ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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LED470V-66-16100

- **Blue High Power LED Array**
- **470 nm, 8 W**
- **16 InGaN chips, 1000 x 1000 µm**
- **TO-66 package**
- **Beam Angle: ±62°**

RoHS COMPLIANT Pb Pb-Free

Description

LED470V-66-16100 is an InGaN based blue high-power **16 chip LED array**, emitting at a peak wavelength of typically **470 nm** and optical output power of **8 W @ 2 A**. It comes in a **TO-66 metal stem package** with silicone/epoxy resin lens.

Maximum Ratings

Parameter	Symbol	Values Min.	Values Max.	Unit
Power Dissipation	P_D		45	W
Forward Current	I_F		2.8	A
Reverse Voltage	U_F		20	V
Reverse Current (U_R=25V)	I_R		10	µA
Thermal Resistance	R_{THJS}		2	K/W
Junction Temperature	T_J		120	°C
Operating Temperature	T_{CASE}	- 40	+ 85	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C
Lead Solder Temperature (max. 5s)	T_{SOL}		+ 265	°C

Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter	Symbol	Conditions	Values Min.	Values Typ.	Values Max.	Unit
Peak Wavelength	λ_P	I_F=100 mA	460		480	nm
Dominant Wavelength	λ_D	I_F=100 mA		472		nm
Half Width	λ_Δ	I_F=100 mA		24		nm
Forward Voltage	U_F	I_F=2 A		12.8	16	V
Total Radiated Power	P_O	I_F=2 A		8		W
Luminous Flux	ϕ_V	I_F=2 A		650		lm
Beam Angle	$2\theta_{1/2}$	I_F=100 mA		124		deg.
Rise Time	t_r	I_F=2 A		50		ns
Fall Time	t_f	I_F=2 A		80		ns

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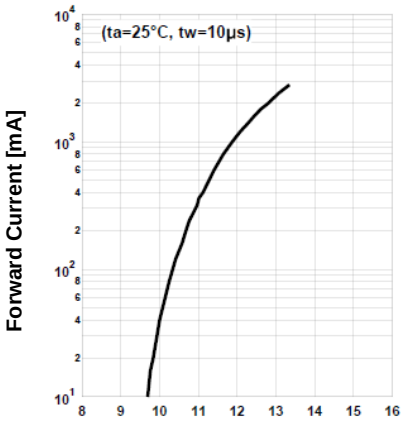
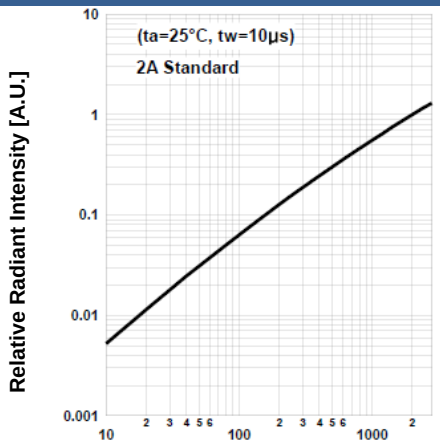
Typical Performance Curves

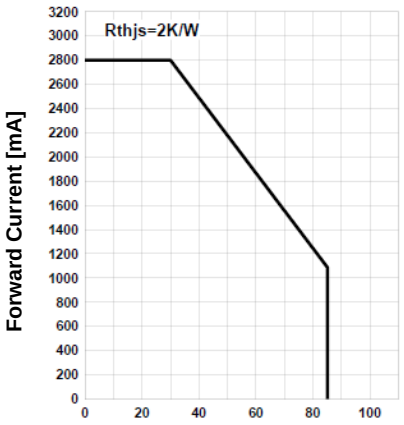
Forward Current vs. Forward Voltage



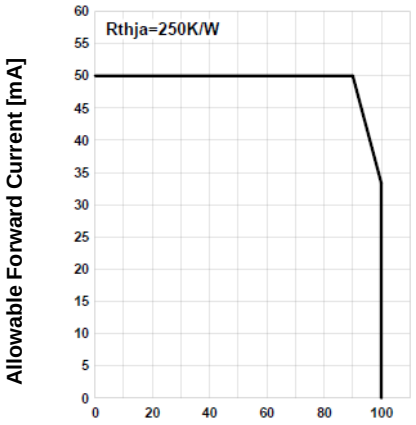
Relative Radiant Intensity vs. Forward Current



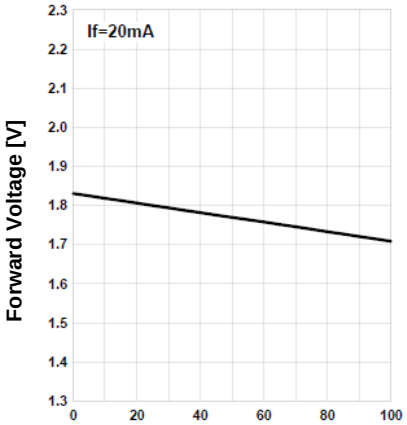
Forward Current vs. Pulse Duration



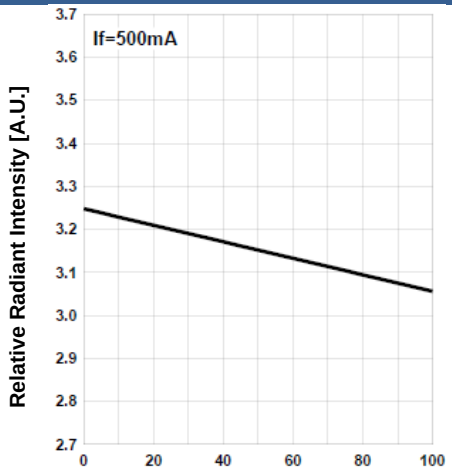
Allowed Forward Current vs. Amb. Temperature



Forward Voltage vs. Ambient Temperature



Rel. Radiant Intensity vs. Ambient Temperature



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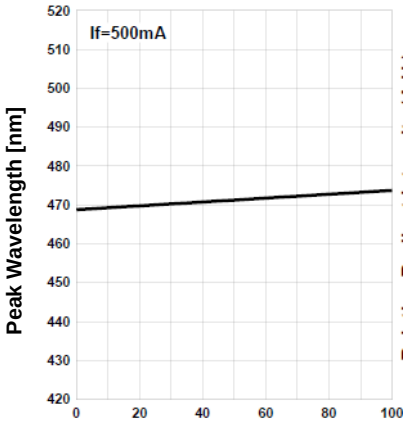
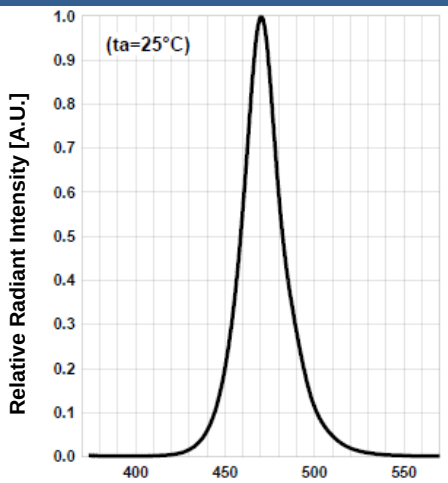
Typical Performance Curves

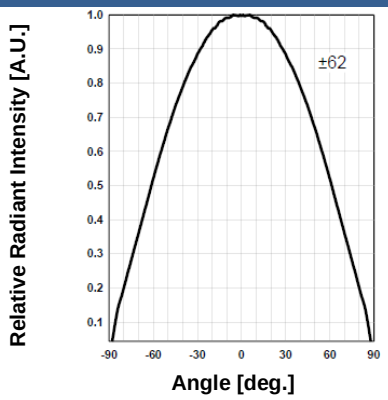
Peak Wavelength vs. Amb. Temp.



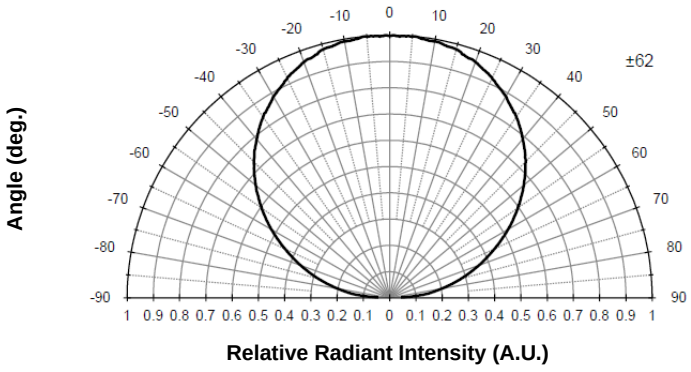
Relative Spectral Emission



Radiation Characteristics

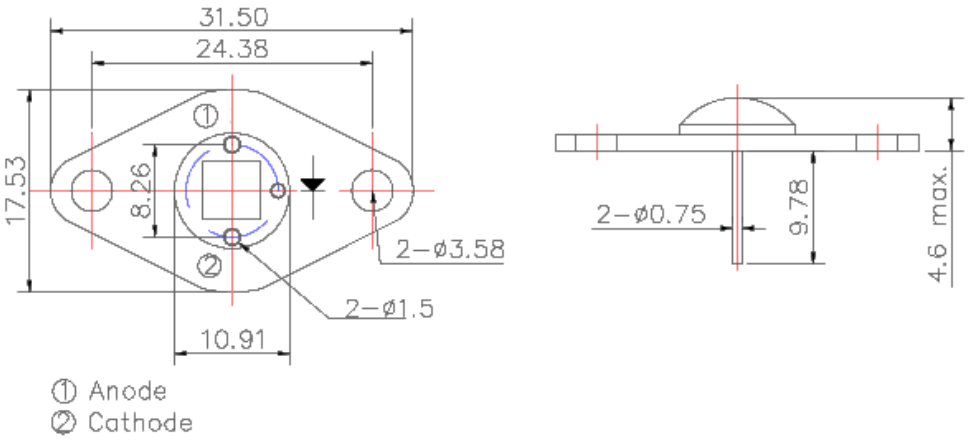


Radiation Characteristics



Outline Dimensions

TO-66



all dimensions in mm

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General Notes

Soldering

- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering

Cleaning

- **Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended**
- DO NOT USE acetone, chloroseen, trichloroethylene, or MKS
- DO NOT USE ultrasonic cleaners

Static Electricity

- **LEDs are sensitive to electrostatic discharge (ESD)**.
- Precautions against ESD must be taken when handling or operating these LEDs
- Surge voltage or electrostatic discharge can result in complete failure of the LED.

Radiation

- During operation these LEDs do emit light, which **could be hazardous to skin and eyes**, and **may cause cancer**.
- Do avoid exposure to the emitted light. Protective glasses if needed
- It is further advised to attach a warning label on products/systems.

Operation

- **Do *only* operate LEDs with a current source.**
- Running these LEDs from a voltage source will result in complete failure of the device.
- Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.