

ROITHNER LASERTECHNIK

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RLT415-200PMG TECHNICAL DATA



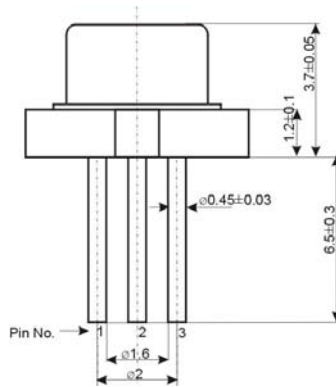
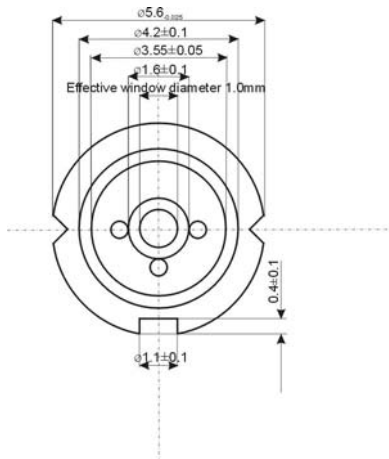
Violet Pulsed Laser Diode

Structure: GaN, multimode

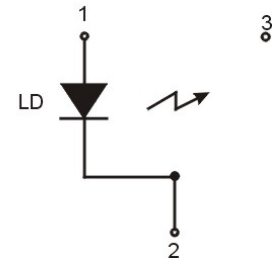
Lasing wavelength: typ. 415 nm

Pulse output power: typ. 200 mW (max. 1 W)

Package: 5.6 mm



Pin connection



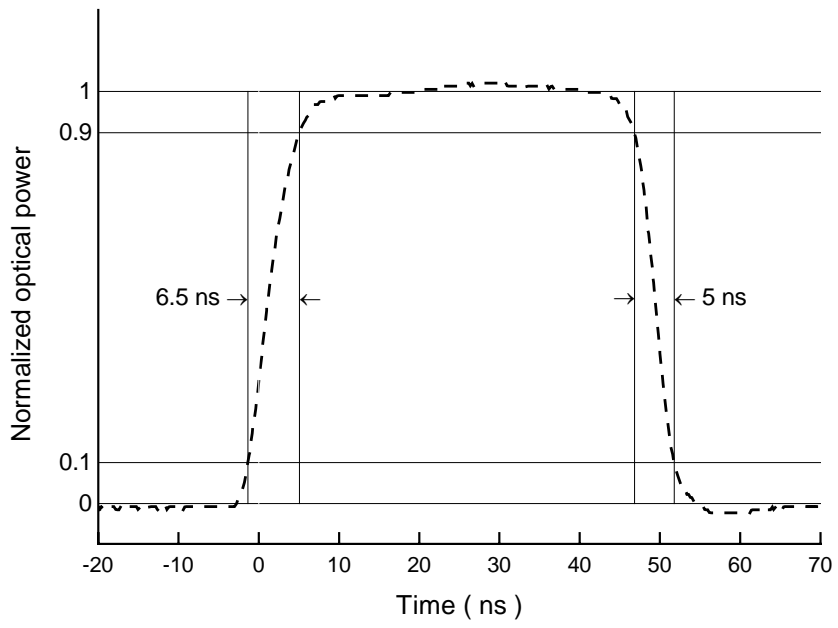
Absolute Maximum Ratings (Tc = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|----------------------------|--------------------|------------|------|
| Optical Output Power | P _o | 1 | W |
| LD Reverse Voltage | V _{R(LD)} | 3 | V |
| Operation Case Temperature | T _C | -20 .. +40 | °C |
| Storage Temperature | T _{STG} | -30 .. +70 | °C |

Optical-Electrical Characteristics (Tc = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|--------------------------|--------------------|-------------------------|-----|------------------------|-----|-----------------|
| Threshold Current | I _{th} | pulse mode | | 500 | | mA |
| Pulse Operation Current | I _{pulse} | P _o = 200 mW | | 1150 | | mA |
| Operating Voltage | V _{op} | P _o = 200 mW | | 12 | | V |
| Lasing Wavelength | λ _p | P _o = 200 mW | 410 | 415 | 420 | nm |
| Lasing Bandwidth | Δλ | FWHM | | 1.5 | | nm |
| Emitting Aperture | A _L | P _o = 200 mW | | 15 x 0.3 | | μm ² |
| Beam Divergence | θ | P _o = 200 mW | | 8 | | ° |
| Beam Divergence | θ _⊥ | P _o = 200 mW | | 30 | | ° |
| Slope Efficiency | η | P _o = 200 mW | | 0.3 | | mW/mA |
| Maximum Duty Cycle | D _{MAX} | P _o = 200 mW | | | 0.1 | % |
| Pulse Length | I _p | P _o = 200 mW | | 50 | 200 | ns |
| Maximum Pulse Frequency | f _p | I _p = 50 ns | | | 100 | kHz |
| Rise Time | t _R | P _o = 200 mW | | <6.5 | | ns |
| Fall Time | t _F | P _o = 200 mW | | <5.0 | | ns |
| Estimated Life Time | t _L | P _o = 200 mW | | 1000 | | h |
| Estimated Overall Pulses | N _p | P _o = 200 mW | | 3.6 x 10 ¹¹ | | pulse |

Typ. pulse shape



Typ. lasing spectrum

