# ROITHNER LASERTECHNIK

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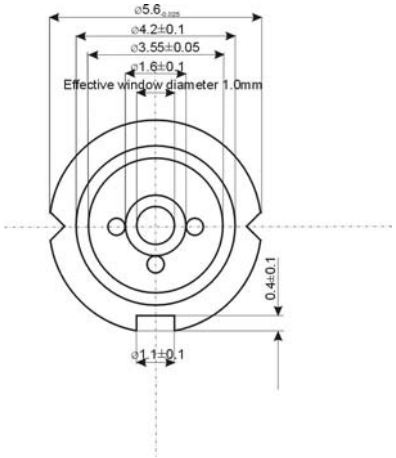
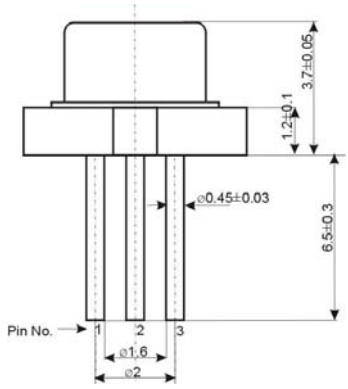
# RLT415-200PMG **TECHNICAL DATA**

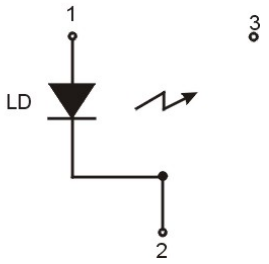
## Violet Pulsed Laser Diode

Structure: **GaN, multimode**
Lasing wavelength: **typ. 415 nm**
Pulse output power: **typ. 200 mW (max. 1 W)**
Package: **5.6 mm**


Pin connection



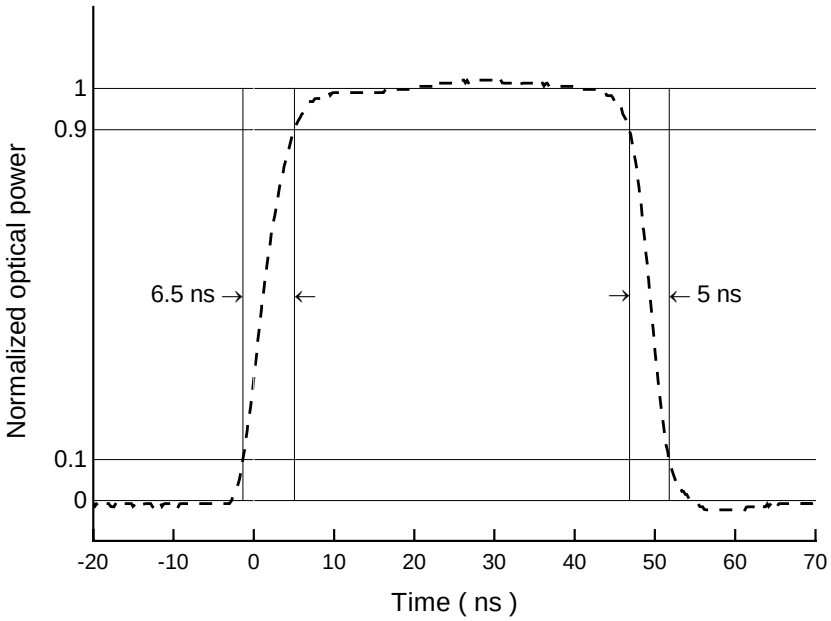

### Absolute Maximum Ratings (Tc = 25°C)

| 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 | $\lambda_p$ | $P_o$ = 200 mW | 410 | 415 | 420 | nm |
| Lasing Bandwidth | $\Delta\lambda$ | FWHM | | 1.5 | | nm |
| Emitting Aperture | $A_L$ | $P_o$ = 200 mW | | 15 x 0.3 | | µm² |
| Beam Divergence | $\theta_{//}$ | $P_o$ = 200 mW | | 8 | | ° |
| Beam Divergence | $\theta_{\perp}$ | $P_o$ = 200 mW | | 30 | | ° |
| Slope Efficiency | $\eta$ | $P_o$ = 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 | | $3.6 \times 10^{11}$ | | pulse |

Typ. pulse shape




Typ. lasing spectrum