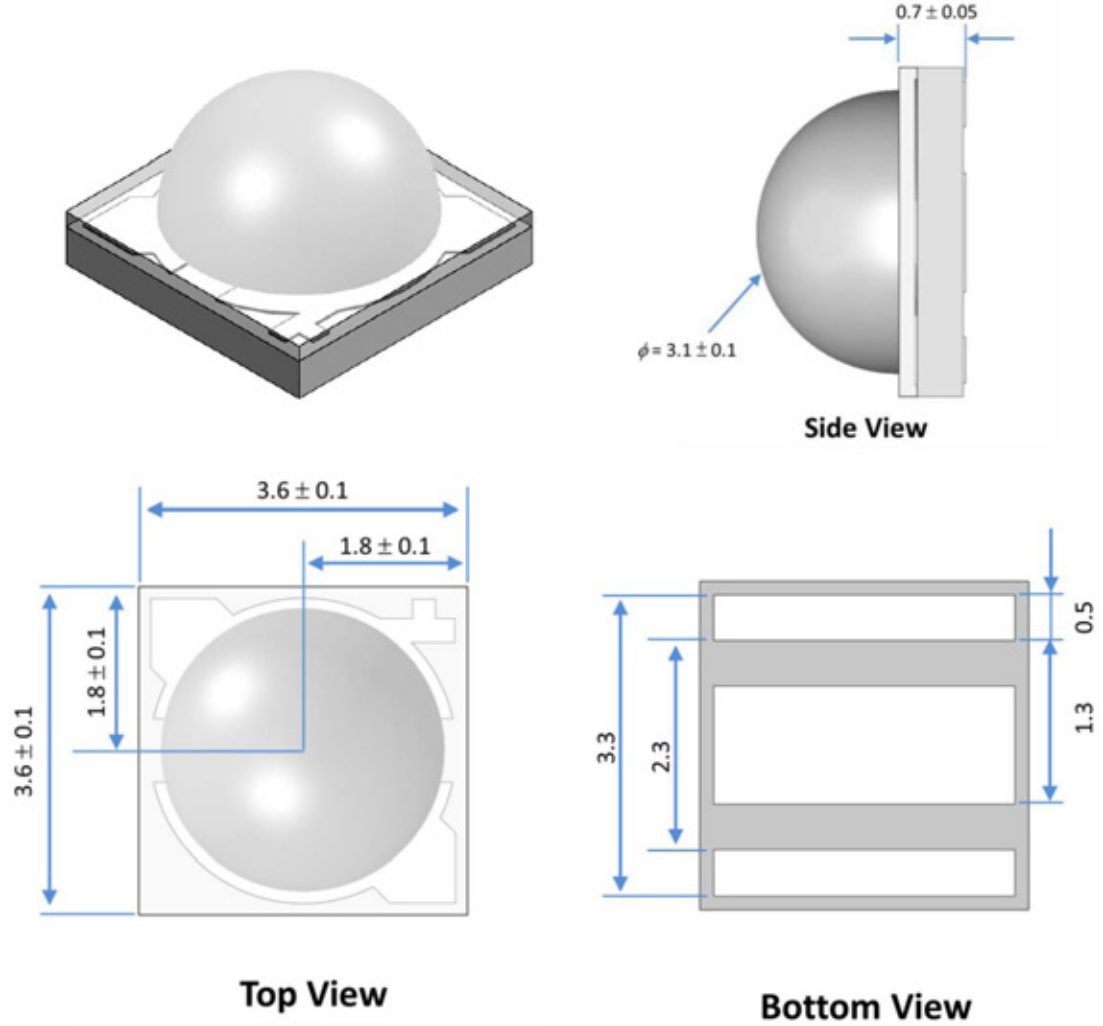


SPECIFICATION **CSHD1414CW2C**
PACKAGE OUTLINES


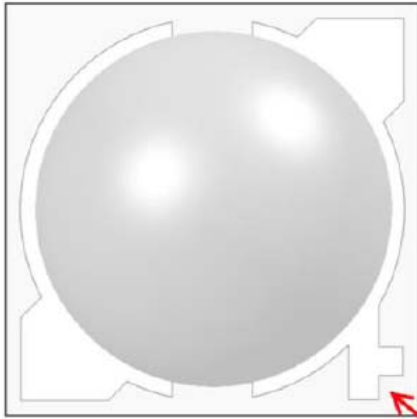
- Notes:
1. All dimensions are in millimeters (inches).
 2. Tolerance is ± 0.25 mm (0.01") unless otherwise noted.
 3. Specifications are subject to change without notice.

| Part Number | Chip Material | Color of Emission | Lens Type | Viewing Angle |
|--------------|---------------|-------------------|-------------|---------------|
| CSHD1414CW2C | InGaN | White | Water Clear | 130° |



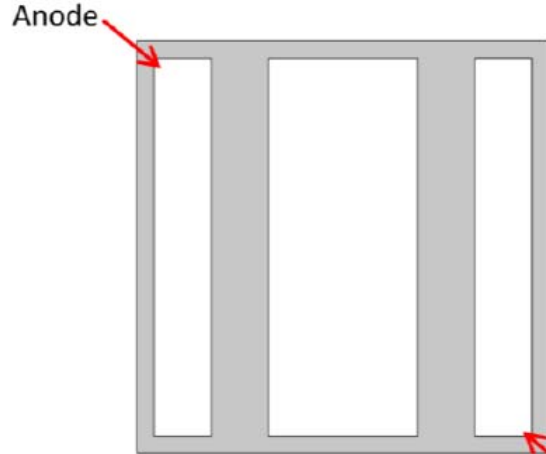
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RECOMMENDED SOLDER PADS



Anode mark

Top View

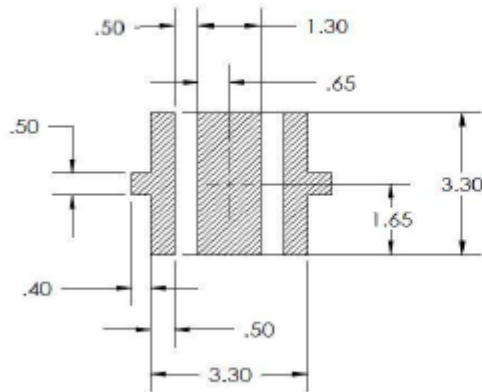


Anode

Cathode

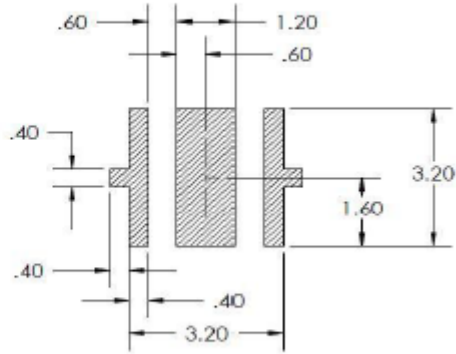
Bottom View

Recommended PCB solder pad:



RECOMMENDED PCB SOLDER PAD

Recommended stencil pattern:



**RECOMMENDED STENCIL PATTERN
(HATCHED AREA IS OPENING)**



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ABSOLUTE MAXIMUM RATINGS
(TA=25°C)

| Parameter | Symbol | Max Rating | Unit |
|--|--------|-------------------------|------|
| Forward Current | IF | 700 | mA |
| Reverse Voltage | VR | 5 | V |
| Operating Temperature Range | TOP | -40~+85 | °C |
| Storage Temperature Range | TSTG | -40~+100 | °C |
| Peak Pulsing Current (1/10 duty f = 10KHz) | IFP | 1000 | mA |
| Soldering Temperature | TSOL | Max 240°C for 5 sec Max | |

OPTICAL-ELECTRICAL CHARACTERISTICS
(TA=25°C)

| Parameter | Symbol | Test Condition | Value | | | Unit |
|------------------------------|--------|----------------|-------|-----|------|------|
| | | | Min | Typ | Max | |
| Luminous Intensity | Iv | IF = 350mA | 100 | 120 | - | lm |
| Forward Voltage | VF | IF = 350mA | - | 3.3 | - | V |
| Reverse Leakage Current | IR | VR = 5V | - | - | 10 | µA |
| Viewing Angle at 50% Iv | 2θ1/2 | IF = 350mA | - | 130 | - | Deg |
| Color Rendering Index | CRI | IF = 350mA | - | 75 | - | - |
| Correlated Color Temperature | CCT | IF = 350mA | 4745 | - | 7040 | K |

*Tolerance of viewing angle: -10 / +5 deg.

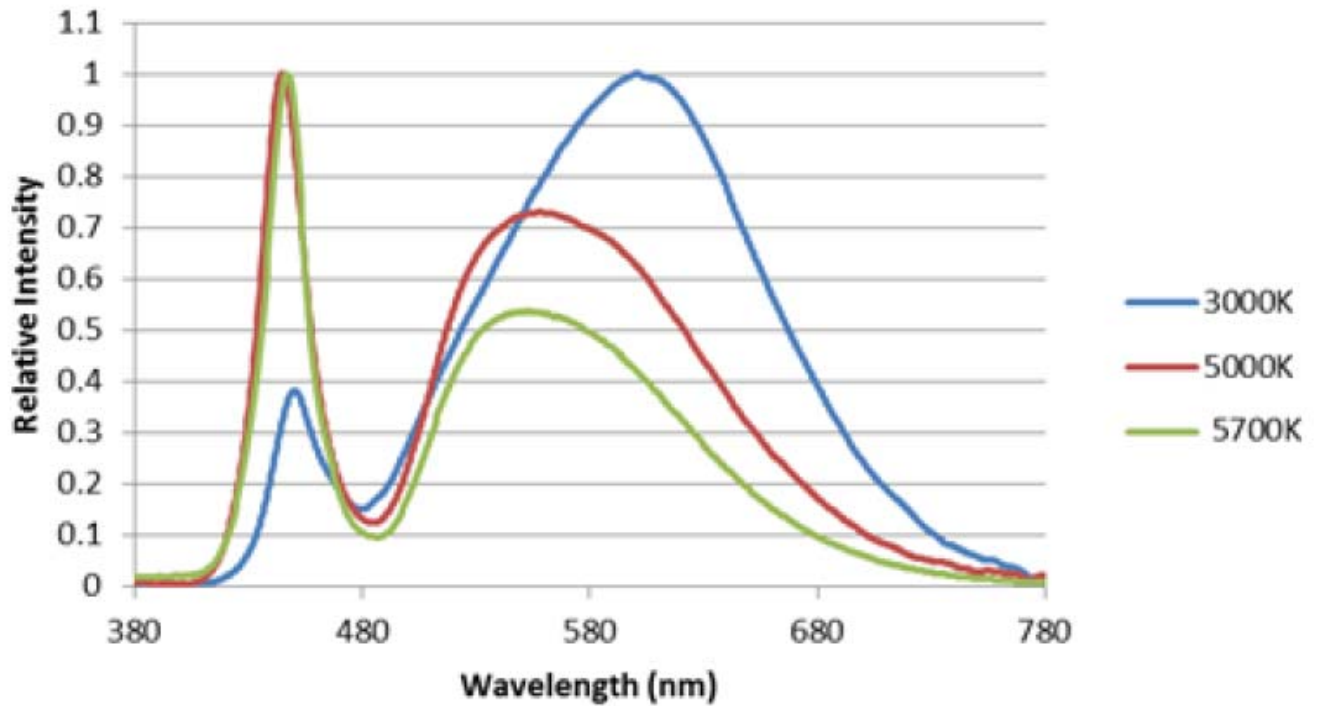


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OPTICAL CHARACTERISTIC CURVES

Relative Spectral Distribution vs. Wavelength Characteristics

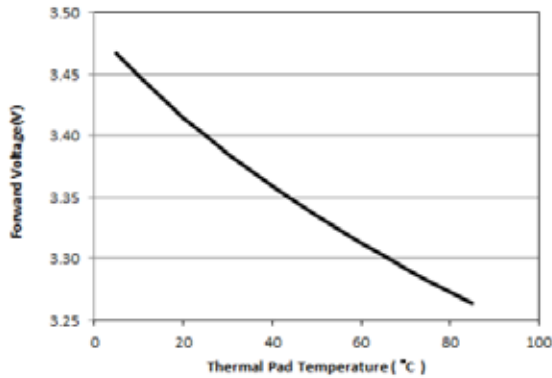
Nominal 3000K, 5000K and 5700K – Thermal Pad Temperature = 25°C



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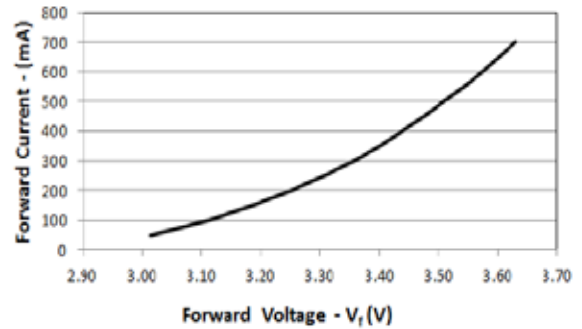
OPTICAL CHARACTERISTIC CURVES

Forward Voltage vs. Thermal Pad Temperature @350mA

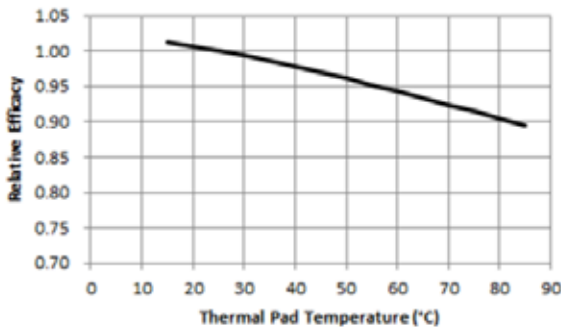


Typical Forward Current Characteristics

Pad Temperature = 25°C

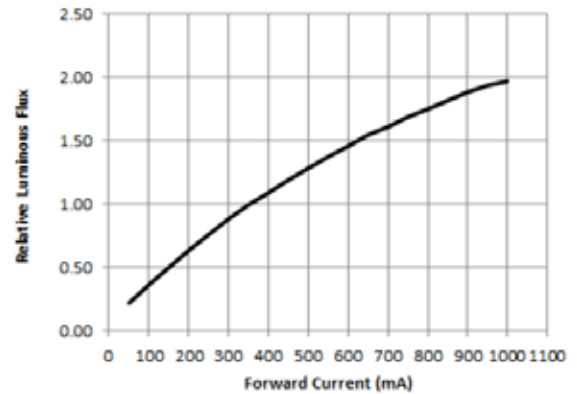


Typical Efficacy vs. Thermal Pad Temperature @350mA

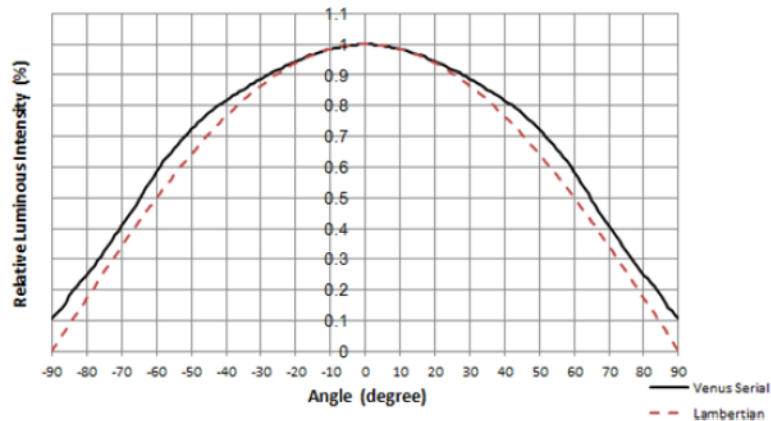


Typical Relative Luminous Flux vs. Forward Current

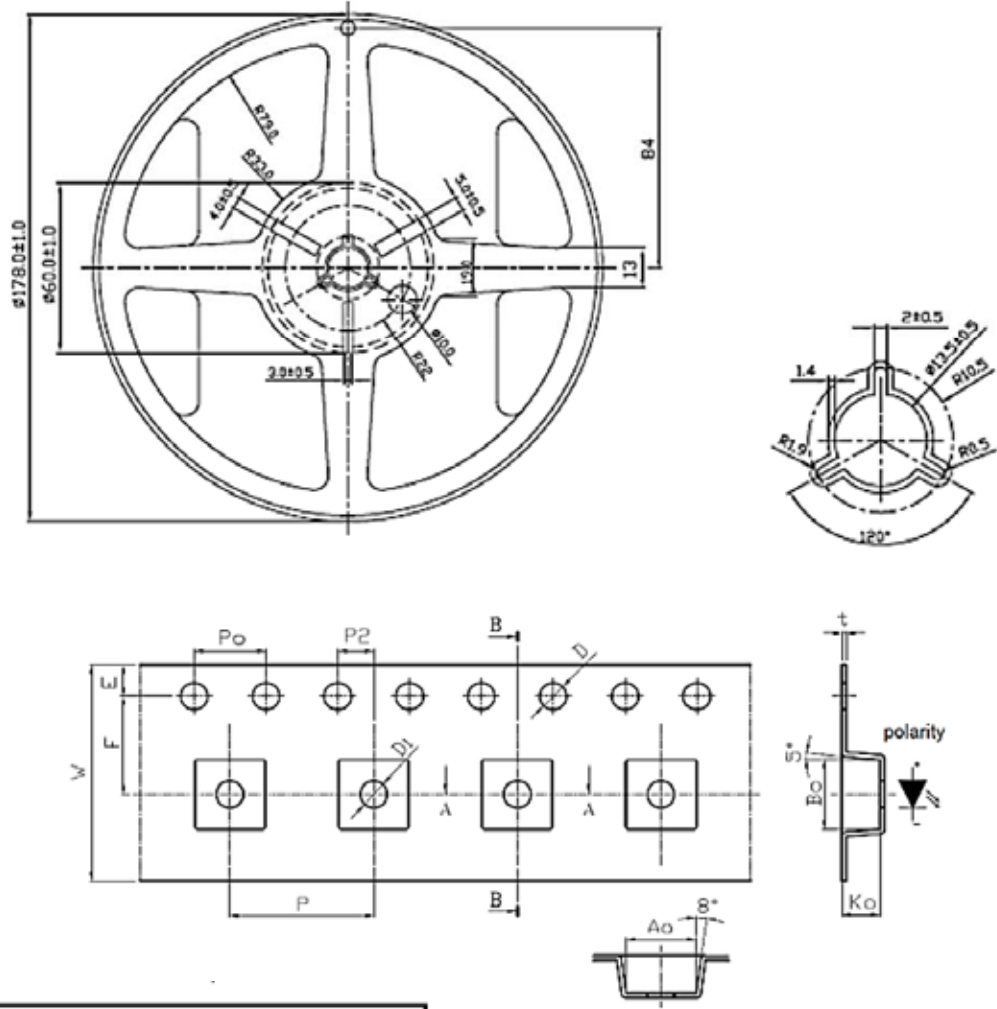
Thermal Pad Temperature = 25°C



Typical Radiation Patterns



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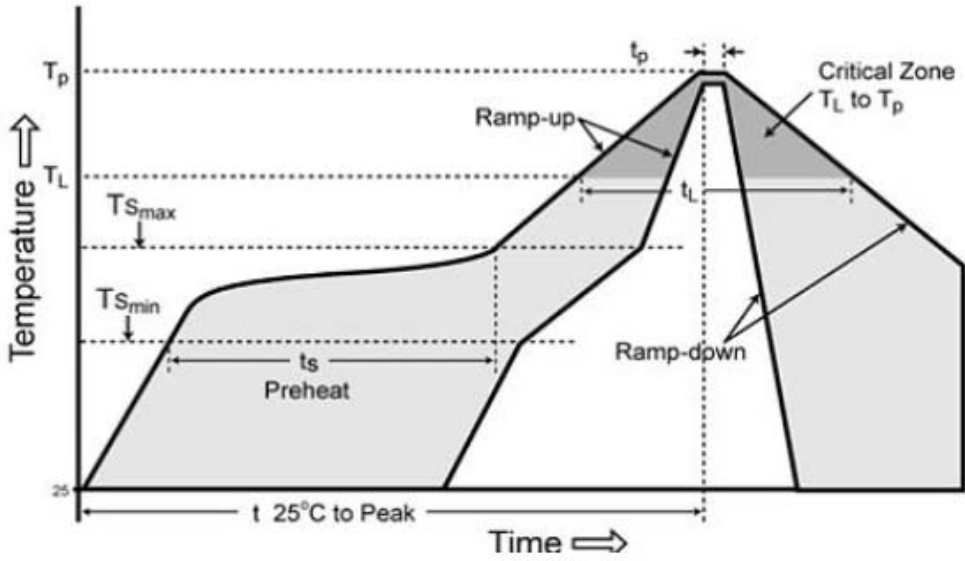
PACKAGING SPECIFICATION
TAPE & REEL DIMENSIONS


| Symbol | Dimension |
|--------|------------------------|
| W | 12.00±0.10 |
| P | 8.00±0.10 |
| E | 1.75±0.10 |
| F | 5.50±0.05 |
| P2 | 2.00±0.05 |
| D | 1.50+0.10 or 1.50-0.00 |
| D1 | 1.50±0.10 |
| Po | 4.00±0.10 |
| 10Po | 40.00±0.20 |
| Ao | 3.90±0.10 |
| Bo | 3.90±0.10 |
| Ko | 2.15±0.1 |
| t | 0.26±0.05 |



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SOLDERING CONDITIONS



| Profile Feature | Pb-Free Assembly |
|---|------------------|
| Average ramp-up rate (TL to TP) | 3°C/second max. |
| Preheat | |
| Temperature Min (Tsmin) | 150°C |
| Temperature Max (Tsmax) | 200°C |
| Time (min to max) (ts) | 60-180 seconds |
| Time maintained above: | |
| Temperature (TL) | 217°C |
| Time (tL) | 60-150 seconds |
| Peak/Classification Temperature (Tp) | 240°C |
| Time within 5°C of actual Peak Temperature (tp) | 20-40 seconds |
| Ramp-down Rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max. |



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