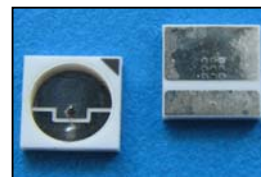




## LED36-SMD5R



### TECHNICAL DATA

### Mid-Infrared Light Emitting Diode, SMD

Light Emitting Diodes with central wavelength 3.65  $\mu\text{m}$  series are based on heterostructures grown on InAs substrates by MOCVD. InAsSb is used in the active layer. Wide band gap solid solutions InAsSbP with P content 50% are used for good electron confinement.

LED36-SMD5R has a stable output power and a lifetime more than 80000 hours.

#### Features

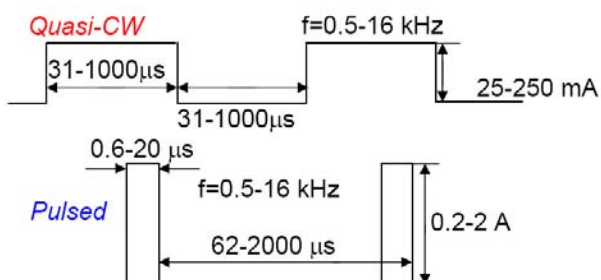
- Structure: InAsSb/InAsSbP
- Peak Wavelength: typ. 3.65  $\mu\text{m}$
- Optical Output Power: typ. 30  $\mu\text{W}$  qCW
- Package: SMD 5x5 mm with microreflector



#### Specifications

| Item                   | Condition                                                                               | Rating |      |      | Unit               |
|------------------------|-----------------------------------------------------------------------------------------|--------|------|------|--------------------|
|                        |                                                                                         | Min.   | Typ. | Max. |                    |
| Peak Wavelength        | T=300 K                                                                                 | 3.60   | 3.65 | 3.70 | $\mu\text{m}$      |
| FWHM                   | 150 mA CW                                                                               | 0.40   | 0.50 | 0.60 | $\mu\text{m}$      |
| Quasi-CW Optical Power | 200 mA qCW                                                                              | 20     | 30   | 40   | $\mu\text{W}$      |
| Pulsed Optical Power   | 1 A                                                                                     | 180    | 200  | 220  | $\mu\text{W}$      |
| Switching Time         | T=300 K                                                                                 | 10     | 20   | 30   | ns                 |
| Operation Voltage      | 200 mA qCW                                                                              |        |      |      | V                  |
| Operating Temperature  | -240 ... +50                                                                            |        |      |      | $^{\circ}\text{C}$ |
| Emitting Area          | 300x300                                                                                 |        |      |      | $\mu\text{m}$      |
| Soldering Temperature  | 180                                                                                     |        |      |      | $^{\circ}\text{C}$ |
| Package                | SMD type package 5x5 mm based on high thermal conductivity ceramics with microreflector |        |      |      |                    |

#### Operating Regime



#### Quasi-CW

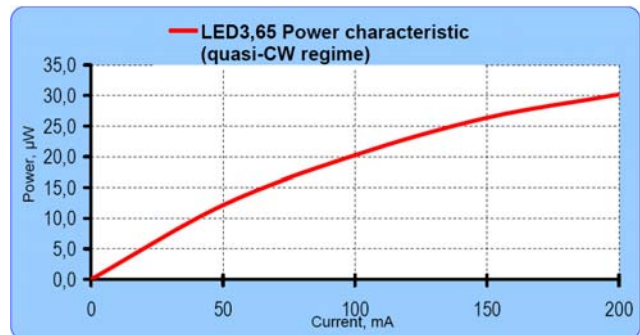
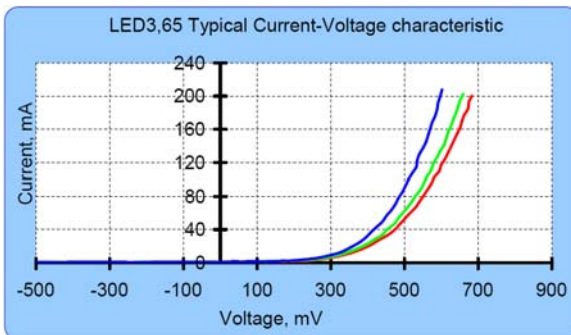
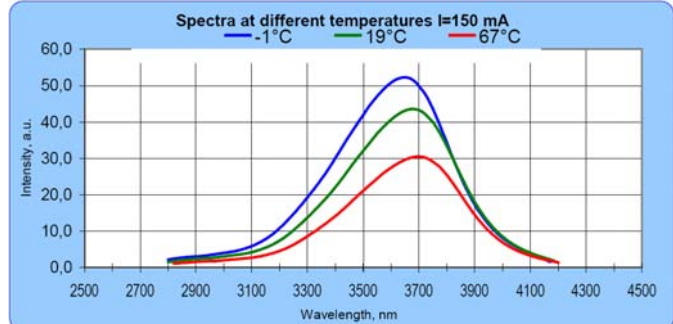
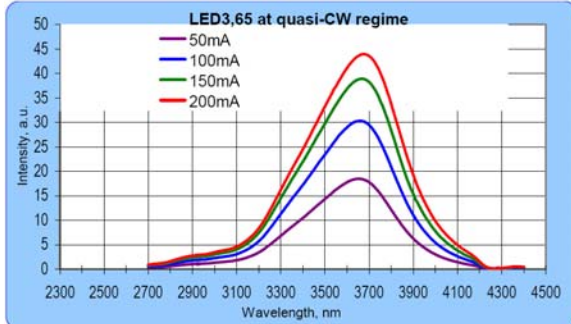
- Maximum current 220 mA
- Recommended current 150-200mA

#### Pulsed

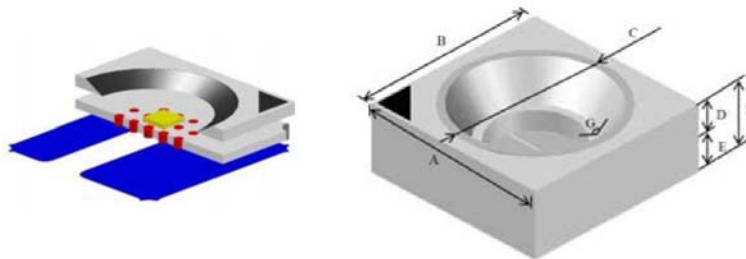
- Maximum current 1 A (puls length 500 ns, repetition rate 2kHz)



## Typical Performance Curves



## Package



| ITEM          | Symbol | Rule       |
|---------------|--------|------------|
| Basic Outline | A      | 5.0± 0.1mm |
| Basic Outline | B      | 5.0± 0.1mm |
| Cavity size   | C      | Max 4.2Φ   |
| Top layer     | D      | Min 0.4mm  |
| Bottom layer  | E      | Min 0.4mm  |
| Thickness     | F      | Max 2mm    |
| Angle         | G      | Customize  |

- Tiny package for surface mounting
- Anode and cathode are led to the metalized areas on the back side of the ceramic surface
- Material – Low Temperature Co-fired Ceramic (LTCC):
  - thermal conductivity 25 W/mK
  - thermoresistance 8 °C/W
- Microreflector provides the reduction of radiation divergence