

EPIGAP Optronik GmbH

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Data Sheet

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High Power IR LED

EOLS-870-496

Rev. 03, 2017

| Radiation | Type | Case |
|-----------|--------|-----------------|
| Infrared | AlGaAs | SMD 3838 (1515) |

Unit: mm
Tolerance: ±0,1

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
- Marking at anode

Maximum Ratings

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



| Parameter | Test conditions | Symbol | Value | Unit |
|-----------------------------------|--|------------|------------|--------------------|
| Forward current | | I_F | 350 | mA |
| Peak forward current | $t_p \leq 100 \mu\text{s}$, $\tau=1:10$ | I_{FM} | 350 | 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 | 2 | V |
| Radiant power | Φ_e | $I_F= 350 \text{ mA}$ | | 38 | | mW |
| Radiant Intensity | I_e | $I_F= 350 \text{ mA}$ | 20 | 30 | | mW/sr |
| Peak wavelength | λ_p | $I_F= 350 \text{ mA}$ | 860 | 870 | 880 | nm |
| FWHM | $\Delta\lambda_{0,5}$ | $I_F= 350 \text{ mA}$ | | 46 | | 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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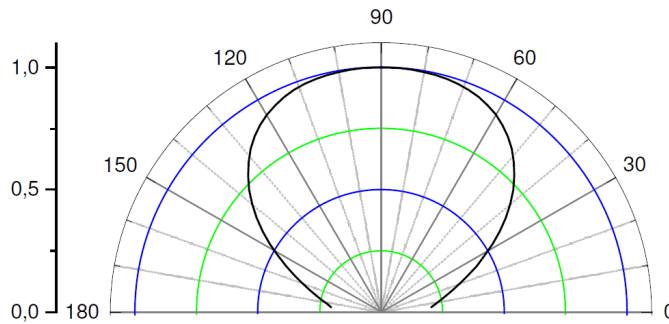
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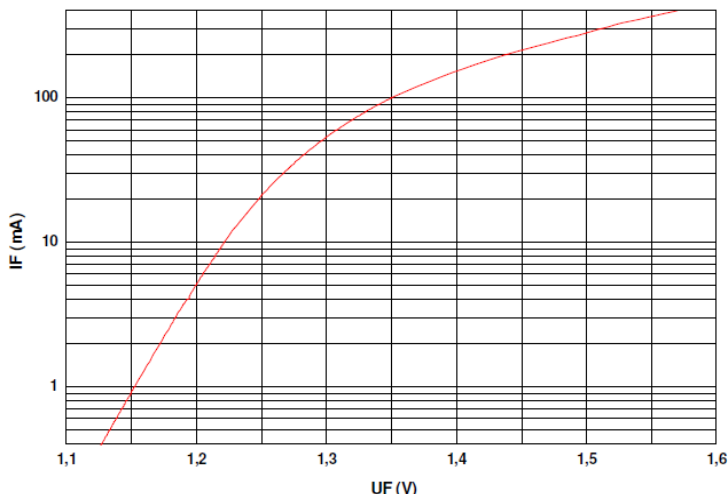
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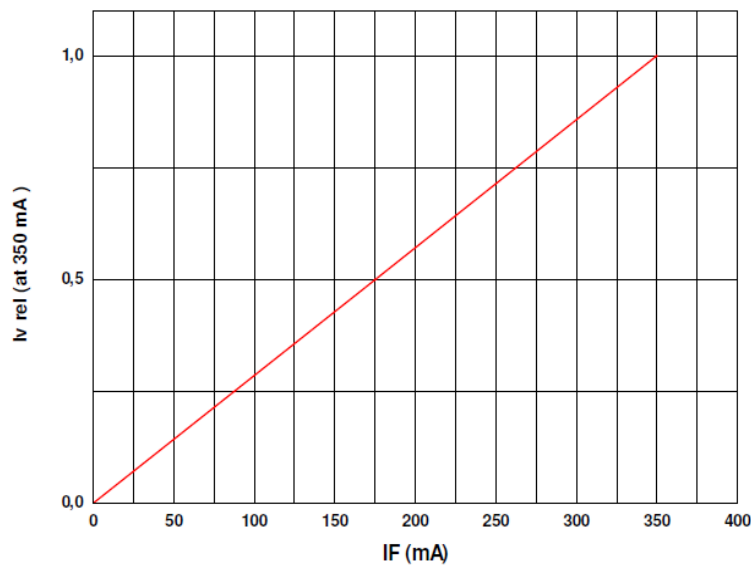
Radiation pattern



$I_F - U_F$ characteristic



$I_{e, rel} - I_F$ characteristic



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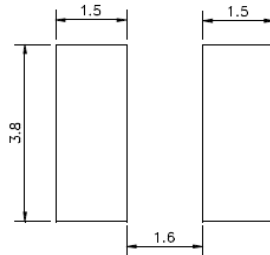
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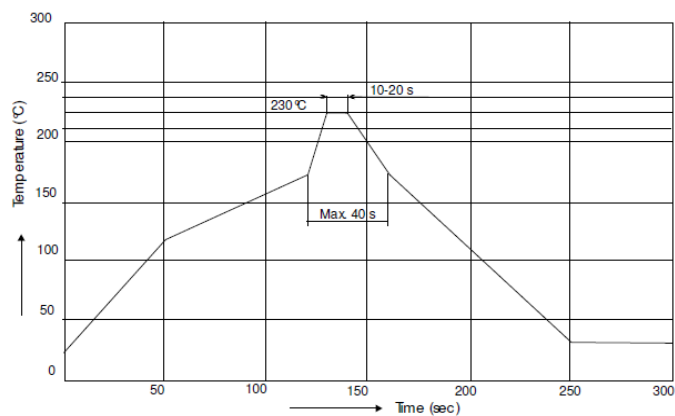
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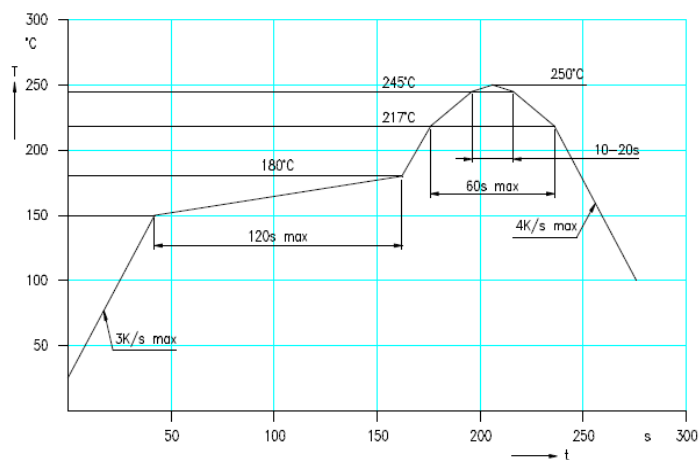
Recommended Soldering Patterns



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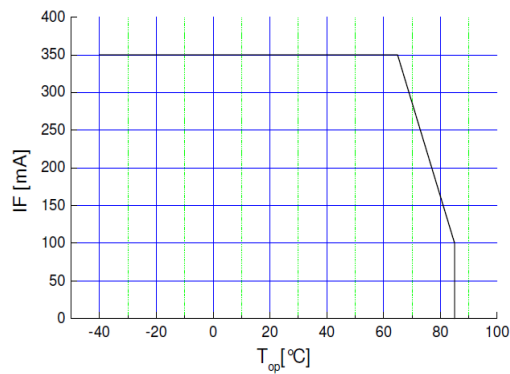
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Measured according to CIE 127. All SMD-LEDs are 100% measured and selected on full automated equipment with an accuracy of $\pm 11\%$.

Maximal forward current (DC) characteristic



Art. No. 133 087



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