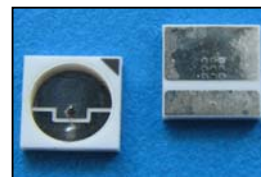




LED37FC-SMD5



TECHNICAL DATA

Mid-Infrared LED, Flip-Chip Design, SMD

Light Emitting Diodes with central wavelength $3.75 \mu\text{m}$ 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. LED37FC-SMD5 has a stable output power and a lifetime more than 80000 hours.

Features

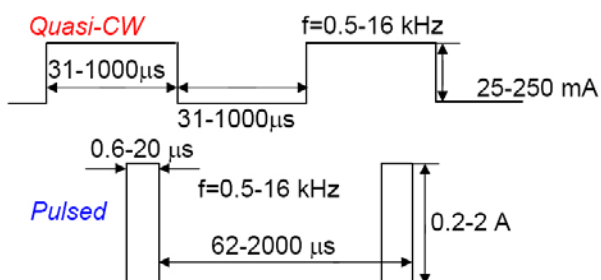
- Structure: InAsSb/InAsSbP
- Peak Wavelength: typ. $3.75 \mu\text{m}$
- Optical Output Power: typ. $30 \mu\text{W}$ qCW
- Package: SMD 5x5 mm



Specifications

Item	Condition	Rating			Unit
		Min.	Typ.	Max.	
Peak Wavelength	T=300 K	3.65	3.75	3.79	μm
FWHM	150 mA CW	400	550	600	nm
Quasi-CW Optical Power	200 mA qCW	15	30	45	μW
Pulsed Optical Power	1 A	180	340	480	μW
Switching Time	T=300 K	10	20	30	ns
Operation Voltage	200 mA qCW				V
Operating Temperature	-240 ... +50				$^{\circ}\text{C}$
Emitting Area	670x770				μm
Soldering Temperature	180				$^{\circ}\text{C}$
Package	SMD type package 5x5 mm based on high thermal conductivity ceramics				

Operating Regime



Quasi-CW

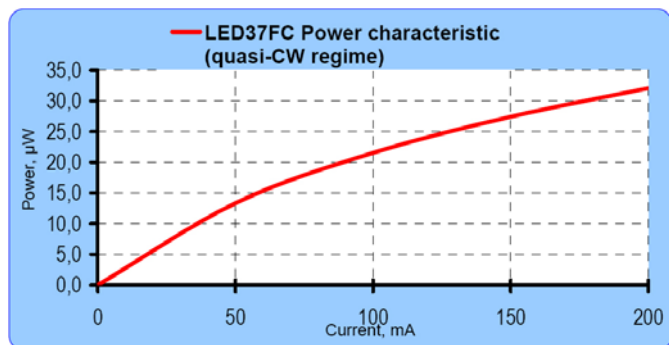
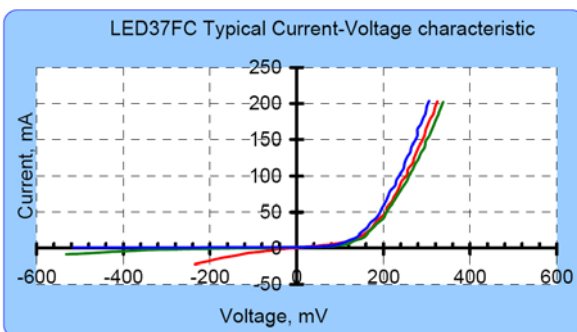
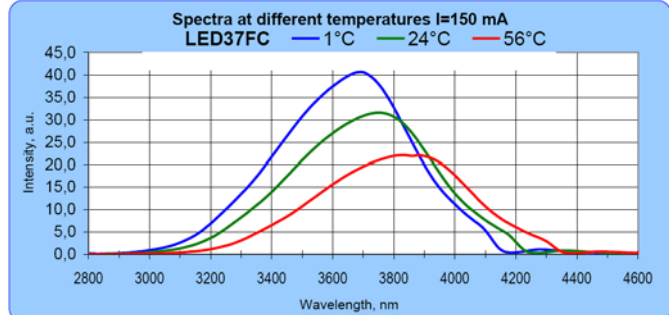
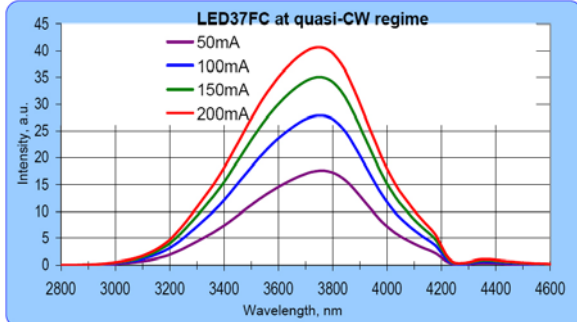
- Maximum current 220 mA
- Recommended current 150-200mA

Pulsed

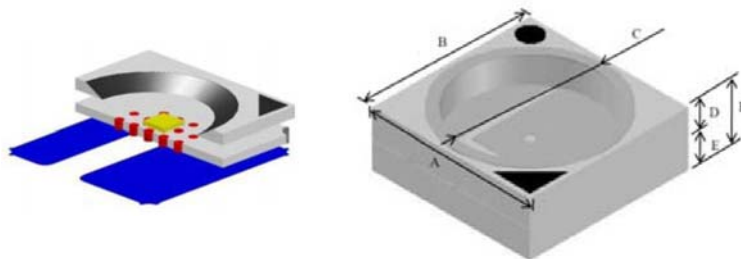
- Maximum current 1 A (puls length 500 ns, repetition rate 2kHz)



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

- 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