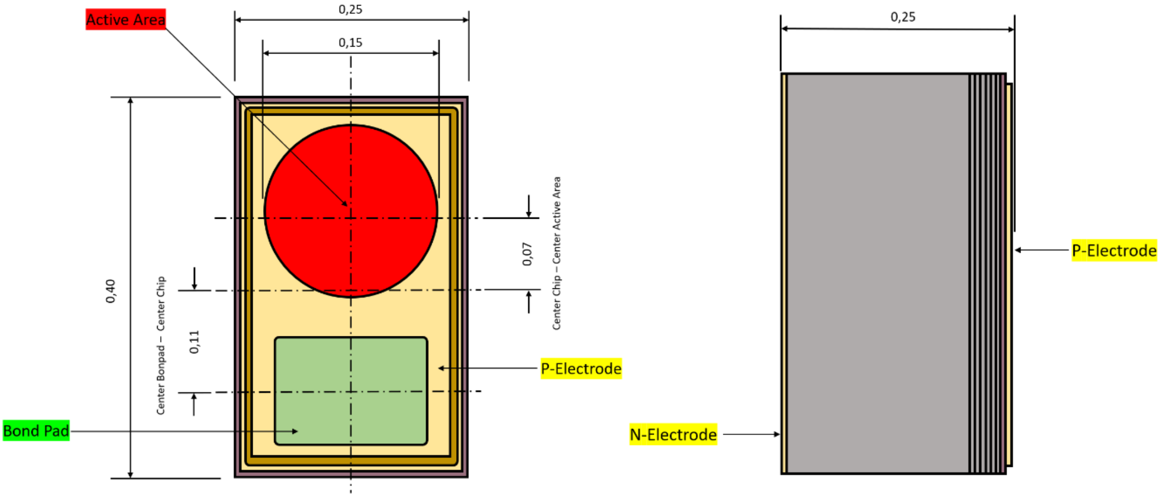
Vertical Photonics
Lise-Meitner-Straße 8
89081 Ulm, Germany
info@**V**ertical-Photonics.com

Identification and Ordering Code: VP-LED01
Description: Red LED chip for industrial sensor applications
Version: 1.3-draft, 05.05.2026

Drawing

Dimension in mm



Dimensions

Parameter	Unit	Min	Typ	Max
Chip Width	µm		250	
Chip Length	µm		400	
Chip Height	µm		250	
Active Diameter	µm		150	
Center chip to the active area	µm		70	
Bond pad width	µm		110	
Bond pad Length	µm		160	

Materials

Parameter	Material
Bondpad	gold alloy
N Electrode	gold alloy
Die bonding recommendation	conductive epoxy
Wire bonding recommendation	Au or Al, 25 µm diameter

Absolute Maximum Ratings

T = 25degC, unless otherwise specified

Parameter	Unit	Min	Typ	Max
Forward current (DC)	mA			100
Peak current (5 µs, 5%)	mA			300
ESD withstands voltage, HBM JESD22-A114-B	V			2000
Reverse Current	µA			10

Optical and Electrical Characteristics

T = 25degC, unless otherwise specified

Parameter	Unit	Min	Typ	Max
Forward voltage@20mA	V		2	
Forward voltage peak (100mA, 5µs, 5%)	V		2.4	
Radiant Power@20mA	mW	-15%	2.23	+15%
Radiant Power Peak (100mA, 5µs, 5%)	mW		8.54	
Peak Wavelength@20mA	nm		630	
Switching time (100mA, 5µs, 5%)	ns			100

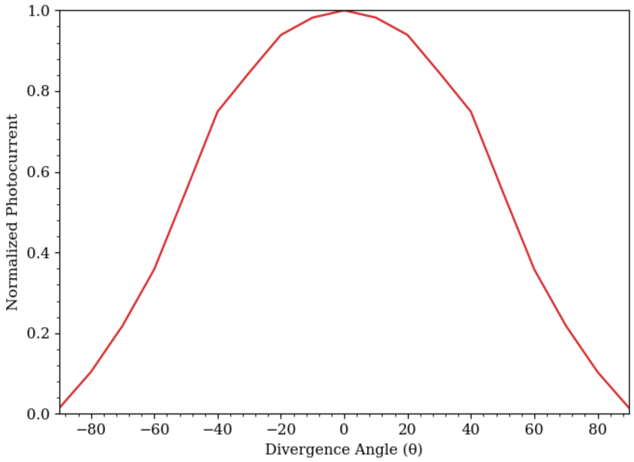


Fig 1: Typical Beam Profile at 20mA

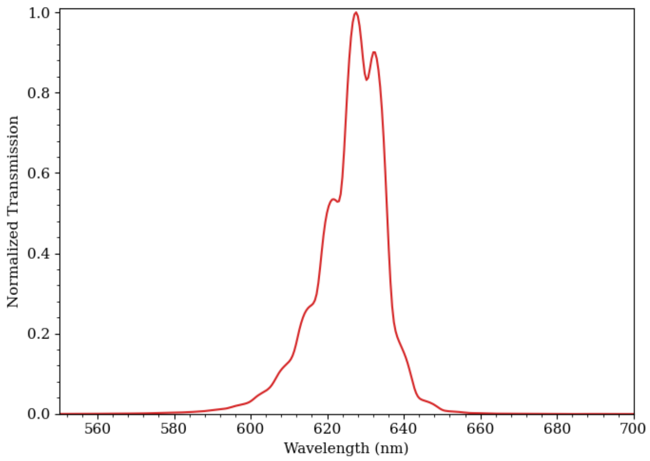


Fig 2: Typical Spectrum at 20mA

Reliability

T = 25degC, unless otherwise specified

Parameter	Unit	Min	Typ	Max
Time to 30% radiant power loss (100mA, 5µs, 5%)	years	10 (TBC)		

Packing, Ordering Details, and Shipment

The LEDs are delivered on sticky blue foil and packed in an ESD bag with a label showing the ordering code and a lot ID number for traceability. Orders can be issued by e-mail with a minimum order quantity of 1k pcs.

Changes

This datasheet summarizes the agreed specifications for pmd LED production. Changes will only be implemented and released after careful review by the project team.

Document history

Version	Author	Date	Message