

DVD-ROM / player single mode 2wavelength laser diode

RLD2WMUV2

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.

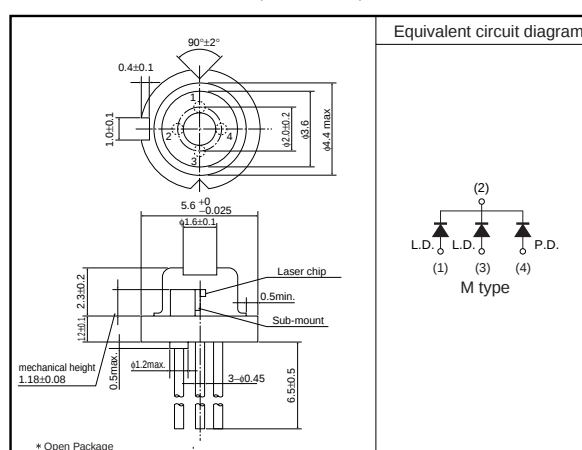
●Applications

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 (Unit : 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

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
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Laser Diodes

●Electrical and optical characteristics (Tc=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	0.2	0.55	0.8	mW/mA	—
Monitor current	I_m	0.1	0.25	0.5	mA	$P_o=5mW$
Parallel divergences angle	$\theta_{//}^*$	7	10	15	deg	$P_o=5mW$
Perpendicular divergence angle	$\theta_{\perp}^*$	25	32	39	deg	$P_o=5mW$
Parallel deviation angle	$\Delta\theta_{//}$	-2	0	+2	deg	$P_o=5mW$
Perpendicular deviation angle	$\Delta\theta_{\perp}$	-3	0	+3	deg	$P_o=5mW$
Emission point accuracy	ΔX ΔY ΔZ	-80	0	+80	μm	—
Peak emission wavelength	λ	770	785	810	nm	$P_o=5mW$
Astigmatism	Δl	—	—	10	μm	$P_o=5mW$

* $\theta_{//}$ and $\theta_{\perp}$ 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	0.5	mA	$P_o=5mW$
Parallel divergences angle	$\theta_{//}^*$	7	8	10	deg	$P_o=5mW$
Perpendicular divergence angle	$\theta_{\perp}^*$	20	27	35	deg	$P_o=5mW$
Parallel deviation angle	$\Delta\theta_{//}$	-2	0	+2	deg	$P_o=5mW$
Perpendicular deviation angle	$\Delta\theta_{\perp}$	-3	0	+3	deg	$P_o=5mW$
Peak emission wavelength	λ	645	655	662	nm	$P_o=5mW$
Astigmatism	Δl	—	—	10	μm	$P_o=5mW$

* $\theta_{//}$ and $\theta_{\perp}$ are defined as the angle within which the intensity is 50% of the peak value.

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

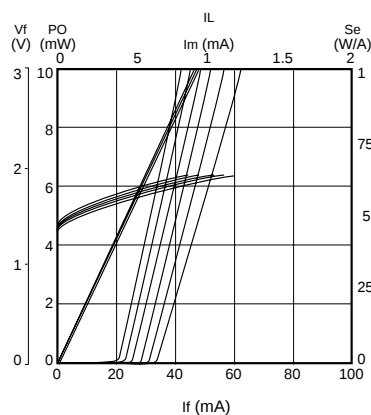


Fig.1 785nm Optical output vs. operating current

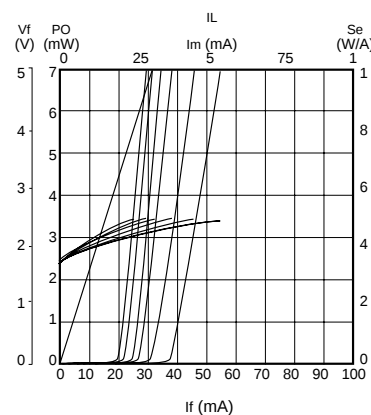


Fig.2 655nm Optical output vs. operating current

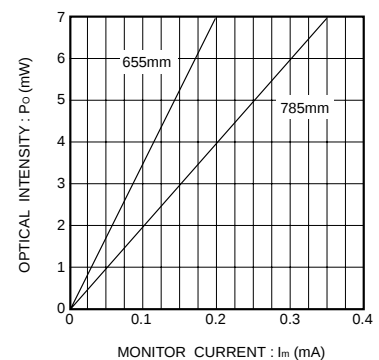


Fig.3 Monitor current vs. optical output

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