

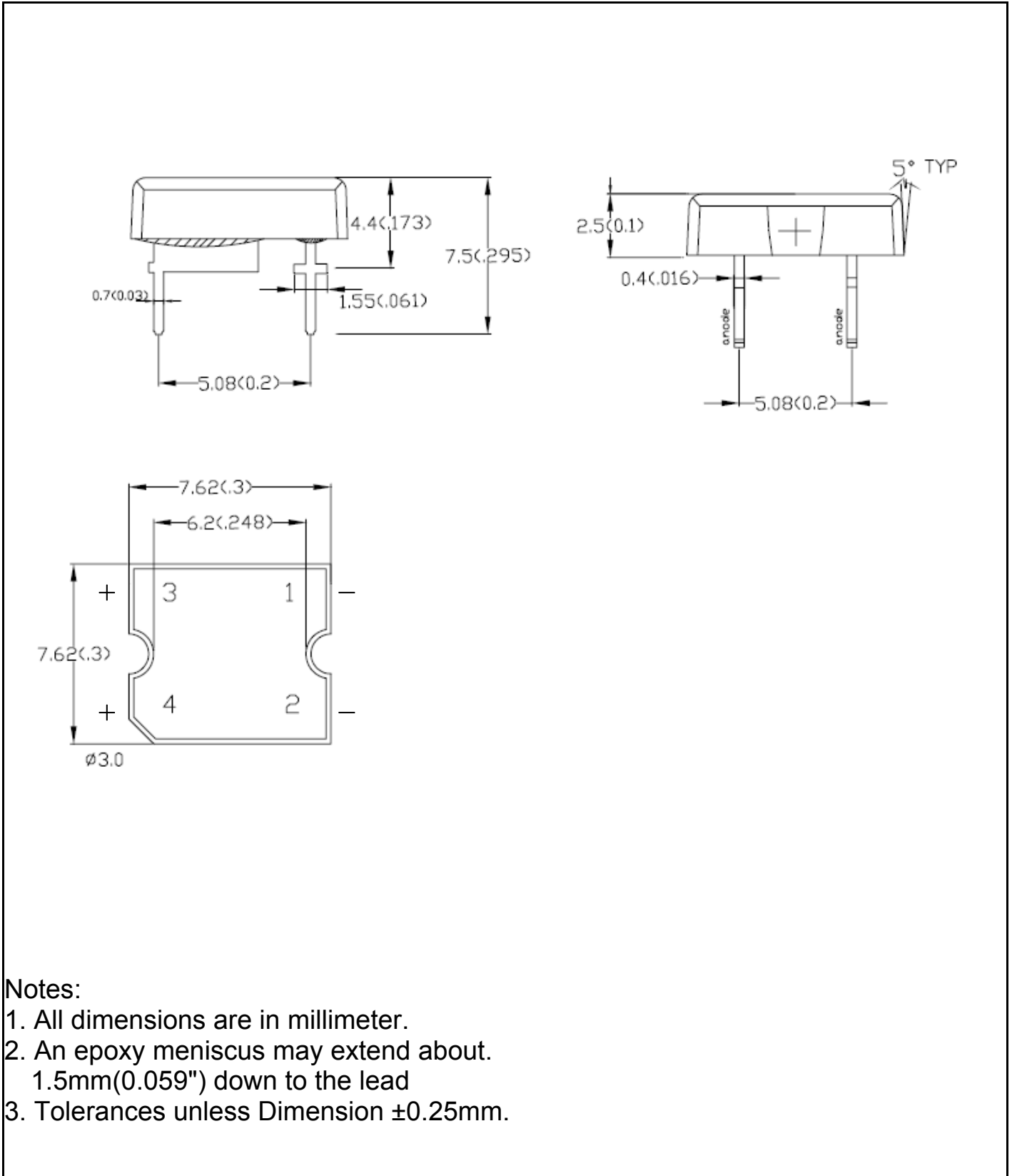
Part No. **AL-00-2UY1CT**

Diff No.

High Power

Type : LED Lamps

■ Package Dimension:



Notes:

1. All dimensions are in millimeter.
2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead
3. Tolerances unless Dimension ± 0.25 mm.

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| LED Parts P/N. | Chip | | Lens Color |
|----------------|----------|---------------|-------------|
| | Material | Emitted Color | |
| AL-00-2UY1CT | AlGaInP | Super Yellow | Water Clear |

■ Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Rating | Unit |
|--|--------------|-------------|------|
| Continuous Forward Current | I_F | 60 | mA |
| Operating Temperature | T_{opr} | -25 to +80 | °C |
| Storage Temperature | T_{stg} | -40 to +100 | °C |
| Soldering Temperature | T_{sol} | 260 ± 5 | °C |
| Electrostatic Discharge | ESD | 1000 | V |
| Power Dissipation | P_D | 180 | mW |
| Peak Forward Current (Duty 1/10@1KHz) | I_F (Peak) | 100 | mA |
| Reverse Voltage | V_R | 5 | V |

■ Electronic Optical Characteristics :

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|------------------------------|-----------------|------|------|------|------|------------|
| Luminous Intensity | I_v | 700 | 1000 | / | mcd | $I_F=60mA$ |
| Viewing Angle | 2θ | / | 150 | / | deg | $I_F=60mA$ |
| Peak Wavelength | λ_p | / | 590 | / | nm | $I_F=60mA$ |
| Dominant Wavelength | λ_d | 585 | 590 | 595 | nm | $I_F=60mA$ |
| Spectrum Radiation Bandwidth | $\Delta\lambda$ | / | 30 | / | nm | $I_F=60mA$ |
| Forward Voltage | V_F | 1.8 | 2.0 | 2.6 | V | $I_F=60mA$ |
| Reverse Current | I_R | / | / | 10 | μA | $V_R=5V$ |

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■ Reliability test items and conditions :

The reliability of products shall be satisfied with items listed below.

Confidence level: 90%

LTPD: 10%

| NO | ITEM | Test Conditions | Test hours/cycle | Sample Q'ty | Ac/Re |
|----|-------------------------------------|--|------------------|-------------|-------|
| 1 | Solder Heat | Temp : 260°C±5°C | 5 sec | 80 pcs | 0/1 |
| 2 | Temperature Cycle | H : +85°C 30min λ 5min L : -40°C 30min | 100 cycles | 80 pcs | 0/1 |
| 3 | Thermal Shock | H : +100°C 5min λ 10sec L : -10°C 5min | 100 cycles | 80 pcs | 0/1 |
| 4 | High Temperature Storage | Ta=100°C | 1000 hrs | 80 pcs | 0/1 |
| 5 | Low Temperature Storage | Ta=-40°C | 1000 hrs | 80 pcs | 0/1 |
| 6 | DC Operating Life | Temp : 25°C I _F =20mA | 1000 hrs | 80 pcs | 0/1 |
| 7 | High Temperature / High Humidity | 85°C / 85%RH | 1000 hrs | 80 pcs | 0/1 |

Part No.

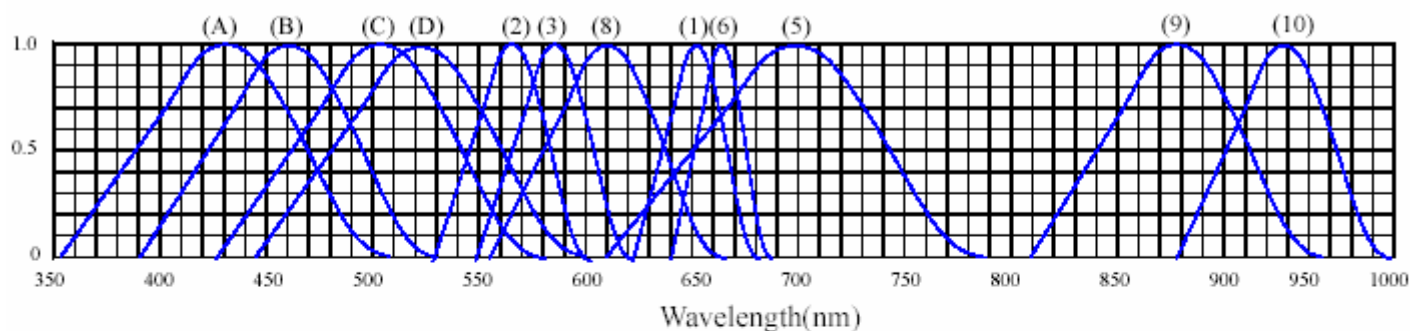
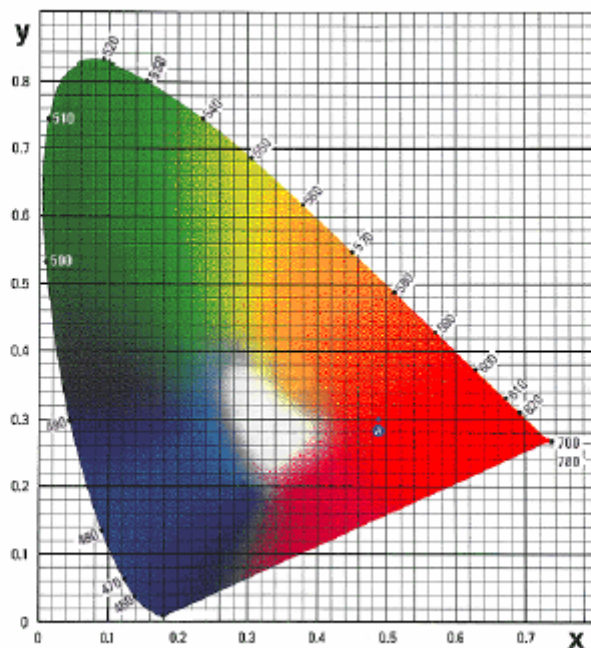
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◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



RELATIVE INTENSITY VS. WAVELENGTH(λ_p)

- | | |
|---|----------------------------------|
| (1) GaAsP/GaAs 655nm/Red | (9)- GaAlAs 880nm |
| (2) GaP 568nm/ Yellow Green | (10)-GaAs/GaAs&GaAlAs/GaAs 940nm |
| (3) GaAsP/GaP 585nm/Yellow | (A)- GaN 430nm/Blue |
| (4) GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B)- InGaN 470nm/Blue |
| (5) GaP 700nm/Bright Red | (C)- InGaN 502nm/Ultra Green |
| (6) GaAlAs/GaAs 660nm/Super Red | (D)- InGaN 523nm/Ultra Green |
| (8) GaAsP/GaP 610nm/Super Red | |

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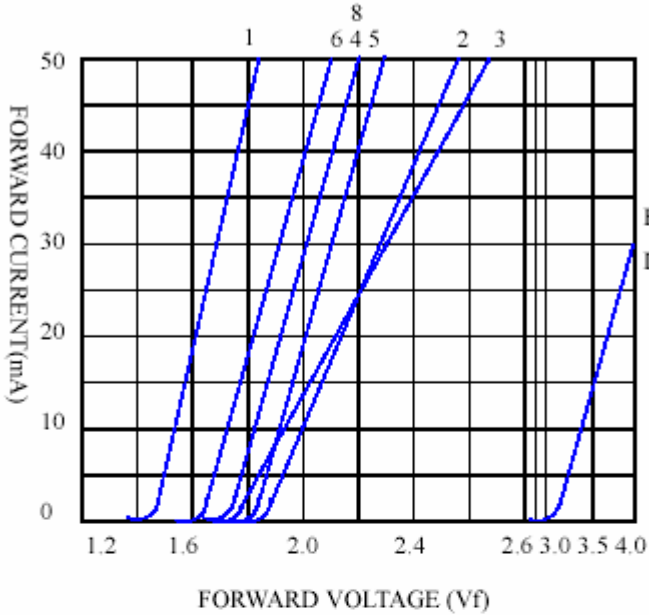
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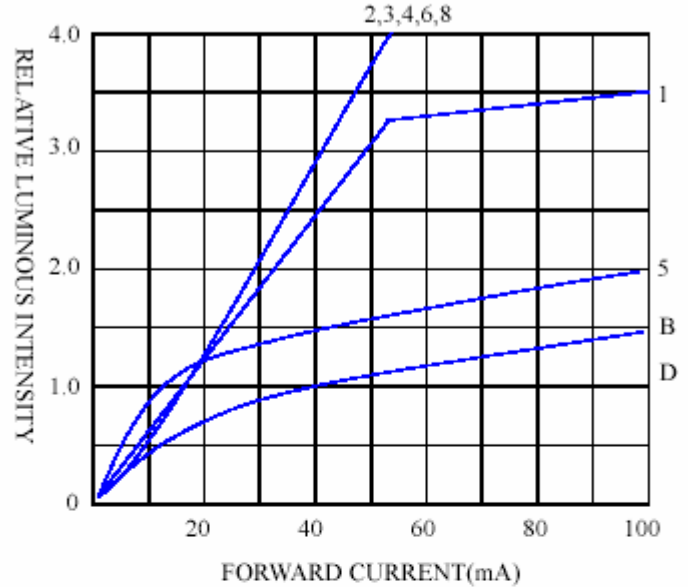
◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE

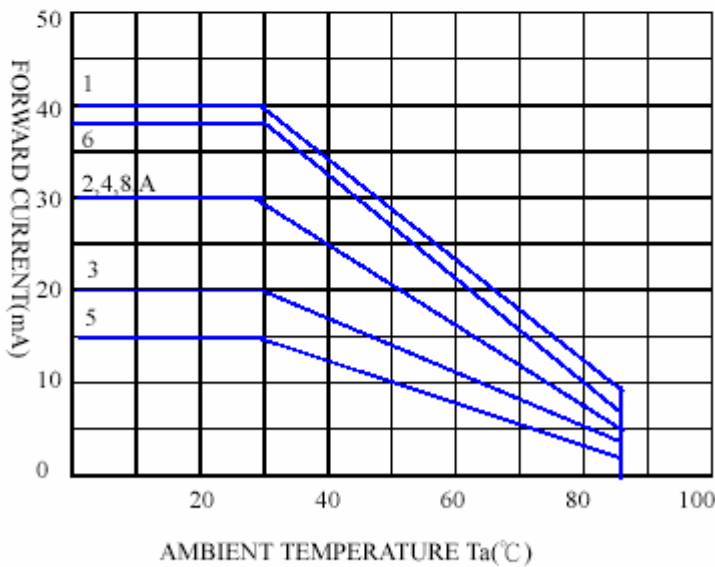


RELATIVE LUMINOUS INTENSITY VS.

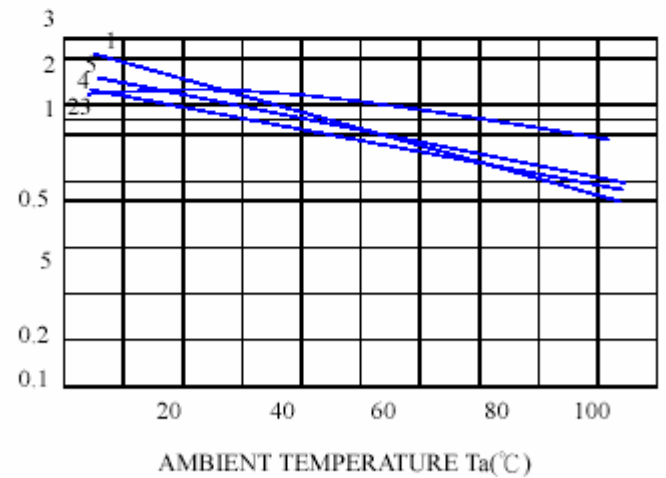
FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RELATIVE LUMINOUS INTENSITY



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Precautions For Use

1. Over-current proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package, the LEDs should be kept at 30°C or less and 90%RH or less.

2.3 The LEDs should be used within a year.

2.4 After opening the package, the LEDs should be kept at 30°C or less and 70%RH or less.

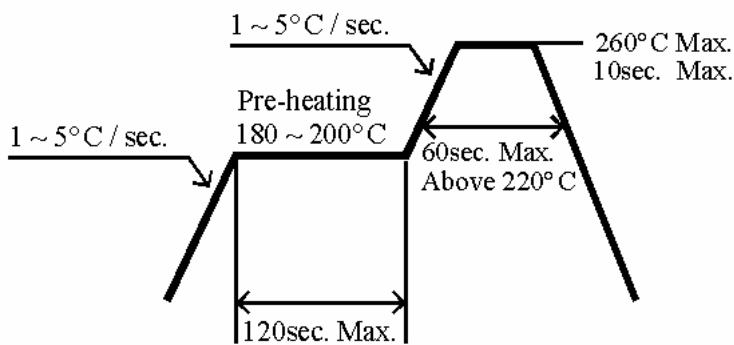
2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

2.6 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5°C for 24 hours.

3. Soldering Condition

3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 280°C for 3 seconds within once in less than soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.