

**IN4156, IN4157, IN4453,
IN4829, IN4830, IN5179
STABISTORS**
Also, Tight Tolerance
MPD100 thru MPD400A
or
MZ2360 and MZ2361

**PACKAGE
DIMENSIONS**

APPLICATION

These axial lead diodes represent configurations of one to four* p-n junctions in series which may be used in any application requiring tight tolerance, low voltage levels versus current. This method of low voltage regulation is comparatively superior in dynamic impedance (voltage change versus current) than low voltage zeners where tunneling instead of avalanche current is dominant. Typical applications include use as signal limiters, level shifters in transistor logic, meter protectors, and low voltage regulators. For computer circuit applications, a controlled stored charge selection is provided as well.

In addition, these devices may be used for temperature compensation wherein each p-n junction contributes approximately -2 mV/°C each.

*Consult factory for more than four p-n junction configurations.

DESCRIPTION/FEATURES

- ☑ Hermetically Sealed Glass Packages (DO-35)
- ☑ High Reverse Breakdown and Low Leakage
- ☑ Excellent Low Voltage Regulation
- ☑ Controlled Stored Charge
- ☑ Planar Passivated Die Elements

MAXIMUM RATINGS

500 mW dc Power Rating**

Power Derating 4.0 mW/°C above 50°C

Junction and Storage Temperatures: -65°C to +175°C

**Consult factory for ratings up to 1.5W.

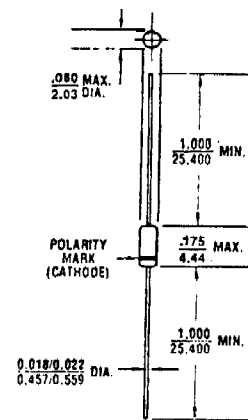


FIGURE 1
All dimensions in INCH
m.m.

DO-35

**MECHANICAL
CHARACTERISTICS**

*Case: Hermetically sealed glass DO-35. DO-7 and DO-41 glass are optional. Single p-n junction devices also offered in DO-41 plastic.

Finish: All external surfaces are corrosion resistant and leads solderable.

Thermal Resistance: 200° C/W typical for DO-35 at 0.375 inches from body.

Mounting Position: Any.

Polarity: Cathode marked with band. To be operated with cathode negative for normal low voltage operation.

* Designate case size when ordering.



| TYPE | MAXIMUM REVERSE CURRENT I_R | | | MINIMUM REVERSE BREAKDOWN VOLTAGE V_{BR} (VOLTS) AT $5\mu A$ | FORWARD VOLTAGE V_F (VOLTS) AT $I_F @ 25^\circ C$ | | | | | | | | | | STORED CHARGE AT 1.00 mA Q_S (pC) | | MAXIMUM CAPACITANCE C (pF) AT 0 VOLTS | NUMBER OF P-N JUNCTIONS |
|----------|-------------------------------|---------------|------------------|--|---|-------|---------------|-------|---------------|-------|---------------|-------|----------------|-------|-------------------------------------|------|---|-------------------------|
| | 25°C mA | 150°C μA | ϕV_R VOLTS | | I_F 0.10 mA | | I_F 0.10 mA | | I_F 1.00 mA | | I_F 10.0 mA | | I_F 100.0 mA | | MIN. | MAX. | | |
| | | | | | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | | | | |
| 1N4156 | 50 | 50 | 20 | 30 | 0.740 | 1.090 | 0.970 | 1.220 | 1.210 | 1.410 | 1.380 | 1.580 | 1.540 | 1.840 | 50 | 500 | 25 | 2 |
| 1N4157 | 50 | 50 | 20 | 30 | 1.190 | 1.540 | 1.520 | 1.770 | 1.850 | 2.050 | 2.120 | 2.320 | 2.360 | 2.660 | 50 | 500 | 20 | 3 |
| 1N4453 | 50 | 50 | 20 | 30 | — | — | 0.510 | 0.630 | 0.600 | 0.710 | 0.690 | 0.800 | 0.800 | 0.920 | 50 | 500 | 30 | 1 |
| 1N4829 | 100 | 25 @ 100°C | 20 | 30 @ 100 μA | — | — | 0.840 | 1.25 | 0.99 | 1.44 | 1.16 | 1.61 | 1.35 | 1.87 | — | — | 25 | 2 |
| 1N4830 | 100 | 25 @ 100°C | 20 | 30 @ 100 μA | — | — | 1.35 | 1.80 | 1.63 | 2.08 | 1.90 | 2.35 | 2.15 | 2.69 | — | — | 20 | 3 |
| 1N5179 | 50 | — | 20 | 30 | — | — | 1.80 | 2.50 | 2.20 | 2.80 | 2.60 | 3.20 | 3.00 | 3.70 | 50 | 500 | 20 | 4 |
| MPD100 | 30 | 50 | 30 | 30 | 0.45 | 0.500 | 0.535 | 0.590 | 0.618 | 0.677 | 0.700 | 0.765 | 0.790 | 0.880 | 75 | 300 | 30 | 1 |
| MPD100A | 30 | 50 | 30 | 30 | 0.45 | 0.500 | 0.535 | 0.590 | 0.618 | 0.677 | 0.700 | 0.765 | 0.790 | 0.880 | 800* | — | 40 | 1 |
| MPD200 | 30 | 50 | 30 | 30 | 0.900 | 1.00 | 1.05 | 1.16 | 1.22 | 1.34 | 1.39 | 1.54 | 1.60 | 1.76 | 75 | 400 | 30 | 2 |
| MPD200A | 30 | 50 | 30 | 30 | 0.900 | 1.00 | 1.05 | 1.16 | 1.22 | 1.34 | 1.39 | 1.54 | 1.60 | 1.76 | 800* | — | 40 | 2 |
| MPD300 | 30 | 50 | 30 | 60 | 1.40 | 1.54 | 1.62 | 1.78 | 1.84 | 2.03 | 2.10 | 2.33 | 2.40 | 2.65 | 75 | 400 | 30 | 3 |
| MPD300A | 30 | 50 | 30 | 60 | 1.40 | 1.54 | 1.62 | 1.78 | 1.84 | 2.03 | 2.10 | 2.33 | 2.40 | 2.65 | 800* | — | 40 | 3 |
| MPD400 | 30 | 50 | 30 | 90 | 1.82 | 2.01 | 2.14 | 2.36 | 2.47 | 2.71 | 2.80 | 3.07 | 3.16 | 3.52 | 60 | 300 | 30 | 4 |
| MPD400A | 30 | 50 | 30 | 90 | 1.82 | 2.01 | 2.14 | 2.36 | 2.47 | 2.71 | 2.80 | 3.07 | 3.16 | 3.52 | 800* | — | 40 | 4 |
| **M22360 | 10 μA | — | 5.0 | — | — | — | — | — | — | — | 0.63 | 0.71 | — | — | — | — | — | 1 |
| **M22361 | 10 μA | — | 5.0 | — | — | — | — | — | — | — | 1.24 | 1.38 | — | — | — | — | — | 2 |

* Q_S at 10.0 mA

**Optionally supplied in DO-41 glass or plastic with $P_D = 1.5$ W.