

DVD-ROM / player single mode 2wavelength laser diode

RLD2WMNV1

This is monolithic type single mode 2wavelength laser diode. With our original technology, realized low threshold current and excellent temperature characteristic. This laser diode is suitable for DVD-ROM and DVD-player.

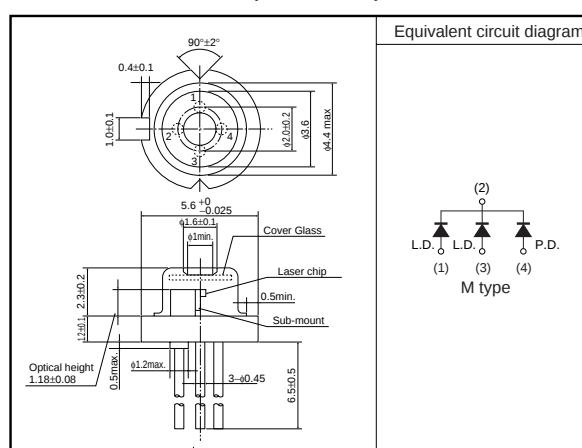
●Applications

DVD-ROM
DVD player

●Features

- 1) Optimization of a strained multi quantum well realizes the reduction in threshold current, and the good temperature characteristic.
- 2) Low threshold current.
785nm : 18mA (Tc=25°C)
655nm : 20mA (Tc=25°C)
- 3) Low noise is realized by high frequency modulation (BU9369FVM)element.
- 4) Emission point distance : 110μm

●External dimensions (Units : mm)



●Absolute maximum ratings (Tc=25°C)

785nm

Parameter		Symbol	Limits	Unit
Output		P _o	7	mW
Reverse voltage	Laser	V _R	2	V
	PIN photodiode	V _{R(PIN)}	30	V
Operating temperature		T _{opr}	-10 to +70	°C
Storage temperature		T _{stg}	-40 to +85	°C

655nm

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Reverse voltage	Laser	V _R	2	V
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Laser Diodes

●Electrical and optical characteristics (T_c=25°C)

785nm

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I _{th}	–	18	50	mA	–
Operating current	I _{op}	–	30	60	mA	P _o =5mW
Operating voltage	V _{op}	–	1.9	2.3	V	P _o =5mW
Differential efficiency	η	0.1	0.4	0.6	mW/mA	–
Monitor current	I _m	0.15	0.25	0.65	mA	P _o =5mW
Parallel divergenc angle	θ _∥ *	7	10	15	deg	P _o =5mW
Perpendicular divergence angle	θ _⊥ *	25	32	39	deg	P _o =5mW
Parallel deviation angle	Δθ _∥	–2	0	+2	deg	P _o =5mW
Perpendicular deviation angle	Δθ _⊥	–3	0	+3	deg	P _o =5mW
Emission point accuracy	$\frac{\Delta X}{\Delta Y}$ ΔZ	–80	0	+80	μm	–
Peak emission wavelength	λ	770	785	810	nm	P _o =5mW
Astigmatism	Δℓ	–	–	10	μm	P _o =5mW

* θ_∥ and θ_⊥ are defined as the angle within which the intensity is 50% of the peak value.

655nm

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I _{th}	–	20	50	mA	–
Operating current	I _{op}	–	28	60	mA	P _o =5mW
Operating voltage	V _{op}	–	2.3	2.7	V	P _o =5mW
Differential efficiency	η	0.4	0.7	1.0	mW/mA	–
Monitor current	I _m	0.1	0.14	0.4	mA	P _o =5mW
Parallel divergenc angle	θ _∥ *	7	8	10	deg	P _o =5mW
Perpendicular divergence angle	θ _⊥ *	20	27	35	deg	P _o =5mW
Parallel deviation angle	Δθ _∥	–2	0	+2	deg	P _o =5mW
Perpendicular deviation angle	Δθ _⊥	–3	0	+3	deg	P _o =5mW
Peak emission wavelength	λ	645	655	660	nm	P _o =5mW
Astigmatism	Δℓ	–	–	10	μm	P _o =5mW

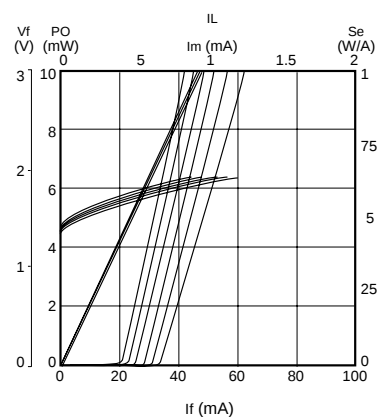
* θ_∥ and θ_⊥ are defined as the angle within which the intensity is 50% of the peak value.●Electrical and optical characteristics curves (T_c=25°C)

Fig.1 785nm Optical output vs. operating current

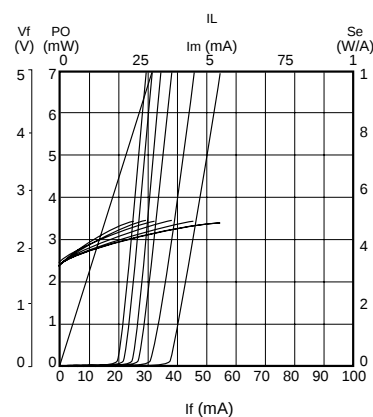


Fig.2 655nm Optical output vs. operating current

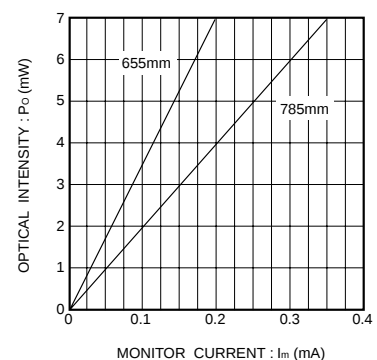


Fig.3 Monitor current vs. optical output