

**62040 1N6609**  
**1N6610**  
**1N6611**

**JAN AND JANTX QUALIFIED, HI-BRITE  
 HERMETIC LED INDICATORS**



09/24/03

**Features:**

- Hermetically sealed
- Choice of colors (Red, Yellow, Green)
- Panel Mount versions with wire wrappable leads
- Designed for Hi-Reliability applications

**Applications:**

- P.C. Board Fault Indicator
- Logic Status Indicator
- Binary Data Display
- Power supply on/off indicator
- Wide viewing angle requirements

**DESCRIPTION**

The **1N6609**, **1N6610** and **1N6611** series indicators are hermetically sealed in TO-46 packages with a clear glass lens which provides improved viewability in bright sunlight. The 1N6609 (red) and 1N6610 (yellow) indicators utilize a high efficiency GaAsP on GaP LED, while the 1N6611 (green) indicator utilizes a GaP on GaP LED. Panel mount versions with wire wrap leads are available including necessary hardware. All versions are available in commercial, JAN or JANTX screened.

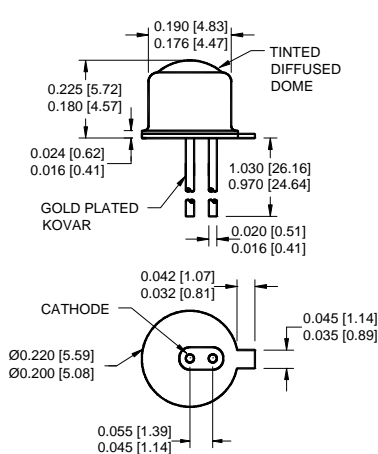
**ABSOLUTE MAXIMUM RATINGS**

|                                                                |                 |
|----------------------------------------------------------------|-----------------|
| Reverse Voltage .....                                          | 5Vdc            |
| Power Dissipation (Note 1) .....                               | 120mW           |
| Forward Current-Continuous (Note 2) .....                      | 35mA            |
| Storage Temperature.....                                       | -65°C to +100°C |
| Operating Temperature.....                                     | -55°C to +100°C |
| Lead Soldering Temperature (10 seconds, 1/16" from case) ..... | 260°C           |
| Maximum Mounting Torque (Panel mount version) .....            | 25in•lbs        |

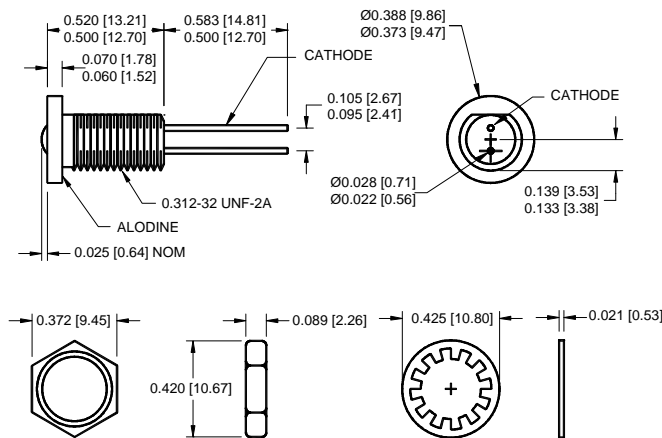
Notes:

1. Derate at the rate of 1.6 mW/°C above 25°C.
2. Derate at the rate of 0.46 mA/°C above 25°C.

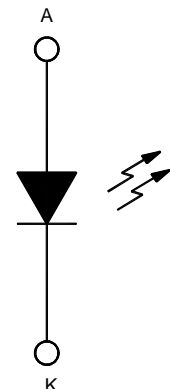
**Indicator Dimensions**



**Panel Mount Dimensions**



**Schematic Diagram**



ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

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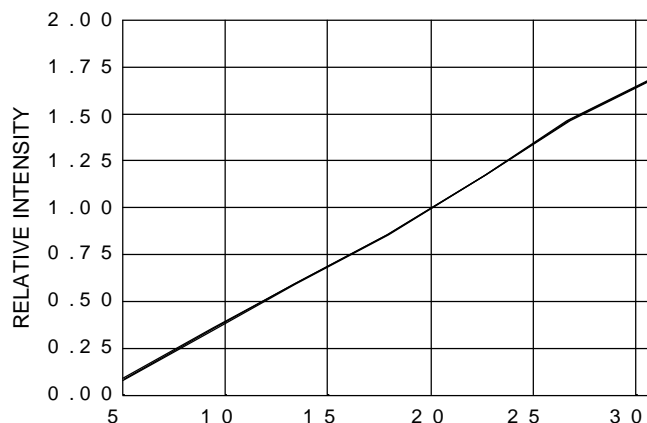
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**ELECTRICAL CHARACTERISTICS  $T_A=25^{\circ}\text{C}$**

| PART NUMBER | COLOR  | TEST CONDITION | PARAMETER LIMITS |                        |                                  |               |
|-------------|--------|----------------|------------------|------------------------|----------------------------------|---------------|
|             |        |                | $I_F$<br>mA      | PEAK $\lambda$<br>TYP. | $I_{V1\theta=0^{\circ}}$<br>MIN. | $V_F$<br>MAX. |
| 62040-1XX   | RED    | 20             | 635              | 20 mcd                 | 3V                               | 100pF         |
| 62040-2XX   | YELLOW | 20             | 585              | 20 mcd                 | 3V                               | 100pF         |
| 62040-3XX   | GREEN  | 20             | 570              | 20 mcd                 | 3V                               | 100pF         |

**Relative Luminous Intensity**

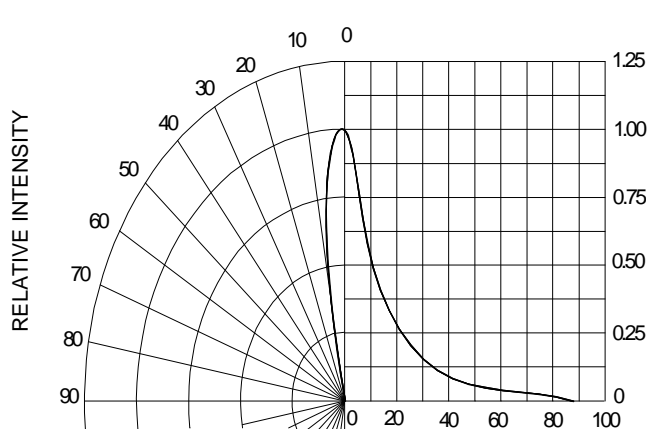
**vs**  
**Forward Current**  
 (Normalized at 20 mA)



$I_F$  - Forward Current - mA

**Relative Luminous Intensity**

**vs.**  
**Angular Displacement**



Angular Displacement

**RECOMMENDED OPERATING CONDITIONS:**

| PARAMETER             | SYMBOL | MIN | MAX  | UNITS              |
|-----------------------|--------|-----|------|--------------------|
| Forward Current       | $I_F$  | 20  | 35   | mA                 |
| Operating Temperature | $T_A$  | -55 | +100 | $^{\circ}\text{C}$ |

**SELECTION GUIDE**

| PART NUMBER | PART DESCRIPTION                        | CONTROLLING MIL DOCUMENT |
|-------------|-----------------------------------------|--------------------------|
| 62040-101   | Commercial, Red LED, TO-46              | 1N6609                   |
| 62040-102   | JAN Screened, Red LED, TO-46            | MIL-PRF-19500/519C       |
| 62040-103   | JANTX Screened, Red LED, TO-46          | MIL-PRF-19500/519C       |
| 62040-111   | Commercial, Red LED, Panel Mount        |                          |
| 62040-112   | JAN Screened, Red LED, Panel Mount      | MIL-PRF-19500/519C       |
| 62040-113   | JANTX Screened, Red LED, Panel Mount    | MIL-PRF-19500/519C       |
| 62040-201   | Commercial, Yellow LED, TO-46           | 1N6610                   |
| 62040-202   | JAN Screened, Yellow LED, TO-46         | MIL-PRF-19500/520C       |
| 62040-203   | JANTX Screened, Yellow LED, TO-46       | MIL-PRF-19500/520C       |
| 62040-211   | Commercial, Yellow LED, Panel Mount     |                          |
| 62040-212   | JAN Screened, Yellow LED, Panel Mount   | MIL-PRF-19500/520C       |
| 62040-213   | JANTX Screened, Yellow LED, Panel Mount | MIL-PRF-19500/520C       |
| 62040-301   | Commercial, Green LED, TO-46            | 1N6611                   |
| 62040-302   | JAN Screened, Green LED, TO-46          | MIL-PRF-19500/521C       |
| 62040-303   | JANTX Screened, Green LED, TO-46        | MIL-PRF-19500/521C       |
| 62040-311   | Commercial, Green LED, Panel Mount      |                          |
| 62040-312   | JAN Screened, Green LED, Panel Mount    | MIL-PRF-19500/521C       |
| 62040-313   | JANTX Screened, Green LED, Panel Mount  | MIL-PRF-19500/521C       |