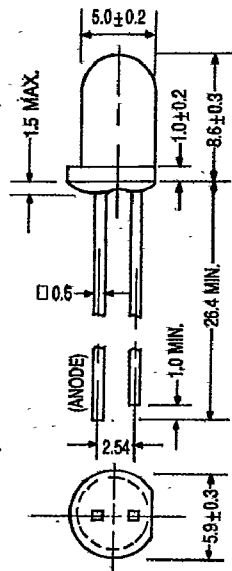


333 SERIES (T-1 3/4) Round Type LED Lamps (5mm)

MAIN FEATURES:

- LOW COST.
- HIGH LIGHT OUTPUT.
- I.C. COMPATIBLE/LOW CURRENT REQUIREMENTS.
- POPULAR T-1 3/4 DIAMETER, 1" LEAD LENGTH.
- WIDE AND NARROW VIEWING ANGLE TYPES.

Package Dimensions:



DESCRIPTION:

The 333RD/RT series are Gallium Arsenide Phosphide red light emitting diodes. The 333HD/HT, 333GD/GT/SGD/SGT and 333PYD/PYT series are Gallium Phosphide bright red, green and yellow light emitting diodes respectively. The 333YD/YT, 333ED/ET, 333ID/IT series are Gallium Arsenide Phosphide on Gallium Phosphide yellow, orange, hi-efficiency red and amber light emitting diodes respectively. General purpose and selected brightness versions of both diffused and non-diffused lens types are available in each series.

ABSOLUTE MAXIMUM RATINGS: (Ta = 25°C)

| | |
|------------------------------|---|
| Reverse Voltage | : 5 Volt |
| Reverse Current (Vr = 5V) | : 10µA |
| Operating Temperature Range: | -40°C To 85°C |
| Storage Temperature Range | : -40°C To 100°C |
| Lead Soldering Temperature | : 260°C For 5 Seconds (1.6 mm (1/16 inch) From Body) |

NOTE: 1. All dimensions are in millimeters.

2. Lead spacing is measured where the leads emerge from the package.

3. Protruded resin under flange 1.5 mm (0.059") Max.

PART SELECTION AND APPLICATION INFORMATION (RATINGS AT 25°C AMBIENT)

| Type No. | Chip | | Lens Color | Peak Wave Length λp(nm) | Absolute Maximum Ratings | | | | Electro-Optical Characteristic | | | | | Viewing Angle 2θ½ (deg) | Remark | |
|----------|-----------|---------------|-----------------|-------------------------|--------------------------|---------|--------|-------------|--------------------------------|-----|-----|------------|---------|-------------------------|--------|----|
| | Material | Emitted Color | | | Δλ (nm) | Pd (mw) | If(mA) | Peak If(mA) | Vf(V) | | | Rec If(mA) | Iv(mcd) | | | |
| | | | | | | | Min. | Typ. | Max. | | | Min. | Typ. | | | |
| EL333RD | GaAsP | Red | Red Diffused | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10~20 | 0.3 | 1.1 | 36 | ** |
| EL333HD | GaP | Bright Red | Red Diffused | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5~10 | 1.0 | 2.0 | 36 | ** |
| EL333ID | GaAsP/GaP | Hi-Eff Red | Red Diffused | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 2.5 | 10.0 | 36 | ** |
| EL333SGD | GaP | Green | Green Diffused | 560 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10~20 | 2.0 | 7.0 | 36 | ** |
| EL333GD | GaP | Green | Green Diffused | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10~20 | 2.0 | 10.0 | 36 | * |
| EL333PYD | GaP | Yellow | Yellow Diffused | 570 | 30 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 2.0 | 10.0 | 36 | * |
| EL333YD | GaAsP/GaP | Yellow | Yellow Diffused | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 2.0 | 10.0 | 36 | * |
| EL333ED | GaAsP/GaP | Orange | Orange Diffused | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 2.5 | 9.0 | 36 | * |
| EL333RT | GaAsP | Red | Red Trans. | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10~20 | 1.7 | 5.0 | 16 | * |
| EL333HT | GaP | Bright Red | Red Trans. | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5~10 | 1.5 | 8.0 | 16 | |
| EL333IT | GaAsP/GaP | Hi-Eff Red | Red Trans. | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 10.0 | 30.0 | 16 | * |
| EL333SGT | GaP | Green | Green Trans. | 560 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10~20 | 10.0 | 30.0 | 16 | * |
| EL333GT | GaP | Green | Green Trans. | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10~20 | 10.0 | 30.0 | 16 | * |
| EL333PYT | GaP | Yellow | Yellow Trans. | 570 | 30 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 9.0 | 28.0 | 16 | |
| EL333YT | GaAsP/GaP | Yellow | Yellow Trans. | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 9.0 | 28.0 | 16 | |
| EL333ET | GaAsP/GaP | Orange | Orange Trans. | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10~20 | 10.0 | 30.0 | 16 | * |

TEST CONDITION FOR EACH PARAMETER:

PARAMETER:

REVERSE VOLTAGE
 REVERSE CURRENT
 FORWARD VOLTAGE
 LUMINOUS INTENSITY
 VIEWING ANGLE
 SPECTRAL LINE HALF-WIDTH
 POWER DISSIPATION
 PEAK FORWARD CURRENT (Duty 1/10 @ 1KHz)
 RECOMMENDED OPERATING CURRENT

SYMBOL

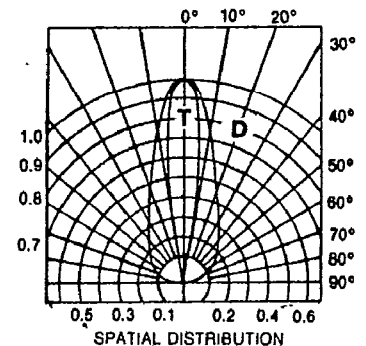
Vr
 Ir
 Vf
 Iv
 2θ½
 Δλ
 Pd
 If (Peak)
 If (Rec)

UNIT

VOLT
 µA
 VOLT
 MCD
 DEGREE
 nm
 mW
 mA
 mA

TEST CONDITION

Vr = 5.0 Volt
 If = 20mA
 If = 10mA
 If = 20mA



Remark: **The most popular types *Common types The rest are special types
 Hi-Eff Red → High Efficiency Red
 Trans → Transparent