

Laser Diodes

# 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.

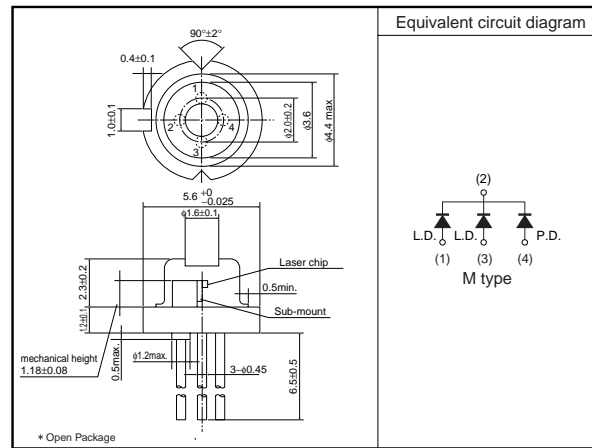
●Applications

- 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 <sub>o</sub>	7	mW
Reverse voltage	Laser	V <sub>R</sub>	2	V
	PIN photodiode	V <sub>R(PIN)</sub>	30	V
Operating temperature		T <sub>opr</sub>	-10 to +70	°C
Storage temperature		T <sub>stg</sub>	-40 to +85	°C

655nm

Parameter		Symbol	Limits	Unit
Output		P <sub>o</sub>	7	mW
Reverse voltage	Laser	V <sub>R</sub>	2	V
	PIN photodiode	V <sub>R(PIN)</sub>	30	V
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●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	$\eta$	0.2	0.55	0.8	mW/mA	-
Monitor current	$I_m$	0.1	0.25	0.5	mA	$P_o=5mW$
Parallel divergenc angle	$\theta_{//}^*$	7	10	15	deg	$P_o=5mW$
Perpendicular divergenc 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	$\Delta X$ $\Delta Y$ $\Delta Z$	-80	0	+80	$\mu m$	-
Peak emission wavelength	$\lambda$	770	785	810	nm	$P_o=5mW$
Astigmatism	$\Delta l$	-	-	10	$\mu m$	$P_o=5mW$

\*  $\theta_{//}$  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	$\eta$	0.4	0.7	1.0	mW/mA	-
Monitor current	$I_m$	0.1	0.14	0.5	mA	$P_o=5mW$
Parallel divergenc angle	$\theta_{//}^*$	7	8	10	deg	$P_o=5mW$
Perpendicular divergenc 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	$\lambda$	645	655	662	nm	$P_o=5mW$
Astigmatism	$\Delta l$	-	-	10	$\mu m$	$P_o=5mW$

\*  $\theta_{//}$  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)

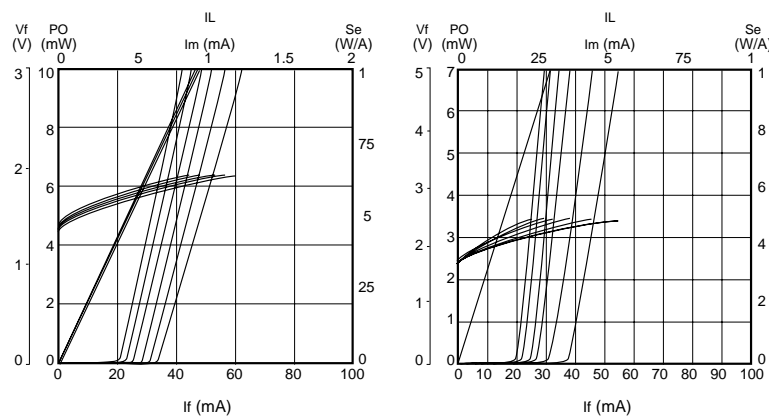


Fig.1 785nm Optical output vs. operating current

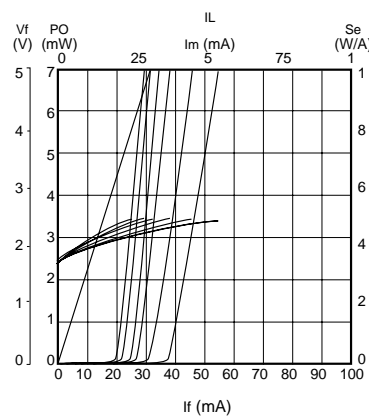


Fig.2 655nm Optical output vs. operating current

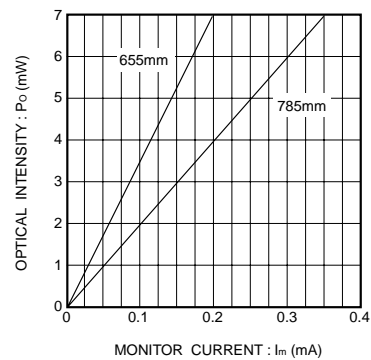


Fig.3 Monitor current vs. optical output

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