

PLT5 488

Metal Can® TO56

Blue-Cyan Laser Diode in TO56 Package



Applications

- Health Monitoring (Heart Rate Monitoring, Pulse Oximetry)
- Measurement Levelling

Features:

- ESD: 2 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM)
- Optical output power (continuous wave): 60 mW ($T_{\text{case}}=25^{\circ}\text{C}$)
- Typical emission wavelength: 488 nm \pm 2 nm
- Typical emission wavelength: 488 nm \pm 5 nm
- Brilliant beam technology for side lobes free beam
- High modulation bandwidth
- TO56 package with monitor and ESD protection diode
- Efficient radiation source for cw and pulsed operation
- Single transverse mode semiconductor laser

Ordering Information

Type	Peak output power typ. P_{opt}	Ordering Code
PLT5 488	60 mW	Q65111A5770
PLT5 488-C1C6	60 mW	Q65112A6302

PLT5 488 with wavelength selection: \pm 2 nm

PLT5 488-C1C6 with wavelength selection: \pm 5 nm

Maximum Ratings

 $T_{\text{case}} = 25\text{ °C}$

Parameter	Symbol		Values
Operating temperature	T_{op}	min.	-20 °C
		max.	60 °C
Storage temperature	T_{stg}	min.	-40 °C
		max.	85 °C
Junction temperature	T_{j}	max.	150 °C
Forward current ¹⁾	I_{F}	max.	150 mA
Reverse voltage ²⁾	V_{R}	max.	5 V
Reverse voltage ²⁾	V_{R}	max.	5 V
Soldering temperature	T_{S}	max.	260 °C

$t_{\text{max}} = 10\text{ s}$

Operation outside these conditions may damage the device. Operation at maximum ratings may influence lifetime.

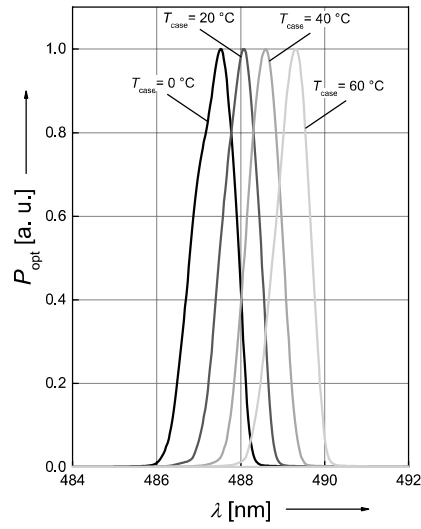
Characteristics

$P_{opt} = 60 \text{ mW}$; $T_{case} = 25 \text{ }^\circ\text{C}$

Parameter	Symbol	Values
Reverse current ²⁾	I_R	max. 10 μA
Peak wavelength ³⁾ PLT5 488	λ_{peak}	min. 486 nm typ. 488 nm max. 490 nm
Peak Wavelength ³⁾ PLT5 488-C1C6	λ_{peak}	min. 483 nm typ. 488 nm max. 493 nm
Operating current ¹⁾	I_{op}	typ. 85 mA max. 100 mA
Spectral bandwidth at 50% $I_{e,rel,max}$	$\Delta\lambda$	typ. 1 nm
Beam divergence (FWHM) parallel to pn-junction	$\Theta_{ }$	min. 4 ° typ. 6 ° max. 8 °
Beam divergence (FWHM) perpendicular to pn-junction	Θ_{\perp}	min. 16 ° typ. 23 ° max. 25 °
Monitor current ⁴⁾⁵⁾	I_m	typ. 40 μA
Threshold current	I_{th}	typ. 25 mA max. 40 mA
Forward voltage ⁶⁾	V_F	typ. 6.0 V max. 7.5 V
TE polarization	P_{TE}	typ. 100:1
Modulation frequency	f	min. 100 MHz
Thermal resistance junction case real	R_{thJC}	typ. 34 K / W

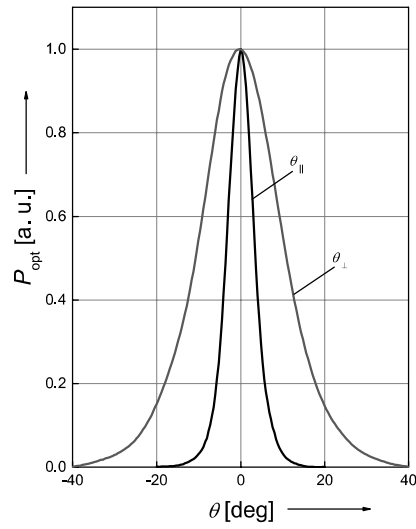
Relative Spectral Emission 7), 8)

$$P_{\text{opt}} = f(\lambda)$$



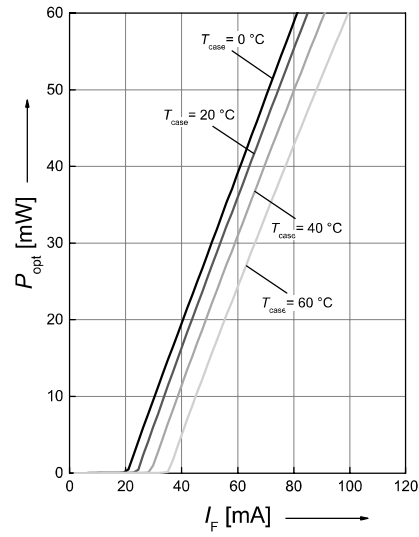
Beam Divergence 7), 8)

$$P_{\text{opt}} = f(\Theta)$$



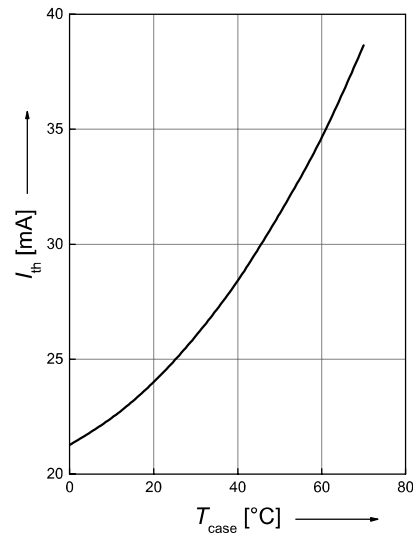
Optical Output Power ^{7), 8)}

$$P_{\text{opt}} = f(I_F)$$



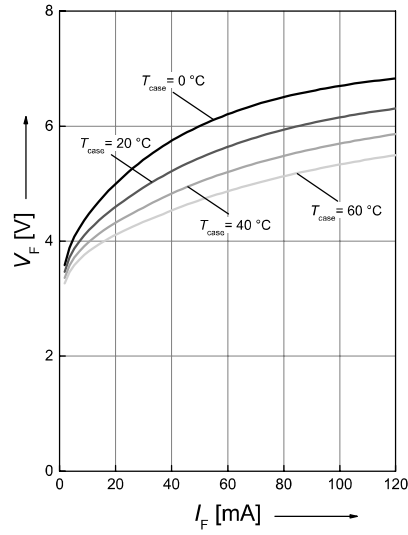
Threshold Current ⁷⁾

$$I_{\text{th}} = f(T_A)$$

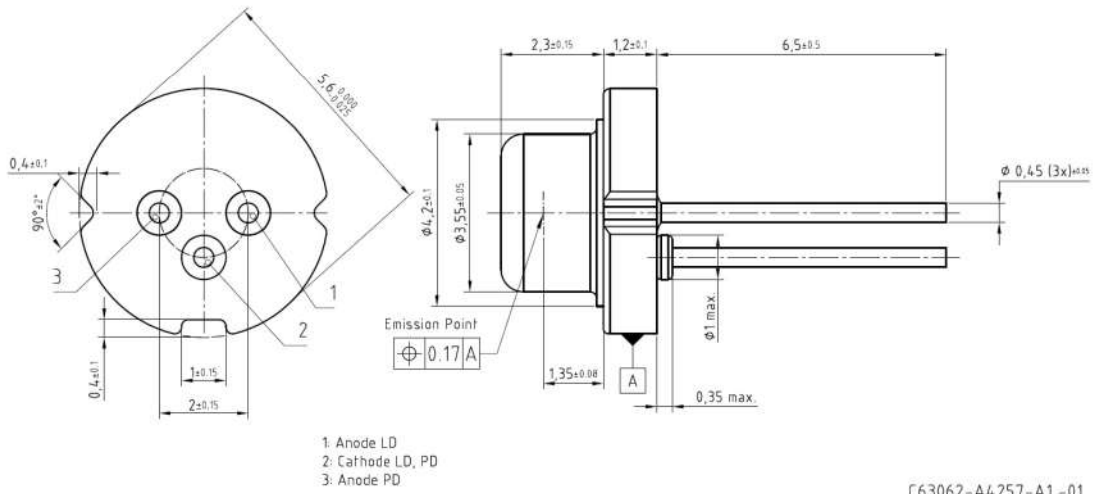


Opt. Power / Forward Voltage 7), 8)

$$V_F = f(I_F)$$



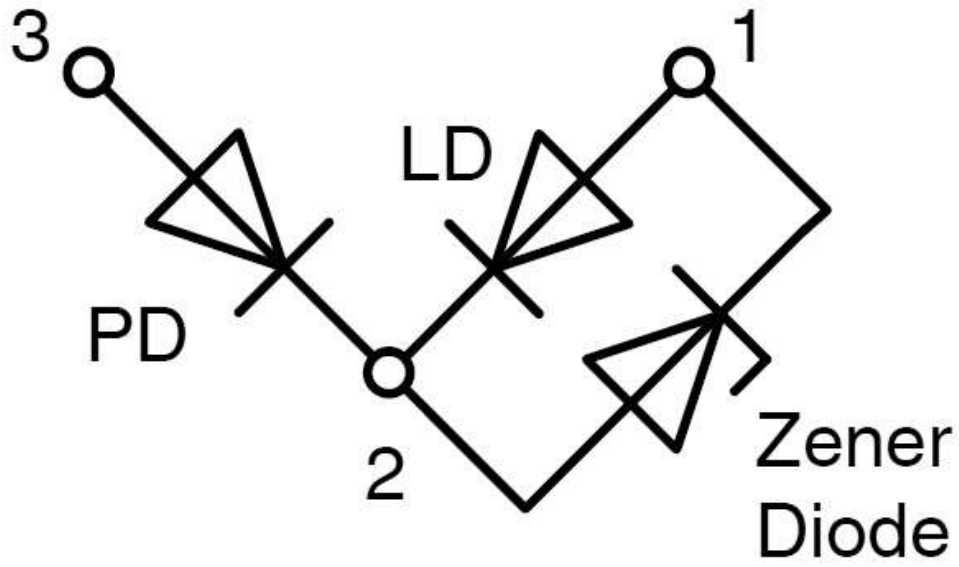
Dimensional Drawing ⁹⁾



Further Information

Approximate Weight: 310.0 mg

Electrical Internal Circuit



Pin	Description
PIN 1	LD Anode
PIN 2	LD Cathode, PD Cathode (case)
PIN 3	PD Anode