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.

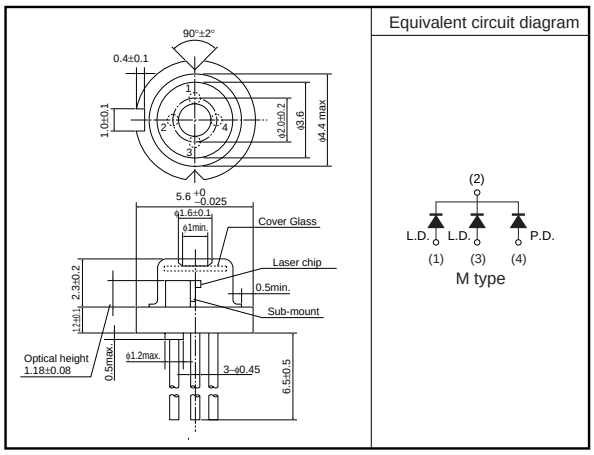
●Applications

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.
   785mm : 18mA (Tc=25°C)
   655mm : 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)

785mm

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		Topr	−10 to +70	°C
Storage temperature		Tstg	−40 to +85	°C

655mm

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		Topr	−10 to +70	°C
Storage temperature		Tstg	−40 to +85	°C

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

785mm

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 diveragence 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	$\Delta\ell$	–	–	10	μm	P_O=5mW

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

655mm

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold curret	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 diveragence 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	660	nm	P_O=5mW
Astigmatism	$\Delta\ell$	–	–	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）

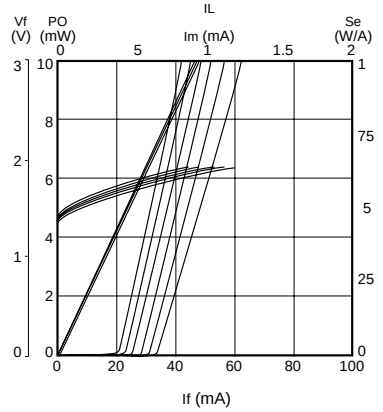


Fig.1 785mm Optical output vs. operating current

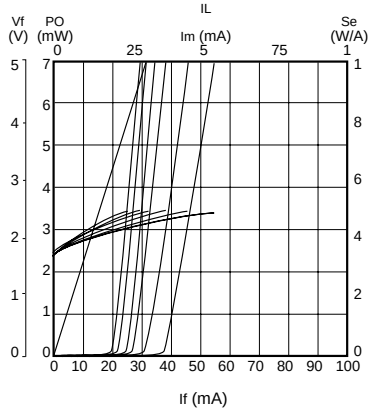


Fig.2 655mm Optical output vs. operating current

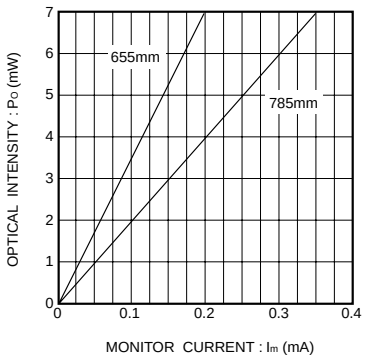


Fig.3 Monitor current vs. optical output