

EPIGAP Optronik GmbH

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Data Sheet

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High Power IR LED

EOLS-855-496

Rev. 02, 2017

Radiation	Type	Case
Infrared	AlGaAs	SMD 3838 (1515)

Unit: mm
Tolerance: ±0,1

Marking at cathode

Description:

- Size 3.8 (W) x 3.8 (L) x 1.0 (H) mm
- Circuit substrate: AlN ceramics
- Devices are RoHS conform
- Lead free solderable, soldering pads: silver plated
- High radiation intensity

Maximum Ratings

$T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified



Parameter	Test conditions	Symbol	Value	Unit
Forward current		I_F	500	mA
Peak forward current	$t_p \leq 100 \mu\text{s}, \tau=1:10$	I_{FM}	1000	mA
Reverse current	$V_R=5 \text{ V}$	I_R	100	μA
Reverse voltage	$I_R=100 \mu\text{A}$	V_R	5	V
Storage and operating temp. range		T_{stg}	-40 to +85	$^{\circ}\text{C}$
Thermal resistance		R_{thJA}	10	K/W

Optical and Electrical Characteristics

$T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	Min	typ	max	Unit
Forward voltage	V_F	$I_F=350 \text{ mA}$		1.5	1.9	V
Radiant power	Φ_e	$I_F=350 \text{ mA}$	110			mW
Radiant Intensity	I_e	$I_F=350 \text{ mA}$	45	60		mW/sr
Peak wavelength	λ_p	$I_F=350 \text{ mA}$	840	855	870	nm
FWHM	$\Delta\lambda_{0,5}$	$I_F=350 \text{ mA}$		39		nm

We reserve the right to make changes to improve technical design and may do so without further notice. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.

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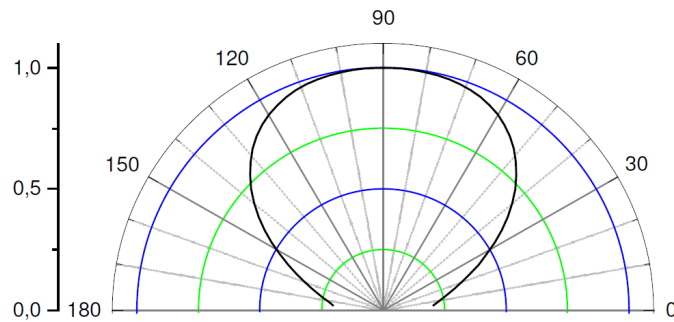
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High Power IR LED

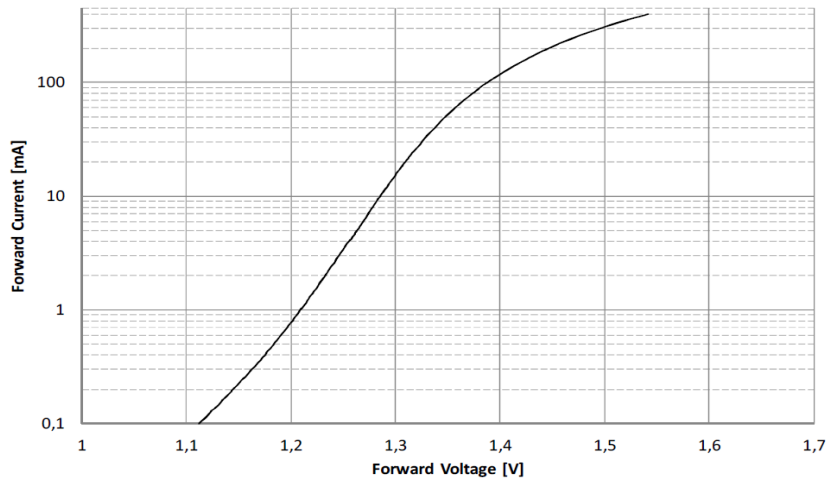
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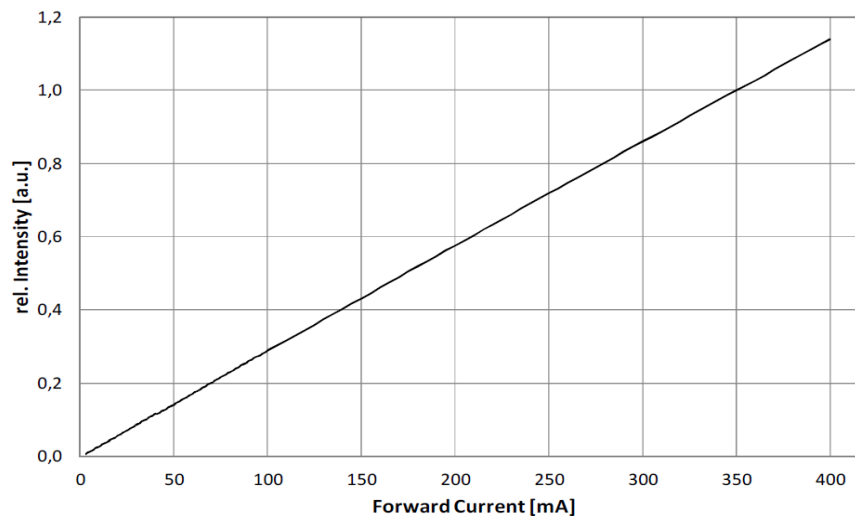
Radiation pattern



$I_F - U_F$ characteristic



$I_{e, rel} - I_F$ characteristic



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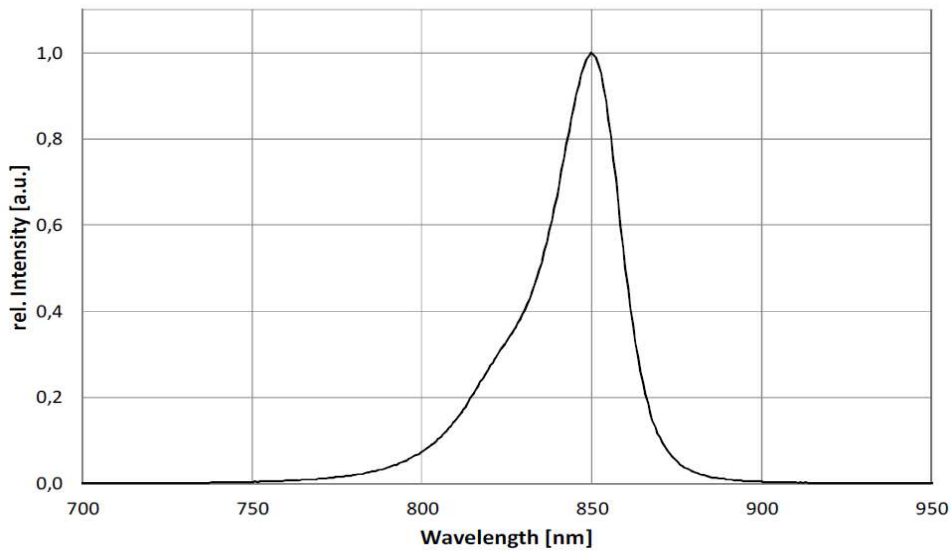
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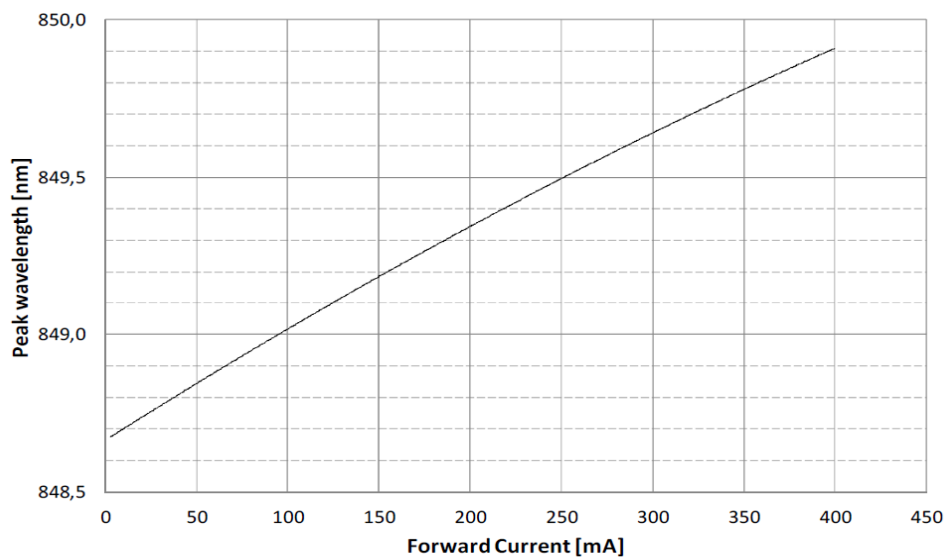
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Spectrum @ 350 mA



Peak wavelength vs. forward current



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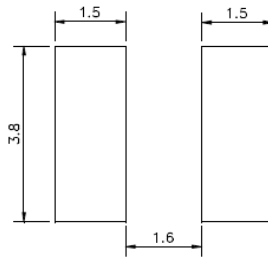
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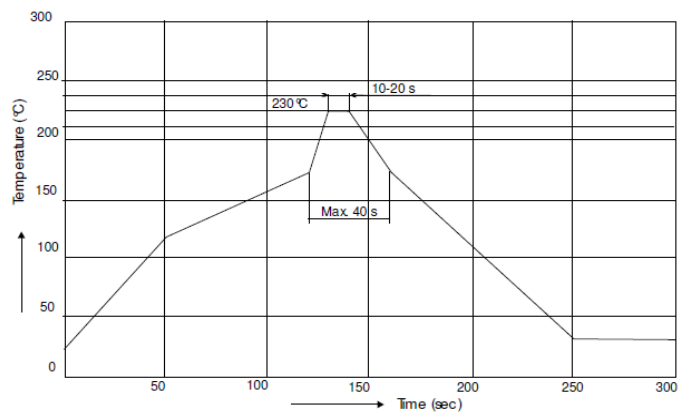
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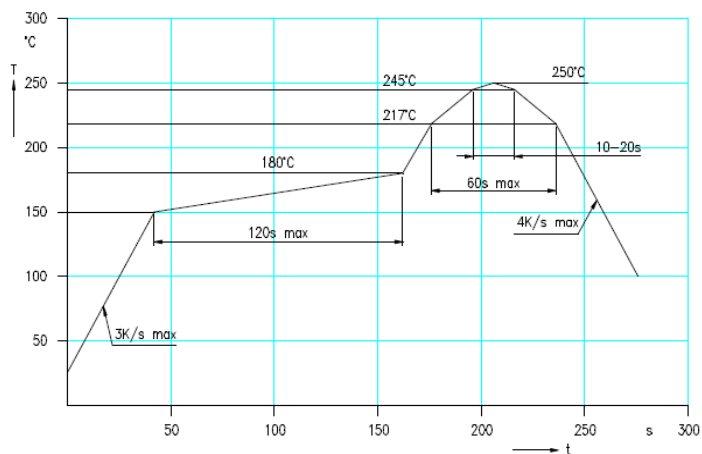
Recommended Soldering Patterns



IR reflow soldering profile



IR reflow soldering profile for lead free soldering



Manual soldering:
max power of iron 25 W / 3 s /
300°C

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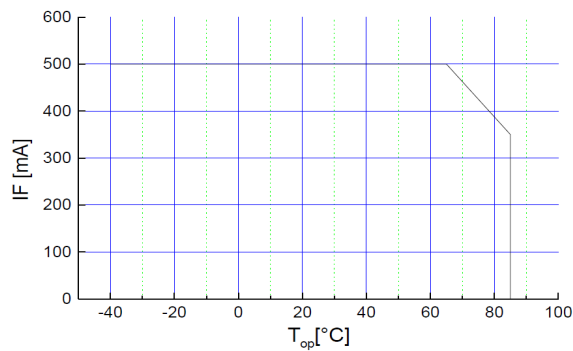
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Measured according to CIE 127. All SMD-LEDs are 100% measured and selected on full automated equipment with an accuracy of $\pm 11\%$.

**Maximal
forward
current (DC)
characteristic**



Art. No. 133 087



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