Datasheet no.47 POLYWA POWER LEDs KLHP3433XE

KLHP3433XE POLYWA Power LED EMITTER is an excellent high power LED for **Solid Sate Lighting** applications. This emitter (with Star MPCB option) with **silicone lens** technology provides the good life and can be **reflow soldered** at 260°C.The ULTRA LOW DECAYin light output is less than 10% at severe stress conditions (700mA, 85°C ,85%RH) proves high reliability.

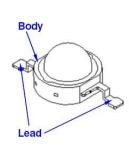
With special **phosphor** technology, warm white KLHP3433WWE has very good color stability in high temperature. The typical CCT change is less than 50K when junction temperature achieves 100°C.



KLHP3433XE has special design to fit second optics. The user can easily get the uniform light with any secondary optics.

R4,00±0,20 Anode 2x1. +0.20 2×1,50±0,20 Protection device Die heatsink 5,60±0,20 2,90±0,20 5,3±0,3 02,0120,1 03(0±51,0 11,80±0,30 14,60±0,30

1. MECHANICAL DIMENSIONS



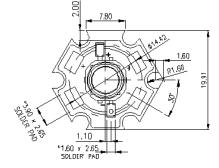
3,63±0,20

R2,99±0,20

Anode

Star with MPCB





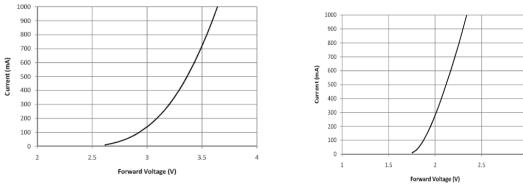
2. Absolute Ratings

| Parameter | Rating | | | | |
|---------------------------------|--|--|--|--|--|
| Farameter | White Series / Royal Blue / Blue / Green / Amber / Red | | | | |
| Typical DC Forward Current (mA) | 350~700 mA | | | | |
| LED Junction Temperature | 125°C | | | | |
| LED Operating Temperature | -40°C∼110°C | | | | |
| Storage Temperature | -40°C∼110°C | | | | |
| Soldering Temperature | Max. 260°C / Max. 10sec. (JEDEC 020c) | | | | |
| ESD Sensitivity | 2,000 V HBM (JESD-22A-114-B) | | | | |
| Reverse Voltage | Not design to be driven in reverse bias | | | | |
| | (VR≦5V) | | | | |
| Preconditioning | Acc. to JEDEC Level 2 | | | | |

2. Typical Forward I-V Characteristics

2.1 White Series/Green / Blue / Royal Blue





3. General Characteristics

3.1 Luminous Flux and Forward Voltage at 350mA and 700mA Forward Forward T D (I uminous Luminous CCT/-m 00

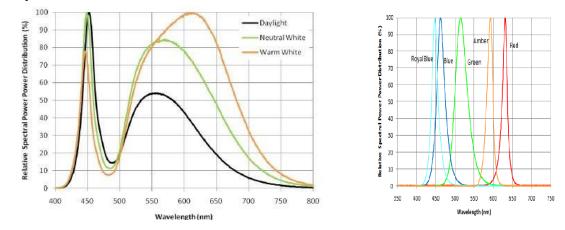
| Part Number | colour | Luminou Flux(lm) Or Radic power *(@350m/ Min lumen | ometric (mW) | Luminou Flux(lm) Or Radio power *(@700m/ Min lumen |) ometric (mW) | Forward voltage Vf(v) @350mA | Forward voltage Vf(v) @700mA | Typ. CRI | CC17 ₃ p | 201/2 |
|----------------|--------|---|-----------------|---|----------------------|---------------------------------------|---------------------------------------|-------------|---------------------|-------|
| KLHP3433W | W | 110-120 | 130-140 | 240 | 260-280 | 2.8-3.8 | 3.0-4.1 | 70 | 4750K- 7000K | 135 |
| KLHP3433NW | NW | 70 | 80 | 119 | 136 | 2.8-3.8 | 3.0-4.1 | 75 | 3700K- 4750K | 130 |
| KLHP3433WW | WW | 50 | 60 | 85 | 120 | 2.8-3.8 | 3.0-4.1 | 80 | 2600K- 2700K | 125 |
| KLHP3433R | Red | 35 | 45 | 65 | 83 | 2.0-3.4 | 2.2-3.7 | - | 620-635 | 145 |
| KLHP3433A | Amber | 35 | 45 | 61 | 79 | 2.0-3.4 | 2.2-3.7 | - | 580-600 | 145 |
| KLHP3433G | Green | 45 | 60 | 74 | 99 | 2.8-3.8 | 3.0-4.1 | - | 520-535 | 150 |
| KLHP3433B | Blue | 10 | 18 | 17 | 31 | 2.8-3.8 | 3.0-4.1 | - | 460-470 | 140 |

Temperature coefficient of Vf : -3 mV/°C W,G,B,-2 mV/°C

Thermal Resistance Junction to LED case: 10°C/W

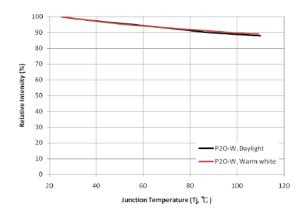
Note:

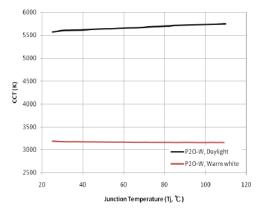
- 1. Luminous flux is measured with an accuracy of ±10%
- 2. the CCT colour correlated color temperature is measured with an accuracy of ±200K
- 3. The peak/dominant wavelength is measured with an accuracy of ±1nm
- 4. The forward voltage is measured with an accuracy of ±0.1V



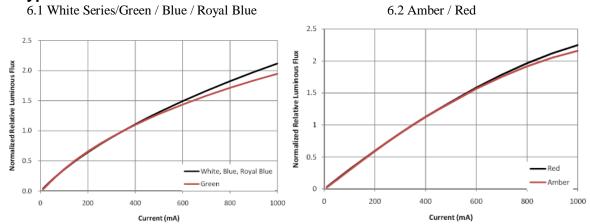
5. Spectral Characteristics of White LEDs & other Colors

5. Light output Characteristics over Temperature



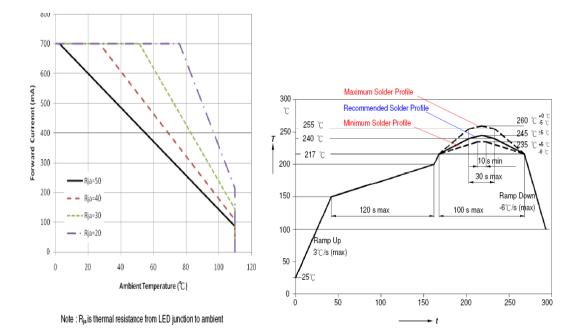


6. Typical Forward I-V Characteristics



7. Current De-rating Curve

8. Recommended Soldering Profile



9. Reliability Information

| Stress Test | Stress | Condition | Stress Duration | |
|--------------------------------|--------|-------------------------------|-----------------|--|
| High Temperature/High Humidity | | Ta-85°C,RH-85% | 1000hour | |
| Operation Life, WHTOL | | If = 700 mA | | |
| Temperature Cycles | -40°C/ | 125.15min dwell 5min transfer | 200 cycles | |

Failure Criteria:1.Brightness attenuate difference <10%</th>

2.Forword voltage difference: $\pm 20\%$

Copper Layer Note: 1) Drawing is not to scale All dimensions are in millimeter 2) 10 **Electrical Connection** Heat Barrier Solder mask This Data sheet is available from our website www.kwalityindia.com in the PowerLEDs section Solder paste Notes : 1. Drawing is not to scale 2. All dimensions are in millimeter LEDCHIP INDUS PRIVATE LIMITED 29A&B Electronics Complex, Kushaiguda Hydarabad 500 062 Ph 91-40-27123555 kwalitypolywa@gmail.com, sales@kwalityindia.com www.kwalityphotonics.com

10. Recommended Solder Pad Design