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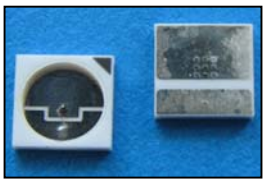
# LED20FC-SMD5



## TECHNICAL DATA

## Mid-Infrared LED, Flip-Chip Design, SMD

Light Emitting Diodes with central wavelength 2.02 µm series are based on heterostructures grown on GaSb substrates. Solid solutions GaInAsSb are used in active layer. Wide band gap solid solutions AlGaAsSb with Al content 64% are used for good electron confinement.
LED20FC-SMD5 has a stable ouput power and a lifetime more then 80000 hours.

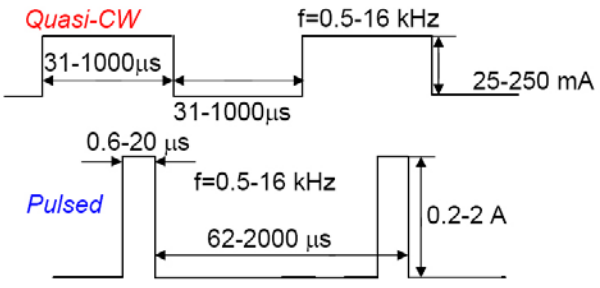
### *Features*

- Structure: GaInAsSb/AlGaAsSb
- Peak Wavelength: typ. 2.02 µm
- Optical Ouput Power: typ. 1.2 mW qCW
- Package: SMD 5x5 mm


### *Specifications*

| Item | Condition | Rating | | | Unit |
|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | |
| Peak Wavelength | T=300 K | 2.00 | 2.02 | 2.09 | µm |
| FWHM | 150 mA CW | 100 | 150 | 250 | nm |
| Quasi-CW Optical Power | 200 mA qCW | 0.8 | 1.2 | 1.8 | mW |
| Pulsed Optical Power | 1 A | 20 | 30 | 40 | mW |
| Switching Time | T=300 K | 10 | 20 | 30 | ns |
| Operation Voltage | 200 mA qCW | | | | V |
| Operating Temperature | -240 … +50 | | | | °C |
| Emitting Area | 670x770 | | | | µm |
| Soldering Temperature | 180 | | | | °C |
| Package | SMD type package 5x5 mm based on high thermal conductivity ceramics | | | | |

### *Operating Regime*




**Quasi-CW**

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

**Pulsed**

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

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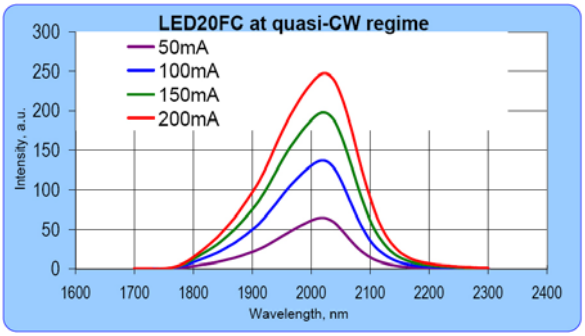
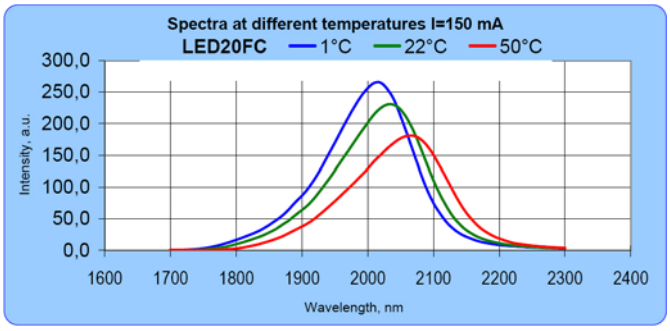
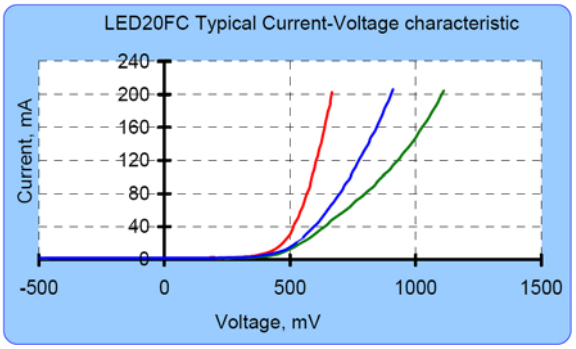
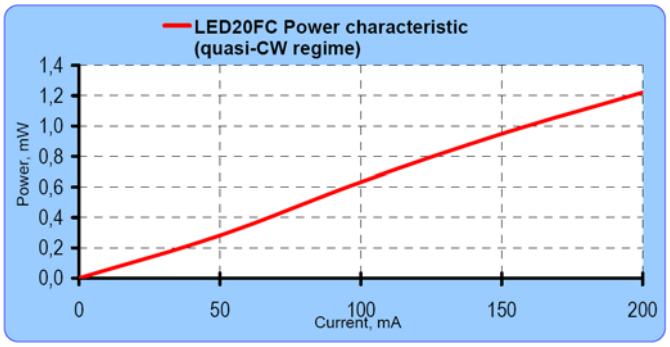
## *Typical Performance Curves*

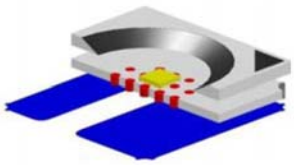


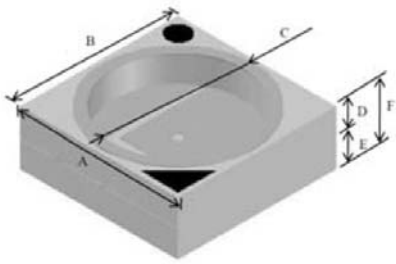




## *Package*






| 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 |

- 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