

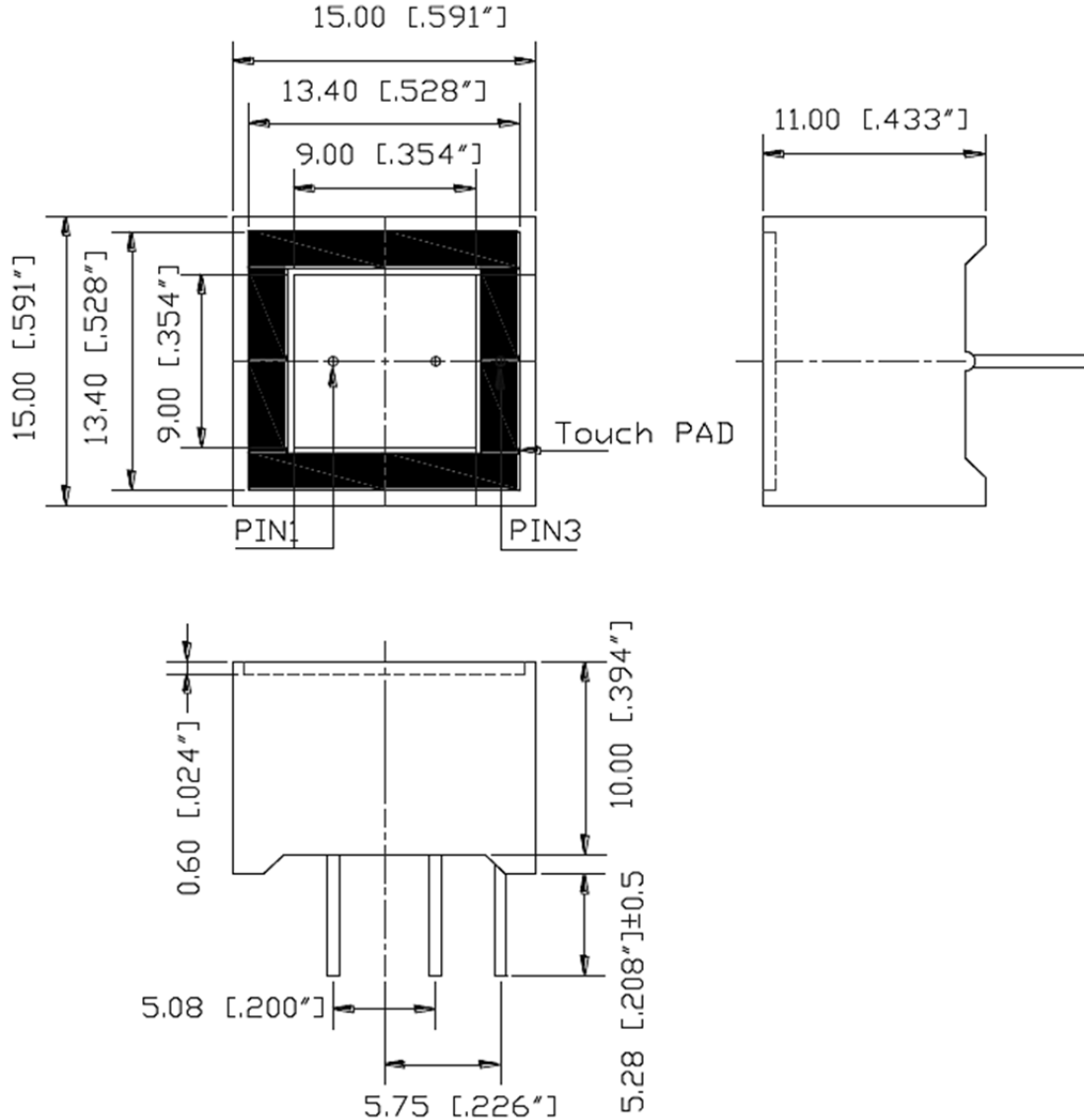


American Opto Plus LED Corp.

CTD591B-W/W

15.0 x 15.0 x 11.0 mm Touch LED Blue Display

PACKAGE DIMENSION



Notes:

1. All pins are $\Phi 0.60[0.24]$, dimensions in millimeter.
2. Tolerances are $\pm 0.25[0.01]$ unless otherwise noted.

| Chip Material | Color | |
|---------------|---------|--------------|
| | Emitter | Face/Segment |
| InGaN | Blue | White/ White |

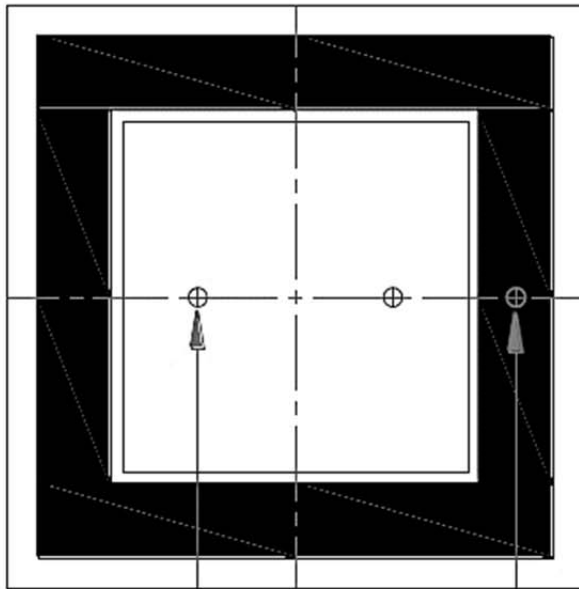


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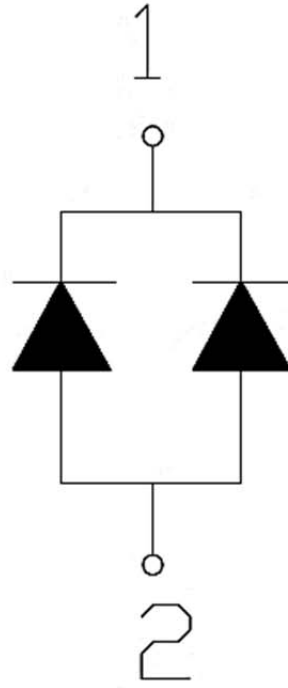
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PIN POSITION & INTERNAL CIRCUIT DIAGRAM

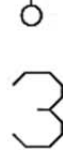


PIN1

PIN3



Touch PAD





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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| Parameter | Symbol | Value | Unit |
|---|------------------|---------|-------|
| Power Dissipation Per Dice | P _D | 114 | mW |
| Derating Liner from 25°C Per Dice | -- | 0.4 | mA/°C |
| Continuous Forward Current Per Dice | I _F | 30 | mA |
| Peak Current Per Dice (duty cycle 1/10, 1KHz) | I _{FP} | 100 | mA |
| Reverse Voltage Per Dice | V _R | 5 | V |
| Operating Temperature Range | T _{OPR} | -35~+85 | °C |
| Storage Temperature Range | T _{STG} | -35~+85 | °C |

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

| Parameter | Symbol | Test Condition | Value | | | Unit |
|-----------------------------------|-------------------|----------------------|-------|-----|-----|------|
| | | | Min | Typ | Max | |
| Forward Voltage | V _F | I _F =20mA | -- | 3.2 | 3.8 | V |
| Luminous Intensity | I _V | | 27.5 | 68 | -- | mcd |
| Dominant Wavelength | λ _D | | -- | 470 | -- | nm |
| Spectrum Radiation Bandwidth | Δλ | | -- | 30 | -- | nm |
| Luminous Intensity Matching Ratio | I _V -m | I _F =10mA | -- | -- | 2:1 | -- |
| Reverse Current | I _R | V _R =5V | -- | -- | 100 | μA |

Forward voltage tolerance: ±0.1V

Luminous intensity tolerance: ±20%



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LUMINOUS INTENSITY BIN GRADE

($I_F=20mA$)

| M | N | P |
|--------|--------|---------|
| 27.559 | 44.096 | 70.555 |
| | | |
| 44.095 | 70.554 | 112.888 |

COLOR BIN GRADE

($I_F=20mA$)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------|-------|-------|-------|-------|-------|-------|
| 453.0 | 456.0 | 459.0 | 462.0 | 465.0 | 468.0 | 471.0 |
| ∩ | ∩ | ∩ | ∩ | ∩ | ∩ | ∩ |
| 455.9 | 458.9 | 461.9 | 464.9 | 467.9 | 470.9 | 474.0 |



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OPTICAL CHARACTERISTIC CURVES

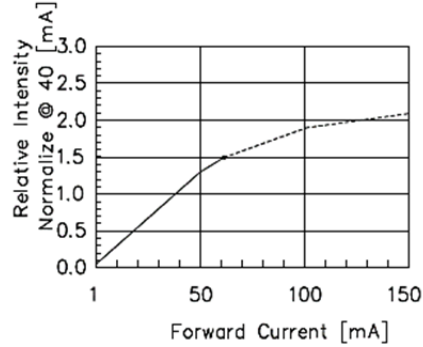
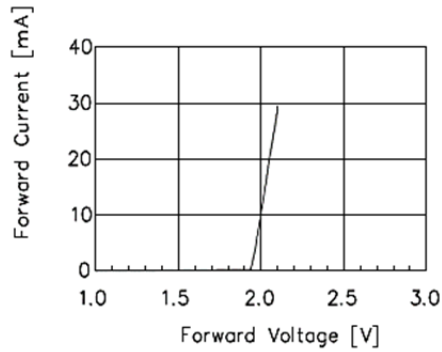


Fig 1. Forward Current vs. Forward Voltage(One chip) Fig 2. Relative Intensity vs. Forward Current

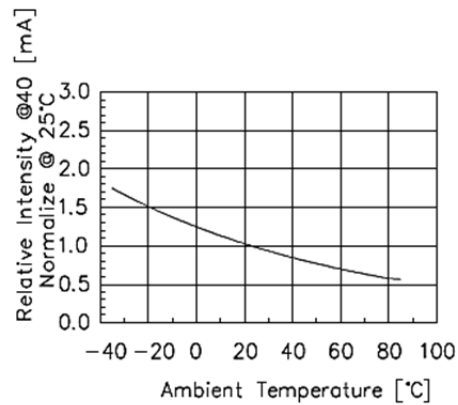
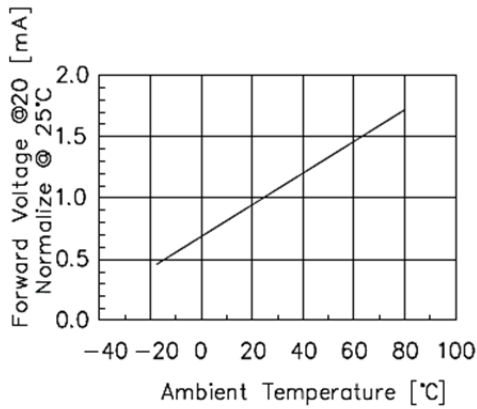


Fig 3. Forward Voltage vs. Temperature(One chip) Fig 4. Relative Intensity vs. Temperature

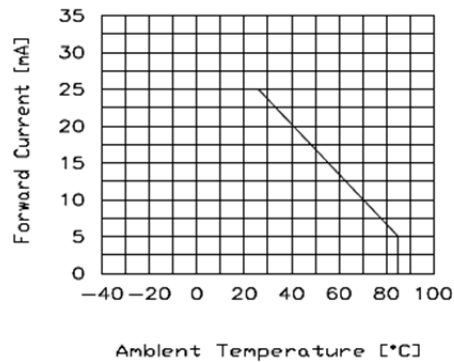
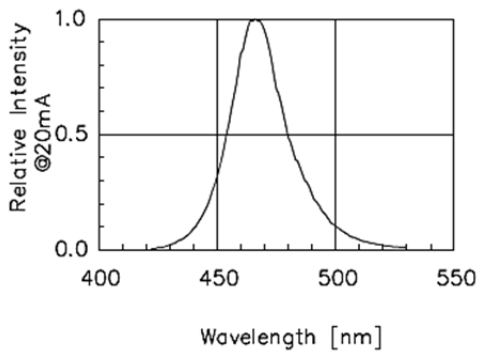


Fig 5. Relative Intensity vs. Wavelength(One chip) Fig 6. Maximum allowable DC current per segment vs. A function of ambient temperature(One chip)



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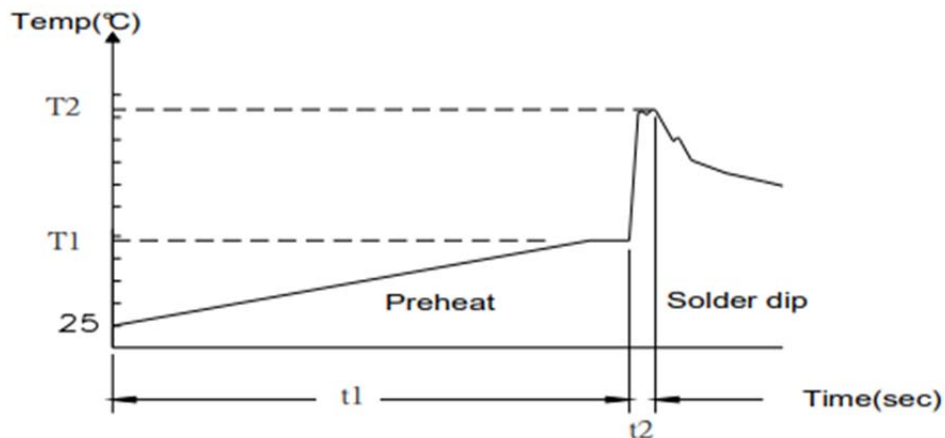
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SOLDERING CONDITIONS

1. Wave Soldering Profile

Distance: 1.6mm min (From Seating Plane)

| Item | Condition | | Note |
|------------|----------------|-------------|---|
| Preheat | Temperature T1 | 80 – 120 °C | PWB Temperature (Soldering Side Surface) |
| | Time t1 | 60 – 180sec | |
| Solder Dip | Temperature T2 | 230 – 260°C | Bath Temperature |
| | Time t2 | 2 – 4 sec | Solder Tank Passage Time |



2. Hand Soldering (Iron Condition)

Soldering Iron: 30W Max

Temperature 350°C Max

Soldering Time: 3 Seconds Max (One Time)

Distance: 1.6mm min (From Seating Plane)

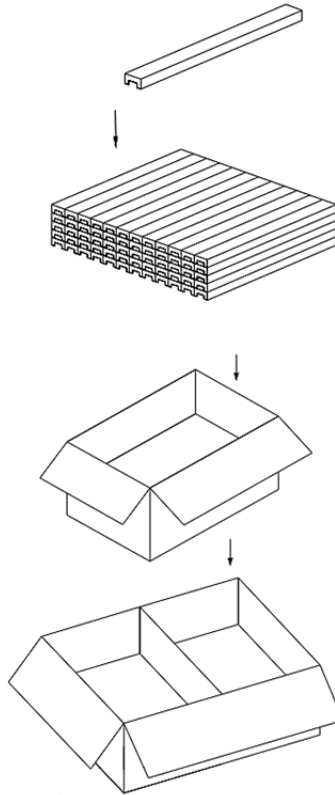


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PACKAGE SPECIFICATION



| Package | Size | Unit | Amount | Unit | Amount | Unit | Note |
|-----------|----------------|------|--------|-----------|--------|------|-----------|
| TUBE | L300*W190*H20 | mm | 1 | TUBE | 10 | Pcs | -- |
| Inner Box | L305*W205*H240 | mm | 187 | TUBE | 1870 | Pcs | 17*11=187 |
| Outer Box | L430*W330*H270 | mm | 2 | Inner Box | 3740 | Pcs | -- |

STORAGE METHOD

1. Product cannot be placed on the location of direct sunlight.
2. Product storage environment: Temp. -35°C~85°C, RH 45%~85%.
3. After unpacking the product be use within 1 year.
4. After unpacking, do not take anything up in order to avoid PIN shifting.