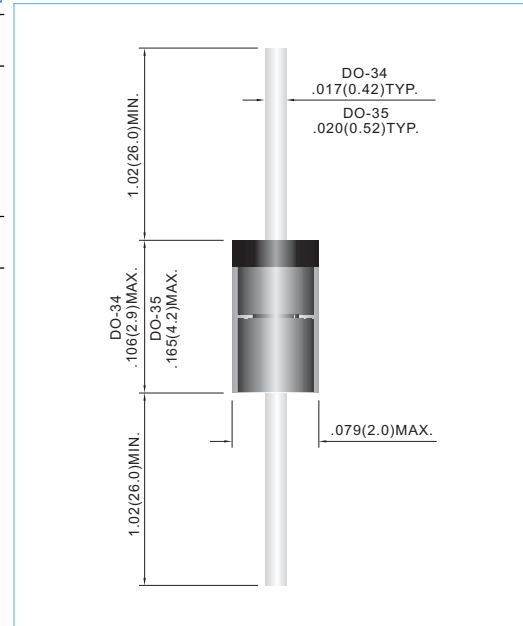
Unit: inch (mm)

FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes

MECHANICAL DATA

- Case: Molded Glass DO-35 / DO-34
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram Below
- Approx. Weight: 0.012 grams
- Mounting Position: Any
- Ordering information
 - Suffix : " -34 " to order DO-34 Package
 - Suffix : " -35 " to order DO-35 Package
- Packing information
 - B - 2K per Bulk box
 - T/R - 10K per 13" plastic Reel
 - T/B - 5K per horiz. tape & Ammo box



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Parameter | Symbol | Value | Units |
|-----------------------------------|------------------|-------------|-------|
| Power Dissipation at Tamb = 25 °C | P _{TOT} | 500 | mW |
| Junction Temperature | T _J | 175 | °C |
| Storage Temperature Range | T _s | -65 to +175 | °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} | -- | -- | 0.3 | K/mW |
| Forward Voltage at I _F = 100mA | V _F | -- | -- | 1 | V |

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

| Part Number | CLASS | Vz @ Izt | | IZ (mA) | VR (V) | IR(μA) MAX | Izt (mA) | Zzt(Ω) MAX | Izk (mA) | Zzk(Ω) MAX |
|-------------|-------|----------|--------|---------|--------|------------|----------|------------|----------|------------|
| | | Min. V | Max. V | | | | | | | |
| GDZJ 2.0 | A | 1.88 | 2.10 | 5 | 0.5 | 120 | 5 | 100 | 0.5 | 1000 |
| | B | 2.02 | 2.20 | | | | | | | |
| GDZJ 2.2 | A | 2.12 | 2.30 | 5 | 0.7 | 100 | 5 | 100 | 0.5 | 1000 |
| | B | 2.22 | 2.41 | | | | | | | |
| GDZJ 2.4 | A | 2.33 | 2.52 | 5 | 1.0 | 120 | 5 | 100 | 0.5 | 1000 |
| | B | 2.43 | 2.63 | | | | | | | |
| GDZJ 2.7 | A | 2.54 | 2.75 | 5 | 1.0 | 100 | 5 | 110 | 0.5 | 1000 |
| | B | 2.69 | 2.91 | | | | | | | |
| GDZJ 3.0 | A | 2.85 | 3.07 | 5 | 1.0 | 50 | 5 | 120 | 0.5 | 1000 |
| | B | 3.01 | 3.22 | | | | | | | |
| GDZJ 3.3 | A | 3.16 | 3.38 | 5 | 1.0 | 20 | 5 | 120 | 0.5 | 1000 |
| | B | 3.32 | 3.53 | | | | | | | |
| GDZJ 3.6 | A | 3.455 | 3.695 | 5 | 1.0 | 10 | 5 | 100 | 1 | 1000 |
| | B | 3.60 | 3.845 | | | | | | | |
| GDZJ 3.9 | A | 3.74 | 4.01 | 5 | 1.0 | 5 | 5 | 100 | 1 | 1000 |
| | B | 3.89 | 4.16 | | | | | | | |
| GDZJ 4.3 | A | 4.04 | 4.29 | 5 | 1.0 | 5 | 5 | 100 | 1 | 1000 |
| | B | 4.17 | 4.43 | | | | | | | |
| | C | 4.30 | 4.57 | | | | | | | |
| GDZJ 4.7 | A | 4.44 | 4.68 | 5 | 1.0 | 5 | 5 | 90 | 1 | 900 |
| | B | 4.55 | 4.80 | | | | | | | |
| | C | 4.68 | 4.93 | | | | | | | |
| GDZJ 5.1 | A | 4.81 | 5.07 | 5 | 1.5 | 5 | 5 | 80 | 1 | 800 |
| | B | 4.94 | 5.20 | | | | | | | |
| | C | 5.09 | 5.37 | | | | | | | |
| GDZJ 5.6 | A | 5.28 | 5.55 | 5 | 2.5 | 5 | 5 | 60 | 1 | 500 |
| | B | 5.45 | 5.73 | | | | | | | |
| | C | 5.61 | 5.91 | | | | | | | |
| GDZJ 6.2 | A | 5.78 | 6.09 | 5 | 3.0 | 5 | 5 | 60 | 1 | 300 |
| | B | 5.96 | 6.27 | | | | | | | |
| | C | 6.12 | 6.44 | | | | | | | |
| GDZJ 6.8 | A | 6.29 | 6.63 | 5 | 3.5 | 2 | 5 | 20 | 0.5 | 150 |
| | B | 6.49 | 6.83 | | | | | | | |
| | C | 6.66 | 7.01 | | | | | | | |
| GDZJ 7.5 | A | 6.85 | 7.22 | 5 | 4.0 | 0.5 | 5 | 20 | 0.5 | 120 |
| | B | 7.07 | 7.45 | | | | | | | |
| | C | 7.29 | 7.67 | | | | | | | |
| GDZJ 8.2 | A | 7.53 | 7.92 | 5 | 5.0 | 0.5 | 5 | 20 | 0.5 | 120 |
| | B | 7.78 | 8.19 | | | | | | | |
| | C | 8.03 | 8.45 | | | | | | | |
| GDZJ 9.1 | A | 8.29 | 8.73 | 5 | 6.0 | 0.5 | 5 | 25 | 0.5 | 120 |
| | B | 8.57 | 9.01 | | | | | | | |
| | C | 8.83 | 9.30 | | | | | | | |
| GDZJ 10 | A | 9.12 | 9.59 | 5 | 7.0 | 0.2 | 5 | 30 | 0.5 | 120 |
| | B | 9.41 | 9.90 | | | | | | | |
| | C | 9.70 | 10.20 | | | | | | | |
| | D | 9.94 | 10.44 | | | | | | | |
| GDZJ 11 | A | 10.18 | 10.71 | 5 | 8.0 | 0.2 | 5 | 30 | 0.5 | 120 |
| | B | 10.50 | 11.05 | | | | | | | |
| | C | 10.82 | 11.38 | | | | | | | |

| Part Number | CLASS | Vz @ Izt | | IZ (mA) | VR (V) | IR(μA) MAX | Izt (mA) | ZzT(Ω) MAX | Izk (mA) | Zzk(Ω) MAX |
|-------------|-------|----------|--------|---------|--------|------------|----------|------------|----------|------------|
| | | Min. V | Max. V | | | | | | | |
| GDZJ 12 | A | 11.13 | 11.71 | 5 | 9.0 | 0.2 | 5 | 30 | 0.5 | 110 |
| | B | 11.44 | 12.03 | | | | | | | |
| | C | 11.74 | 12.35 | | | | | | | |
| GDZJ 13 | A | 12.11 | 12.75 | 5 | 10 | 0.2 | 5 | 35 | 0.5 | 110 |
| | B | 12.55 | 13.21 | | | | | | | |
| | C | 12.99 | 13.66 | | | | | | | |
| GDZJ 15 | A | 13.44 | 14.13 | 5 | 11 | 0.2 | 5 | 40 | 0.5 | 110 |
| | B | 13.89 | 14.62 | | | | | | | |
| | C | 14.35 | 15.09 | | | | | | | |
| GDZJ 16 | A | 14.80 | 15.57 | 5 | 12 | 0.2 | 5 | 40 | 0.5 | 150 |
| | B | 15.25 | 16.04 | | | | | | | |
| | C | 15.69 | 16.51 | | | | | | | |
| GDZJ 18 | A | 16.22 | 17.06 | 5 | 13 | 0.2 | 5 | 45 | 0.5 | 150 |
| | B | 16.82 | 17.70 | | | | | | | |
| | C | 17.42 | 18.33 | | | | | | | |
| GDZJ 20 | A | 18.02 | 18.96 | 5 | 15 | 0.2 | 5 | 55 | 0.5 | 200 |
| | B | 18.63 | 19.59 | | | | | | | |
| | C | 19.23 | 20.22 | | | | | | | |
| | D | 19.72 | 20.72 | | | | | | | |
| GDZJ 22 | A | 20.15 | 21.20 | 5 | 17 | 0.2 | 5 | 30 | 0.5 | 200 |
| | B | 20.64 | 21.71 | | | | | | | |
| | C | 21.08 | 22.17 | | | | | | | |
| | D | 21.52 | 22.63 | | | | | | | |
| GDZJ 24 | A | 22.05 | 23.18 | 5 | 19 | 0.2 | 5 | 35 | 0.5 | 200 |
| | B | 22.61 | 23.77 | | | | | | | |
| | C | 23.12 | 24.31 | | | | | | | |
| | D | 23.63 | 24.85 | | | | | | | |
| GDZJ 27 | A | 24.26 | 25.52 | 5 | 21 | 0.2 | 5 | 45 | 0.5 | 250 |
| | B | 24.97 | 26.26 | | | | | | | |
| | C | 25.63 | 26.95 | | | | | | | |
| | D | 26.29 | 27.64 | | | | | | | |
| GDZJ 30 | A | 26.99 | 28.39 | 5 | 23 | 0.2 | 5 | 55 | 0.5 | 250 |
| | B | 27.70 | 29.13 | | | | | | | |
| | C | 28.36 | 29.82 | | | | | | | |
| | D | 29.02 | 30.51 | | | | | | | |
| GDZJ 33 | A | 29.68 | 31.22 | 5 | 25 | 0.2 | 5 | 65 | 0.5 | 250 |
| | B | 30.32 | 31.88 | | | | | | | |
| | C | 30.90 | 32.50 | | | | | | | |
| | D | 31.49 | 33.11 | | | | | | | |
| GDZJ 36 | A | 32.14 | 33.79 | 5 | 27 | 0.2 | 5 | 75 | 0.5 | 250 |
| | B | 32.79 | 34.49 | | | | | | | |
| | C | 33.40 | 35.13 | | | | | | | |
| | D | 34.01 | 35.77 | | | | | | | |
| GDZJ 39 | A | 34.68 | 36.47 | 5 | 30 | 0.2 | 5 | 85 | 0.5 | 250 |
| | B | 35.36 | 37.19 | | | | | | | |
| | C | 36.00 | 37.85 | | | | | | | |
| | D | 36.63 | 38.52 | | | | | | | |
| GDZJ 43 | | 40.00 | 45.00 | 5 | 33 | 0.2 | 5 | 90 | -- | -- |
| GDZJ 47 | | 44.00 | 49.00 | 5 | 36 | 0.2 | 5 | 90 | -- | -- |
| GDZJ 51 | | 48.00 | 54.00 | 5 | 39 | 0.2 | 5 | 110 | -- | -- |
| GDZJ 56 | | 53.00 | 60.00 | 5 | 43 | 0.2 | 5 | 110 | -- | -- |

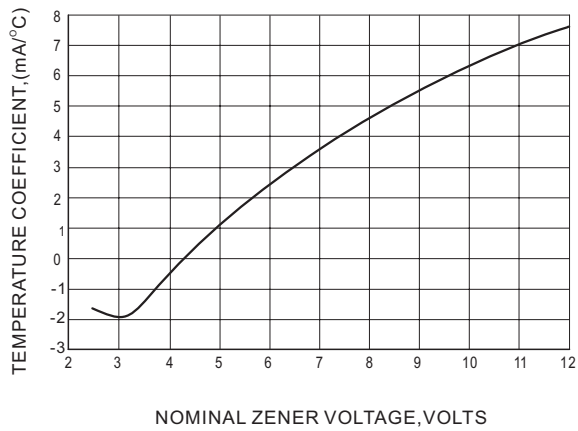


Fig. 1 TEMPERATURE COEFFICIENTS

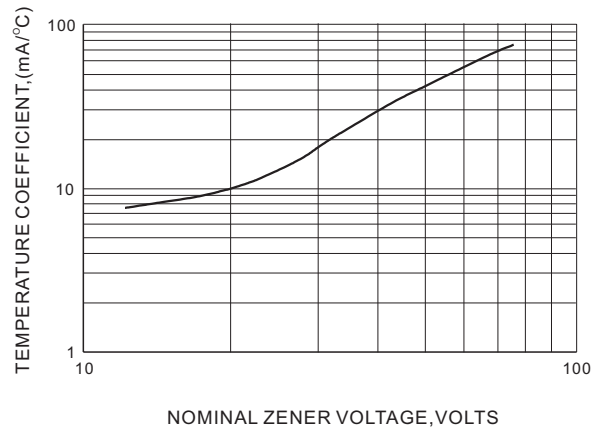


Fig. 2 TEMPERATURE COEFFICIENTS

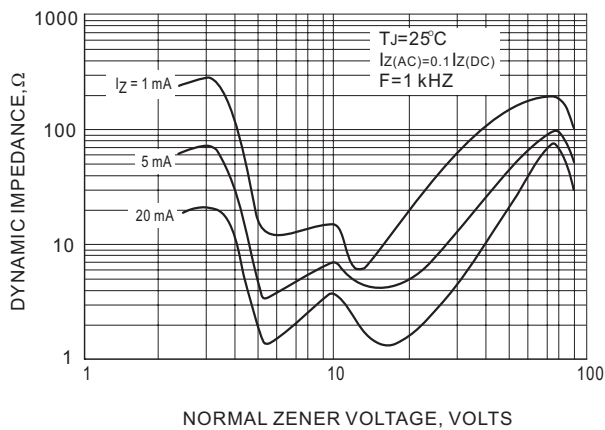


Fig. 3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

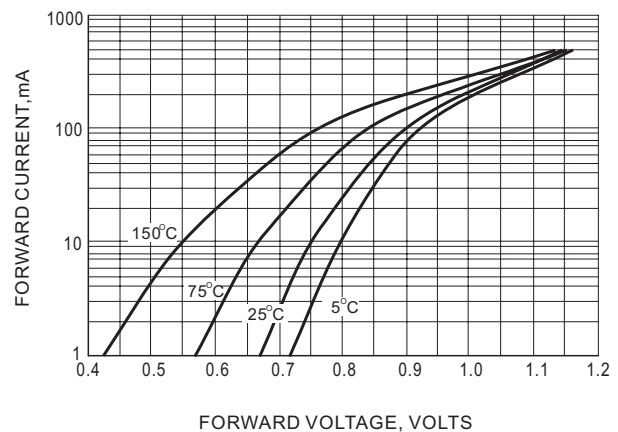


Fig. 4 TYPICAL FORWARD VOLTAGE

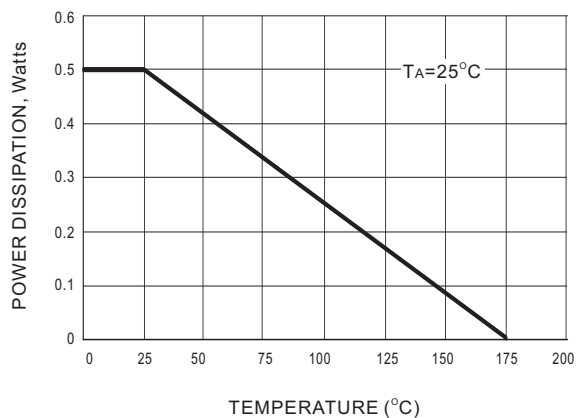


Fig. 5 STEADY STATE POWER DERATING

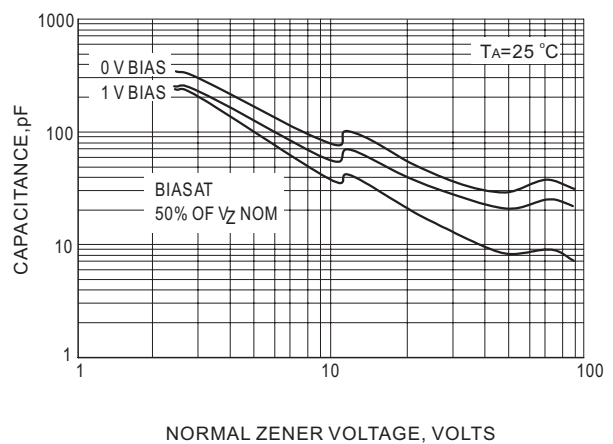


Fig. 6 TYPICAL CAPACITANCE

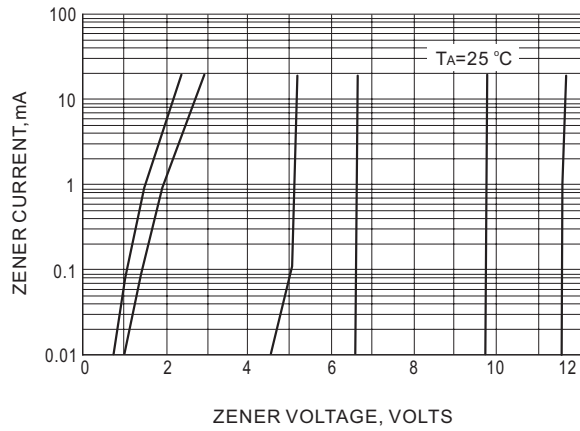


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

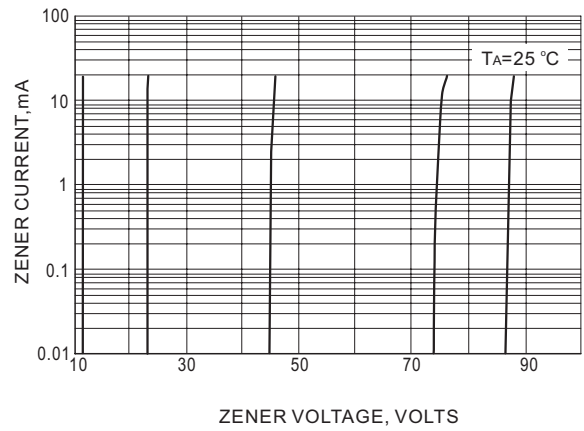


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

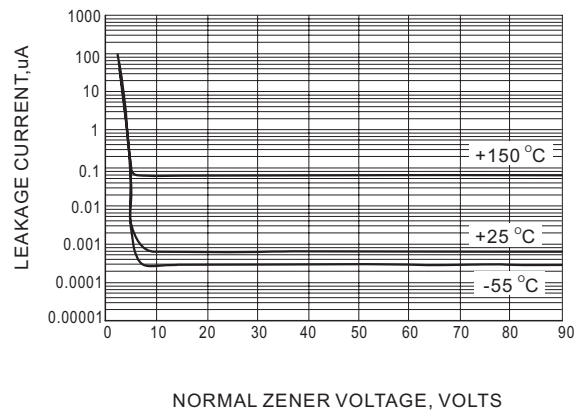


Fig.9 TYPICAL LEAKAGE CURRENT