

# 660nm High Power / 780nm Low Power Dual Wave Laser

## RLD2WMGS1

RLD2WMGS1 is a dual wave laser which achieved high emission point distance accuracy according to a emission point simultaneous process.

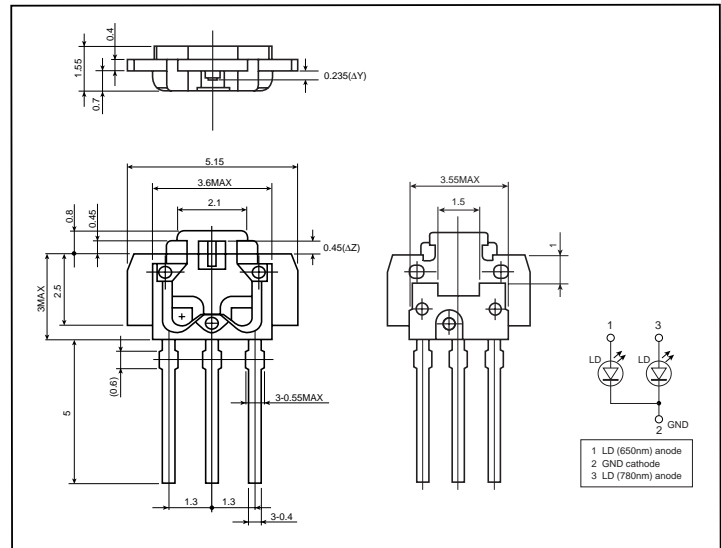
### ●Applications

DVD recorder

### ●Features

- 1) DVD / CD Po (Optical output) : 240mW / 20mW
- 2) Emission point distance accuracy :  $110\mu\text{m} \pm 1\mu\text{m}$
- 3) High Heat Radiation Type : Slim frame package

### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings (T<sub>c</sub>=25°C)

DVD

Parameter	Symbol	Limits	Unit
Optical output	P <sub>o</sub>	Pulse 240	mW
Laser reverse voltage	V <sub>R</sub>	2	V
Operating temperature	T <sub>op</sub>	-10 to +75 (Pulse)	°C
Storage temperature	T <sub>stg</sub>	-40 to +75	°C

CD

Parameter	Symbol	Limits	Unit
Optical output	P <sub>o</sub>	CW 20	mW
Lase reverse voltage	V <sub>R</sub>	2	V
Operating temperature	T <sub>op</sub>	-10 to +75 (Pulse)	°C
Storage temperature	T <sub>stg</sub>	-40 to +75	°C

## Laser Diodes

●Electrical and optical characteristics (T<sub>C</sub>=25°C)

## DVD

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I <sub>th</sub>	–	60	75	mA	CW
Operating current	I <sub>op</sub>	–	150	200	mA	P <sub>O</sub> =80mW CW
Operating voltage	V <sub>op</sub>	–	2.7	3.3	V	P <sub>O</sub> =80mW CW
Output efficiency	η	0.7	0.9	1.3	mW/mA	30mW/ (I (80mW)– I (50mW))
Beam diveragence (FWHM)	θ <sub>//</sub>	7.5	–	13	deg	P <sub>O</sub> =80mW CW
	θ <sub>⊥</sub>	12.5	–	21	deg	
Beam tolerance	φ <sub>//</sub>	–3	0	3	deg	
	φ <sub>⊥</sub>	–3	0	3	deg	
Emission point accuracy	ΔX,Y,Z	–80	0	80	deg	–
Lasing wavelength	λ	655	662	665	nm	P <sub>O</sub> =80mW CW
Astigmatism	As	–	–	6	nm	NA=0.45, P <sub>O</sub> =5mW CW

## CD

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I <sub>th</sub>	–	50	80	mA	CW
Operating current	I <sub>op</sub>	–	80	90	mA	P <sub>O</sub> =20mW CW
Operating voltage	V <sub>op</sub>	–	1.9	2.3	V	P <sub>O</sub> =20mW CW
Output efficiency	η	0.5	0.7	1.2	mW/mA	4mW/ (I (8mW)– I (4mW))
Beam diveragence (FWHM)	θ <sub>//</sub>	6	7.5	12	deg	P <sub>O</sub> =20mW CW
	θ <sub>⊥</sub>	13	15.5	21	deg	
Beam tolerance	φ <sub>//</sub>	–3	0	3	deg	
	φ <sub>⊥</sub>	–3	0	3	deg	
Lasing wavelength	λ	770	782	790	nm	P <sub>O</sub> =20mW CW
Resistance	R <sub>s</sub>	–	3.5	5	Ω	P <sub>O</sub> =20mW CW
Astigmatism	As	–	–	6	μm	NA=0.45, P <sub>O</sub> =5mW CW

Note : θ<sub>⊥</sub>, θ<sub>//</sub>are defined as full width of half maximum.

## [Common]

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Emission point distance	–	109	110	111	μm	–

●Electrical and optical characteristics curves (Tc=25°C)

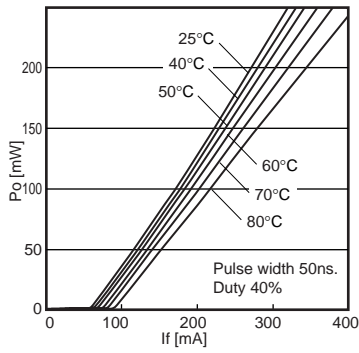


Fig.1 Optical output vs. operating current

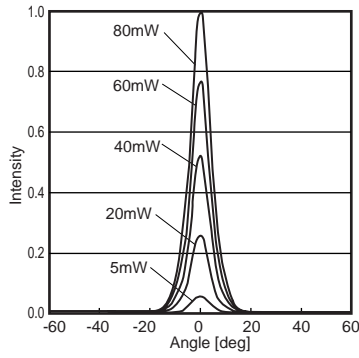


Fig.2 θ // power dependence

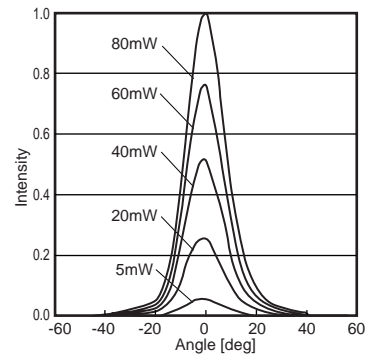


Fig.3 θ ⊥ power dependence

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