

InGaN CHIP:
(45x45mil²)

OHT-x454510x-xx

Product Description

OptoGaN **OHT-x454510x** is a blue-color InGaN LED chip grown by MOCVD on sapphire substrate. Its structure enables enhanced quantum efficiency and therefore a greater light intensity at high current density operation.

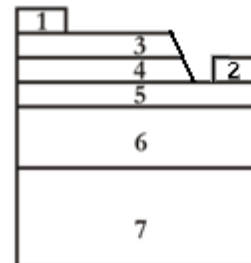
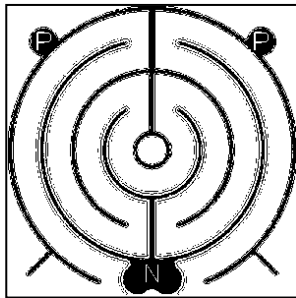
FEATURES

- High radiant flux
- High anti-ESD level
- 100% probing test

APPLICATIONS

- Small & medium LCD
- Mobile Appliances
- Digital Cameras & Portable PCs
- Monitors
- General Lighting

Chip Dimensions



Chip size: $1150 \pm 25 \times 1150 \pm 25 \mu\text{m}^2$ (45x45mil²)
 P - bonding pad linear size: $100 \pm 10 \mu\text{m}$
 N - bonding pad linear size: $2 \times (110 \pm 10) \mu\text{m}$
 Chip thickness: $150 \pm 10 \mu\text{m}$

1. Anode
2. Cathode
3. P-GaN cladding/contact layers
4. InGaN EPAC active region
5. N-GaN cladding/contact layers
6. ULD GaN buffer layers
7. Sapphire substrate

Typical Electrical & Optical Characteristics (Ta=25° C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V _F	I _F =350 mA	3.0	3.3	3.5	V
Dominant Wavelength	λ _{dom}	I _F =350 mA	445	---	465	nm
Reverse Current	I _{rev}	V _{rev} =5V			2	μA
Spectral half-width	Δλ	I _F =350 mA	20		25	nm
Thermal resistance	R _{th}	I _F =350 mA		3		K/W

Moisture level classification - according to JEDEC level 2

Absolute Maximum Ratings (Ta=25° C)

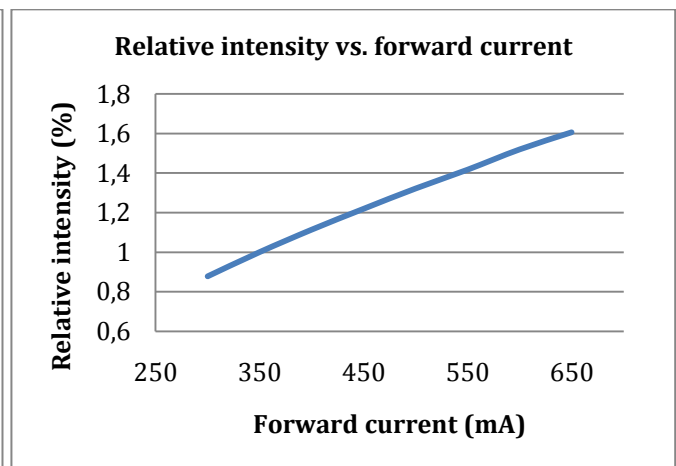
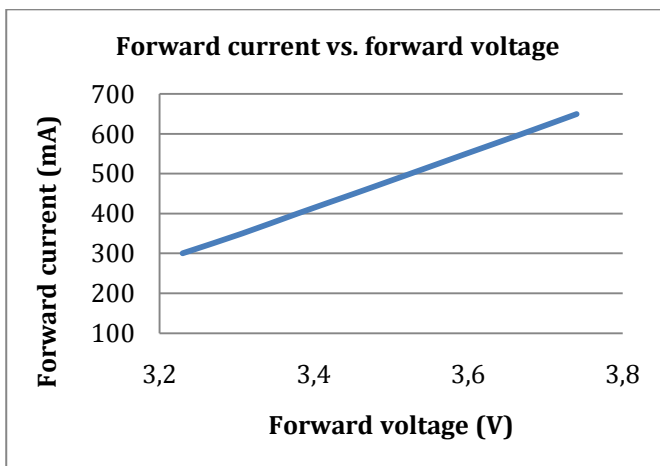
Item	Symbol	Absolute Maximum Rating	Unit
Forward Current (DC)	I _F	700	mA
Peak Forward Current*	I _{FP}	900	mA
Reverse Voltage	V _{rev}	5	V
Operation Temperature	T _{opr}	-30 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C

*frequency =1kHz, duty = 1/10

Notes:

Maximum ratings are package dependent. The above ratings were determined on bare chips mounted on silver plated TO-56 header without an encapsulant by using calibrated integrating sphere. The junction temperature should be characterized in a specific package to determine limitations. All chips conform to listed specification when operated at **350mA**. Efficiency decreases at higher currents. The values given are provided for information only.

Typical Optical / Electrical Characteristic Curves (Ta=25° C)



Notes:

Test measurements were performed on bare chips mounted on silver plated TO-56 header without an encapsulant by using calibrated integrating sphere. The junction temperature should be characterized in a specific package to determine limitations.

Standard Bins

LED chips are sorted to the **radiant flux** and **dominant wavelength** bins shown. A sorted die sheet contains dies from only one bin. All radiant flux and dominant wavelength values shown and specified at $I_F=350\text{mA}$ and $T_a=25^0\text{C}$. Values are measured on bare chips mounted on silver plated TO header without an encapsulant by using calibrated integrating sphere.

OHT- x454510x-xx

450mW	LD	MD
410mW	LC	MC
380mW	LB	MB
350mW	LA	MA
325mW		

445,0nm 455,0nm 465,0nm