

# ROITHNER LASERTECHNIK

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## RLT415-50PMG TECHNICAL DATA



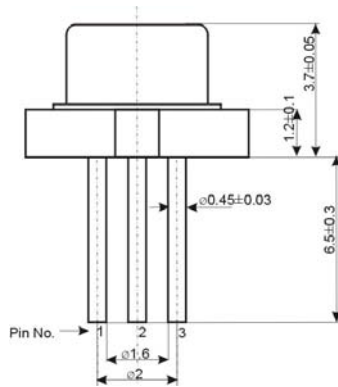
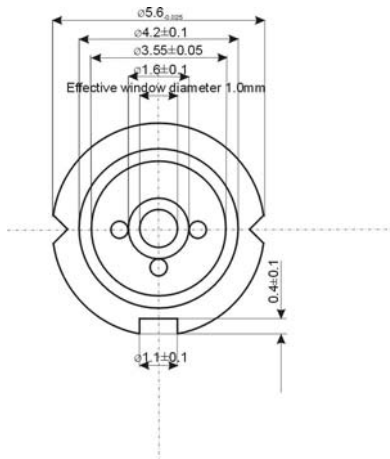
### Violet Pulsed Laser Diode

Structure: GaN, multimode

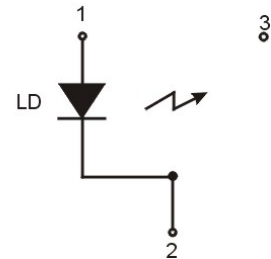
Lasing wavelength: typ. 415 nm

Pulse output power: typ. 50 mW (max. 200 mW)

Package: 5.6 mm



Pin connection



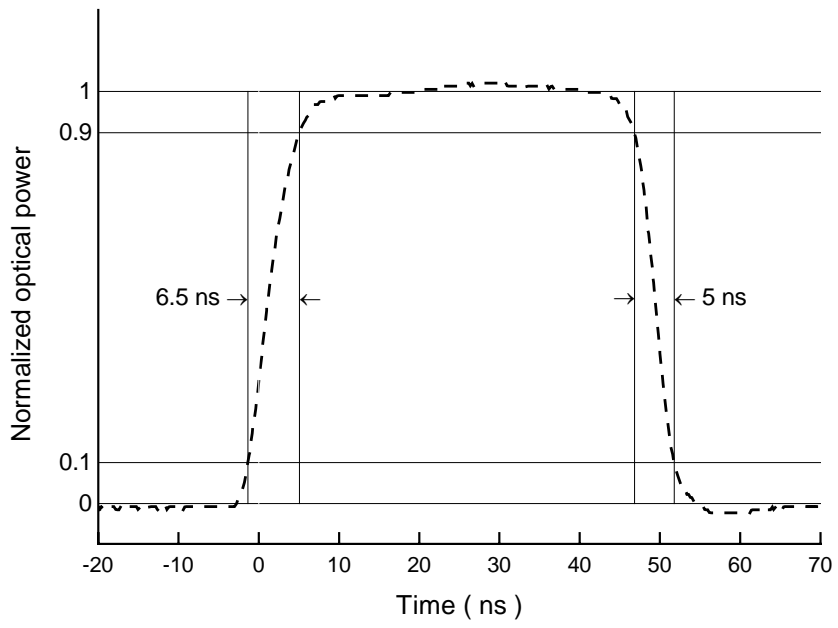
#### Absolute Maximum Ratings (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Optical Output Power	P <sub>o</sub>	200	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	3	V
Operation Case Temperature	T <sub>C</sub>	-20 .. +40	°C
Storage Temperature	T <sub>STG</sub>	-30 .. +70	°C

#### Optical-Electrical Characteristics (Tc = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Threshold Current	I <sub>th</sub>	pulse mode		500		mA
Pulse Operation Current	I <sub>pulse</sub>	P <sub>o</sub> = 50 mW		650		mA
Operating Voltage	V <sub>op</sub>	P <sub>o</sub> = 50 mW		10		V
Lasing Wavelength	λ <sub>p</sub>	P <sub>o</sub> = 50 mW	410	415	420	nm
Lasing Bandwidth	Δλ	FWHM		1.5		nm
Emitting Aperture	A <sub>L</sub>	P <sub>o</sub> = 50 mW		15 x 0.3		μm <sup>2</sup>
Beam Divergence	θ <sub>∥</sub>	P <sub>o</sub> = 50 mW		8		°
Beam Divergence	θ <sub>⊥</sub>	P <sub>o</sub> = 50 mW		30		°
Slope Efficiency	η	P <sub>o</sub> = 50 mW		0.3		mW/mA
Maximum Duty Cycle	D <sub>MAX</sub>	P <sub>o</sub> = 50 mW			0.3	%
Pulse Length	I <sub>p</sub>	P <sub>o</sub> = 50 mW		50	200	ns
Maximum Pulse Frequency	f <sub>p</sub>	I <sub>p</sub> = 50 ns			100	kHz
Rise Time	t <sub>R</sub>	P <sub>o</sub> = 50 mW		<6.5		ns
Fall Time	t <sub>F</sub>	P <sub>o</sub> = 50 mW		<5.0		ns
Estimated Life Time	t <sub>L</sub>	P <sub>o</sub> = 50 mW		1000		h
Estimated Overall Pulses	N <sub>p</sub>	P <sub>o</sub> = 50 mW		3.6 x 10 <sup>11</sup>		pulse

Typ. pulse shape



Typ. lasing spectrum

