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.

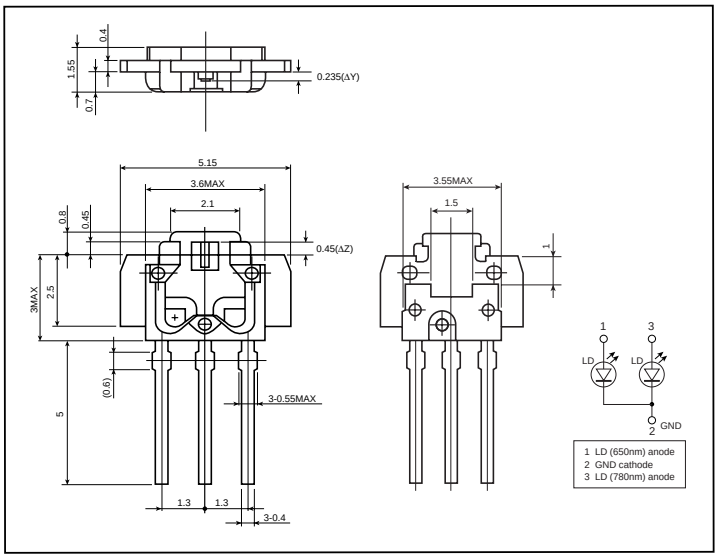
●**Applications**

DVD recorder

●**Features**

1) DVD / CD Po (Optical output) : 240mW / 20mW
2) Emission point distance accuracy : 110μm ± 1μm
3) High Heat Radiation Type : Slim frame package

●**Dimensions** (Unit : mm)



●**Absolute maximum ratings** (Tc=25°C)

DVD

Parameter	Symbol	Limits	Unit
Optical output	P_O	Pulse 240	mW
Laser reverse voltage	V_R	2	V
Operating temperature	Top	−10 to +75 (Pulse)	°C
Storage temperature	Tstg	−40 to +75	°C

CD

Parameter	Symbol	Limits	Unit
Optical output	P_O	CW 20	mW
Lase reverse voltage	V_R	2	V
Operating temperature	Top	−10 to +75 (Pulse)	°C
Storage temperature	Tstg	−40 to +75	°C

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

DVD

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I_{th}	–	60	75	mA	CW
Operating current	I_{op}	–	150	200	mA	P_O=80mW CW
Operating voltage	V_{op}	–	2.7	3.3	V	P_O=80mW CW
Output efficiency	η	0.7	0.9	1.3	mW/mA	30mW/ (I (80mW)– I (50mW))
Beam diveragence (FWHM)	$\theta_{//}$	7.5	–	13	deg	P_O=80mW CW
	$\theta_{\perp}$	12.5	–	21	deg	
Beam tolerance	$\phi_{//}$	–3	0	3	deg	
	$\phi_{\perp}$	–3	0	3	deg	
Emission point accuracy	ΔX,Y,Z	–80	0	80	deg	–
Lasing wavelength	λ	655	662	665	nm	P_O=80mW CW
Astigmatism	As	–	–	6	nm	NA=0.45, P_O=5mW CW

CD

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I_{th}	–	50	80	mA	CW
Operating current	I_{op}	–	80	90	mA	P_O=20mW CW
Operating voltage	V_{op}	–	1.9	2.3	V	P_O=20mW CW
Output efficiency	η	0.5	0.7	1.2	mW/mA	4mW/ (I (8mW)– I (4mW))
Beam diveragence (FWHM)	$\theta_{//}$	6	7.5	12	deg	P_O=20mW CW
	$\theta_{\perp}$	13	15.5	21	deg	
Beam tolerance	$\phi_{//}$	–3	0	3	deg	
	$\phi_{\perp}$	–3	0	3	deg	
Lasing wavelength	λ	770	782	790	nm	P_O=20mW CW
Resistance	Rs	–	3.5	5	Ω	P_O=20mW CW
Astigmatism	As	–	–	6	μm	NA=0.45, P_O=5mW CW

Note : $\theta_{\perp}$, $\theta_{//}$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)

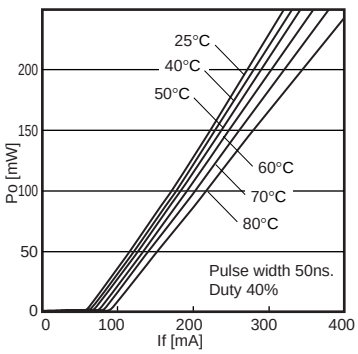


Fig.1 Optical output vs. operating current

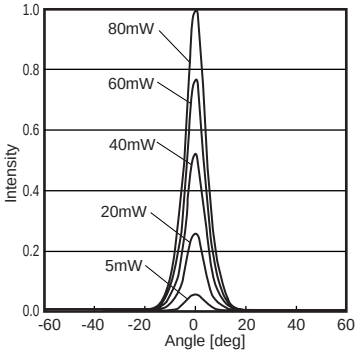


Fig.2 θ // power dependence

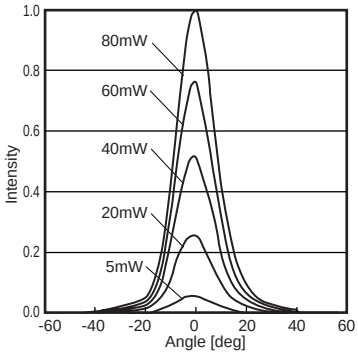


Fig.3 θ ⊥ power dependence

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