

CTL1206DGR2T DATASHEET

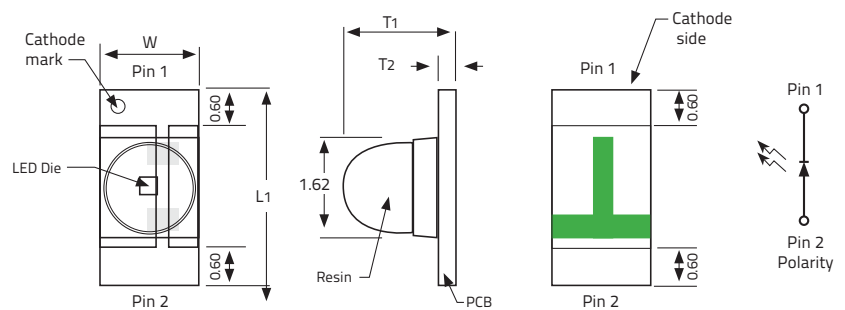
Chip Type LED, 1206, Dome Lens, Green



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| Part Number | Size | Emitting Color | Emitting Material | Lens-Color | Luminous Intensity ($I_F=20\text{mA}$) mcd | Wavelength nm λ_P | Viewing Angle (2θ 1/2) |
|--------------|------|----------------|-------------------|-------------|---|---------------------------|-----------------------------------|
| CTL1206DGR2T | 1206 | Green | AllnGaP | Water Clear | 900.0 min 3600.0 typ | 520 | 20° |

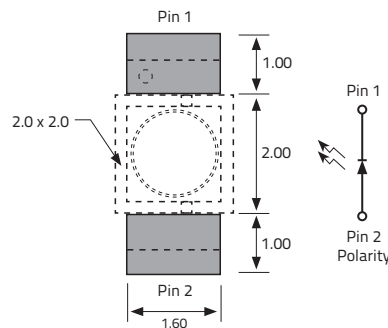
| Electrical & Optical Specifications ($T_A=25^\circ\text{C}$) | GR1 (AlGaInP) | Unit |
|--|-----------------|--------------------|
| Forward Voltage (Min.) ($I_F=20\text{mA}$) | V_F | 3.3 V |
| Forward Voltage (Max.) ($I_F=20\text{mA}$) | V_F | 3.9 V |
| Reverse Current (Max.) ($V_R=5\text{V}$) | I_R | <100 μA |
| Peak Wavelength (Typ.) ($I_F=20\text{mA}$) | λ_P | 520 nm |
| Dominant Wavelength (Typ.) ($I_F=20\text{mA}$) | λ_D | 525 nm |
| Spectral Line Half Width (Typ.) ($I_F=20\text{mA}$) | $\Delta\lambda$ | 30 nm |



| Dimensions | | | | Units: Inches (mm) | | | |
|----------------------------|---------------------------|----------------------------|----------------------------|--------------------|-----|-------|-------|
| L_1 | W | T_1 | T_2 | L_1 | W | T_1 | T_2 |
| 0.1259±0.004 (3.20±0.1) | 0.0629±0.004 (1.6±0.1) | 0.0728±0.004 (1.85±0.1) | 0.0110±0.004 (0.28±0.1) | | | | |

| Absolute Maximum Ratings ($T_A=25^\circ\text{C}$) | GR1 (AlGaInP) | Unit |
|---|---------------|---------------|
| Reverse Voltage | V_R | 5 V |
| DC Forward Current | I_F | 20 mA |
| Peak Forward Current 1/10 Duty Cycle @ 10KHz | I_{FP} | 40 mA |
| Power Dissipation | P_D | 48 mW |
| Operating Temperature | T_A | -40 ~ +85 °C |
| Storage Temperature | T_{stg} | -40 ~ +100 °C |

Soldering Pad Layout



Tolerances are all ±0.1mm

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Graphs

Fig.1 Forward Current vs Forward Voltage

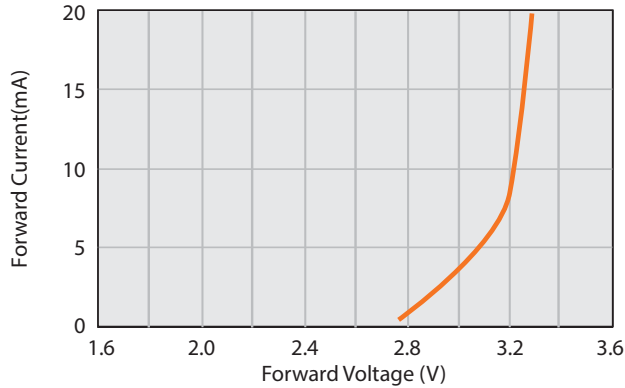


Fig.2 Relative Intensity vs Forward Current

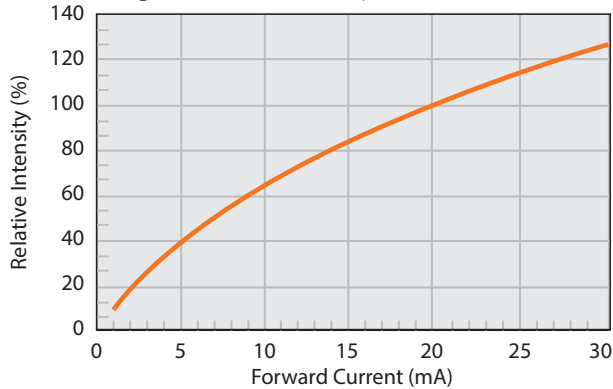


Fig.3 Current vs Temp

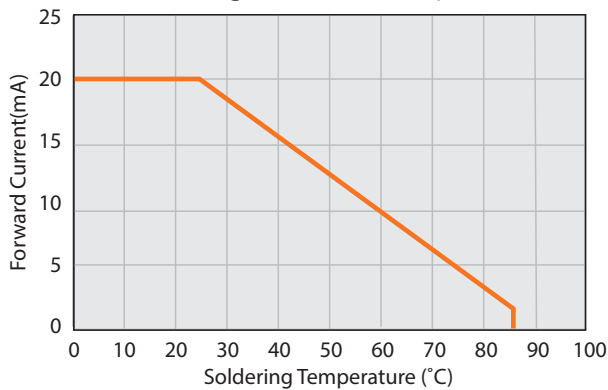


Fig.4 Relative Intensity vs Wavelength

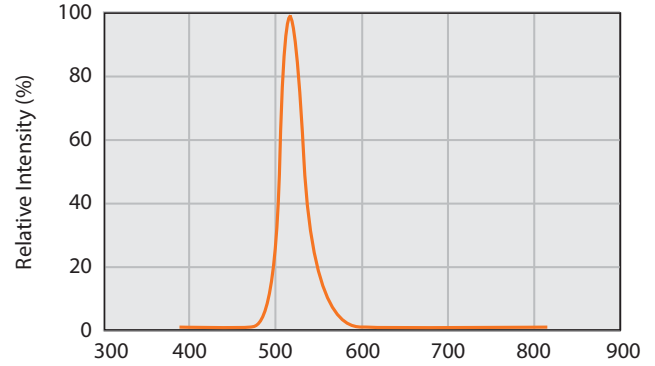
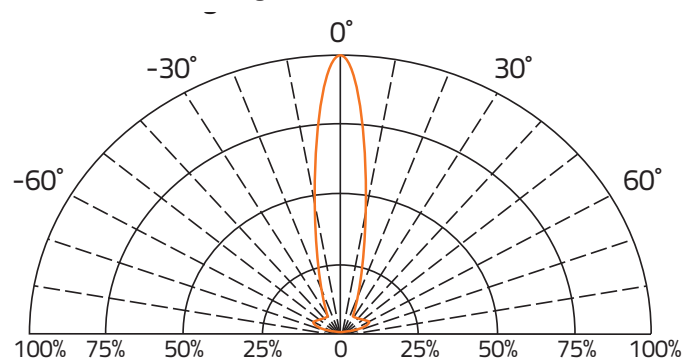


Fig.5 Direct Radiation



| Environmental information | |
|----------------------------------|-----------------------|
| RoHS Status | 6 of 6 Compliant |
| REACH Status | Compliant |
| Halogen Status | Halogen Free |
| Conflict Mineral Status | Conflict Mineral Free |
| Moisture Sensitivity Level (MSL) | 3 |

| Reflow profile | |
|--------------------------------|------------|
| Max Reflow Temperature | 260°C |
| Number of Reflow Cycles | 2 |
| Time at Max Reflow Temperature | 10 seconds |

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Label Example

Item: CTL1206DGR2T

Chip Type LED, 1206, Dome Lens, Red (Super Bright Red)

Qty: 2000

D/C: 1616

Lot: E1A1A22L12

BIN/HUE: AA/B

VF: 1.6V-2.4V

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YOUR SINGLE SOURCE FOR SURFACE MOUNT PASSIVES

Codes:

VF: Forward Voltage | BIN: Luminous Intensity | HUE: Dominant Wavelength

Luminous Intensity Classification (BIN Code)

| BIN Code | Iv(mcd) at 20mA | |
|----------|-----------------|--------|
| | Min. | Max. |
| Y | 900.0 | 1000.0 |
| Z | 1125.0 | 1440.0 |
| AA | 1440.0 | 1800.0 |
| AB | 1800.0 | 2250.0 |
| AC | 2250.0 | 2850.0 |
| AD | 2850.0 | 3600.0 |

Dominant Wavelength Classification (HUE Code)

| HUE Code | λ_D (nm) at 20mA | |
|----------|--------------------------|-------|
| | Min. | Max. |
| A | 515.0 | 520.0 |
| B | 520.0 | 525.0 |
| C | 525.0 | 530.0 |
| D | 530.0 | 535.0 |

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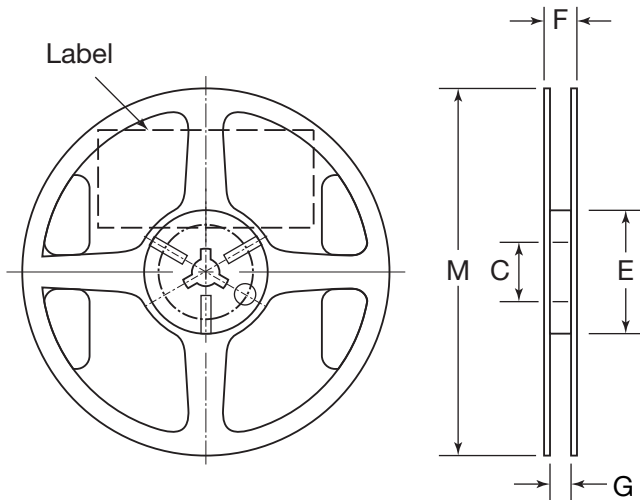
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Reel Specifications

Units: mm



| M | C | F | E | G |
|----------|----------|----------|----------|---------|
| 178±1.50 | 13.0±1.0 | 12.0±1.0 | 60.0±1.0 | 9.0±1.0 |

Packaging Specifications

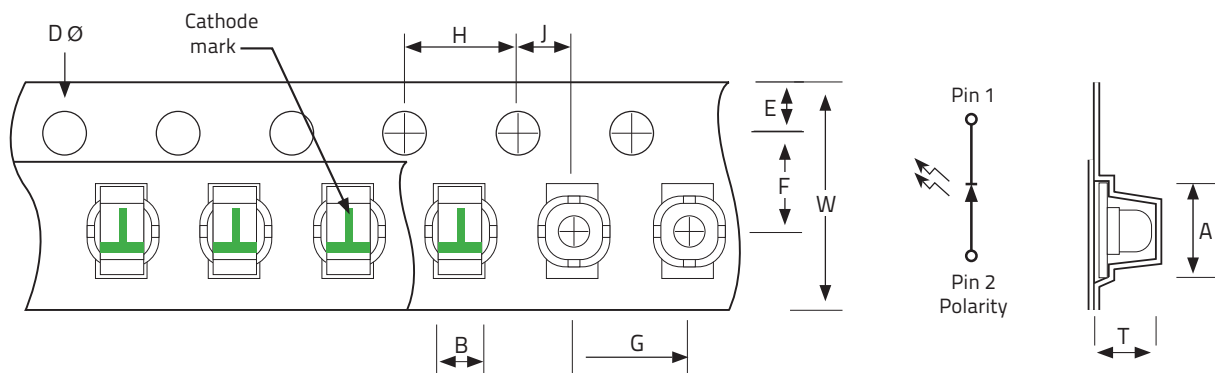
| | |
|---------------------|-------|
| Reel Size: | 7" |
| Quantity per Reel : | 2,000 |

Storage Specifications

1. Storage temperature and RH: 5°C~35°C, RH60%
2. Once the package is opened, the LEDs should be used within a week. Otherwise, they should be kept in a moisture proof bag with desiccant. We suggest that you use this product within one year from date code.
3. If opened for more than one week in an atmosphere of 5°C~35°C, RH60%. The parts should be heat treated at 60°C±5°C for 15 hours.

Tape Specifications

Units: mm



| | | | | |
|-----------|----------------|-----------|-----------|----------|
| T | W | A | B | F |
| 2.17±0.10 | 8.0+0.30/-0.10 | 3.37±0.10 | 1.78±0.10 | 3.5±0.05 |
| E | H | J | D | G |
| 1.75±0.1 | 4.0±0.1 | 2.0±0.05 | 1.5±0.1 | 4.0±0.1 |

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Environmental Test Criteria

| Classification | Test Item | Test Condition | Sample Size |
|--------------------|----------------------------|---|-------------|
| Endurance Test | Operating Life | 1. 25°C 2. 1000hrs | 40 |
| | High Temperature Storage | 1. 85°C±5°C 2. 1000hrs | 40 |
| | Temperature, Humidity Bias | 1. 40°C 2. 93% 3. 1000hrs | 40 |
| Environmental Test | Solderability | 1. 245°C / 3±1 sec 2. 260°C / 10±1 sec | 40 |