

# 660nm / 780nm Dual Wave Low Power Lasers

## RLD2WMFL1

A long-run product with market-proved high reliability. Matching to various needs.

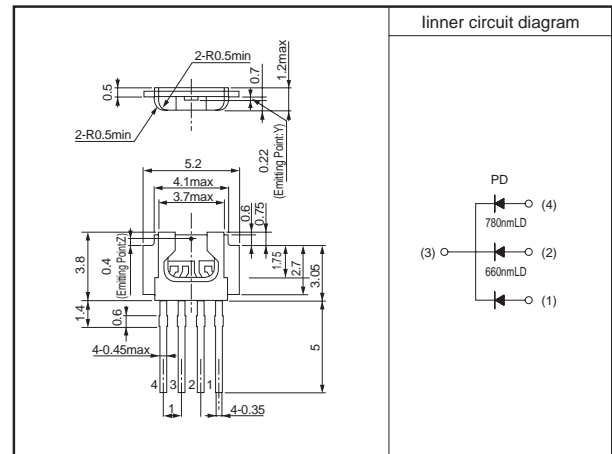
### ●Applications

DVD player, ROM  
etc.

### ●Features

- 1) DVD / CD optical power output : CW7mW / CW7mW
- 2) Single mode
- 3) Excellent temperature characteristics, High ESD resistant  
(Twice compared with the past)
- 4) Slim, quantity heat dissipation frame package adoption

### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings (Tc=25°C)

660nm

Parameter	Symbol	Limits	Unit	
Output	P <sub>o</sub>	7	mW	
Reverse voltage	Laser	V <sub>R</sub>	2	V
	Photodiode	V <sub>R</sub> (PIN)	30	V
Operating temperature	T <sub>op</sub>	-30 to +75	°C	
Storage temperature	T <sub>stg</sub>	-40 to +85	°C	

780nm

Parameter	Symbol	Limits	Unit	
Output	P <sub>o</sub>	7	mW	
Reverse voltage	Laser	V <sub>R</sub>	2	V
	Photodiode	V <sub>R</sub> (PIN)	30	V
Operating temperature	T <sub>op</sub>	-30 to +75	°C	
Storage temperature	T <sub>stg</sub>	-40 to +85	°C	

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

660nm

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	$I_{th}$	–	13	30	mA	–
Operating current	$I_{op}$	–	19	45	mA	$P_o=5mW$
Operating voltage	$V_{op}$	–	2.3	2.7	V	$P_o=5mW$
Differential efficiency	$\eta$	0.6	0.85	1.2	mW/mA	$2mW/(I(5mW)-I(3mW))$
Monitor current	$I_m$	0.05	0.15	0.35	mA	$P_o=5mW$
Parallel divergence angle	$\theta_{//}$	6	8.5	12	deg	$P_o=5mW$
Perpendicular divergence angle	$\theta_{\perp}$	20	27.5	35	deg	
Parallel deviation angle	$\Delta\phi_{//}$	–3	0	3	deg	
Perpendicular deviation angle	$\Delta\phi_{\perp}$	–4	0	4	deg	
Peak emission wavelength	$\lambda$	645	660	664	nm	$P_o=5mW$
Astigmatism	As	–	–	10	$\mu m$	$P_o=5mW$

780nm

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	$I_{th}$	–	12	30	mA	–
Operating current	$I_{op}$	–	18	40	mA	$P_o=5mW$
Operating voltage	$V_{op}$	–	1.8	2.3	V	$P_o=5mW$
Differential efficiency	$\eta$	0.6	0.75	1.2	mW/mA	$2mW/(I(5mW)-I(3mW))$
Monitor current	$I_m$	0.05	0.20	0.40	mA	$P_o=5mW$
Parallel divergence angle	$\theta_{//}$	6	9.3	13	deg	$P_o=5mW$
Perpendicular divergence angle	$\theta_{\perp}$	23	29.5	36	deg	
Parallel deviation angle	$\Delta\phi_{//}$	–3	0	3	deg	
Perpendicular deviation angle	$\Delta\phi_{\perp}$	–4	0	4	deg	
Emission point accuracy	$\Delta X$ $\Delta Y$ $\Delta Z$	–100	0	100	$\mu m$	–
Peak emission wavelength	$\lambda$	770	785	810	nm	$P_o=5mW$
Astigmatism	As	–	–	10	$\mu m$	$P_o=5mW$

Common

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Emission point distance	–	107	110	113	$\mu m$	–

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

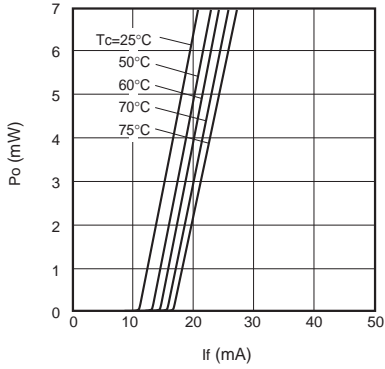


Fig.1 780nm Optical output vs. operating current

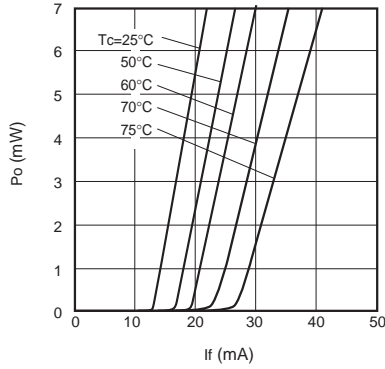


Fig.2 660nm Optical output vs. operating current

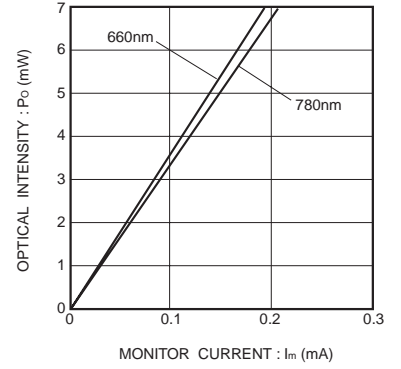


Fig.3 Monitor current vs. optical output

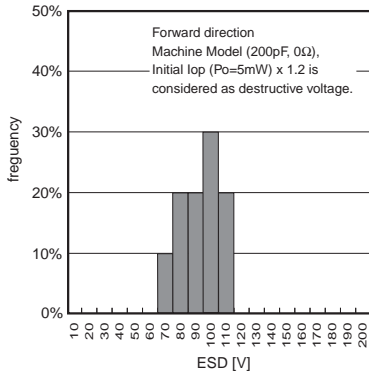


Fig.4 660nm ESD reliability result

## Notes

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