

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.

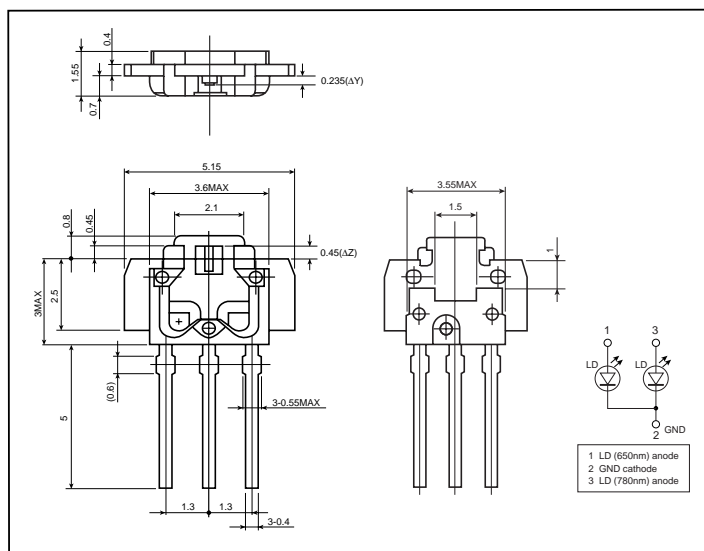
●Applications

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_c=25°C)

DVD

| Parameter | Symbol | Limits | Unit |
|-----------------------|------------------|--------------------|------|
| Optical output | P _o | Pulse 240 | mW |
| Laser reverse voltage | V _R | 2 | V |
| Operating temperature | T _{op} | -10 to +75 (Pulse) | °C |
| Storage temperature | T _{stg} | -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 | T _{op} | -10 to +75 (Pulse) | °C |
| Storage temperature | T _{stg} | -40 to +75 | °C |

●Electrical and optical characteristics (T_C=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) | θ _{//} | 7.5 | – | 13 | deg | P _O =80mW CW |
| | θ _⊥ | 12.5 | – | 21 | deg | |
| Beam tolerance | φ _{//} | –3 | 0 | 3 | deg | |
| | φ _⊥ | –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) | θ _{//} | 6 | 7.5 | 12 | deg | P _O =20mW CW |
| | θ _⊥ | 13 | 15.5 | 21 | deg | |
| Beam tolerance | φ _{//} | –3 | 0 | 3 | deg | |
| | φ _⊥ | –3 | 0 | 3 | deg | |
| Lasing wavelength | λ | 770 | 782 | 790 | nm | P _O =20mW CW |
| Resistance | R _s | – | 3.5 | 5 | Ω | P _O =20mW CW |
| Astigmatism | As | – | – | 6 | μm | NA=0.45, P _O =5mW CW |

Note : θ_⊥, θ_{//} 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)

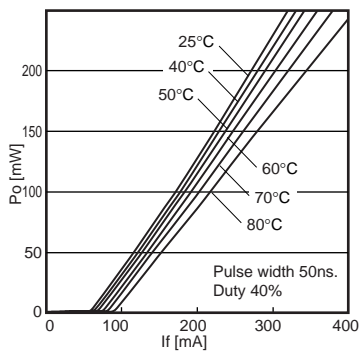


Fig.1 Optical output vs. operating current

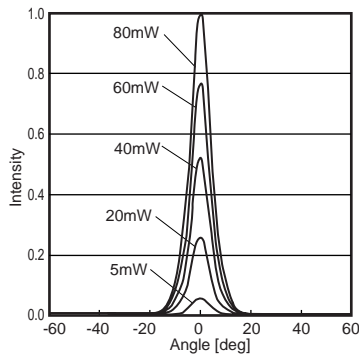


Fig.2 $\theta_{//}$ power dependence

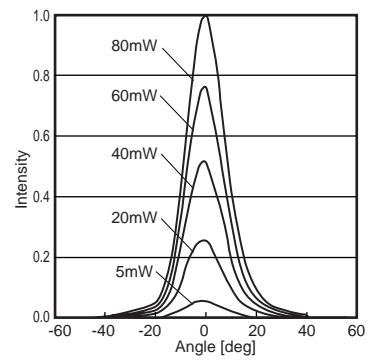


Fig.3 θ_{\perp} power dependence

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