

AlGaAs laser diodes

RLD78MQW1

The RLD78MQW1 is infrared laser diode high power output type (pulse 150mW). This is the best for optical drive use, such as slim CD-R/RW drive, slim combination drive.

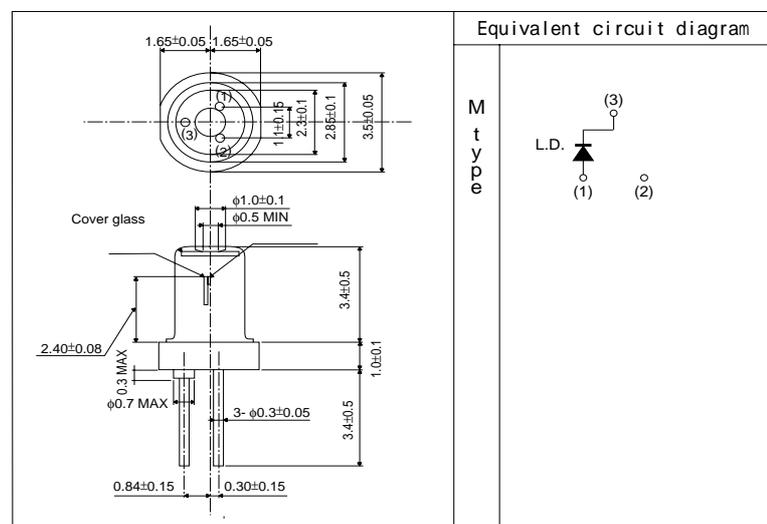
●Applications

Slim CD-R, CD-RW
Slim COMBI

●Features

- 1) The micro package whose capacity ratio is about 25% conventionally compared with a package.
- 2) A high COD level is held and sufficient power margin is realized.

●External dimensions (Units : mm)



●Absolute maximum ratings (Tc=25°C)

Parameter	Symbol	Limits	Unit	
Output	P _o	150 (Pulse)	mW	
Reverse voltage	Laser	V _R	2	V
	PIN photodiode	V _{R(PIN)}	30	V
Opera temperature	Topr	-10~+70	°C	
Storage temperature	Tstg	-40~+85	°C	

Laser Diodes

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I_{th}	–	30	50	mA	–
Operating current	I_{op}	–	120	150	mA	$P_o=80mW$
Operating voltage	V_{op}	–	2.0	2.5	V	$P_o=80mW$
Differential efficiency	η	0.7	0.9	1.4	mW/mA	$\frac{40mW}{I(80mW) - I(40mW)}$
Parallel divergence angle	$\theta_{//}^*$	8	9	10	deg	$P_o=80mW$
Perpendicular divergence angle	θ_{\perp}^*	15	17	19	deg	$P_o=80mW$
Parallel deviation angle	$\Delta\phi_{//}$	–	–	± 2	deg	$P_o=80mW$
Perpendicular deviation angle	$\Delta\phi_{\perp}$	–	–	± 3	deg	$P_o=80mW$
Emission point accuracy	ΔX ΔY ΔZ	–	–	± 80	μm	–
Peak emission wavelength	λ	779	784	789	nm	$P_o=80mW$
Astigmatism	Δl	–	–	6	μm	$NA=0.15, P_o=80mW$

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

●Electrical and optical characteristics curves

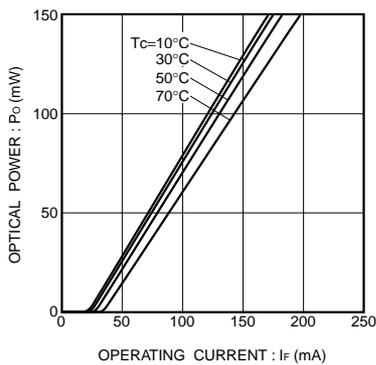


Fig.1 Optical output vs operating current

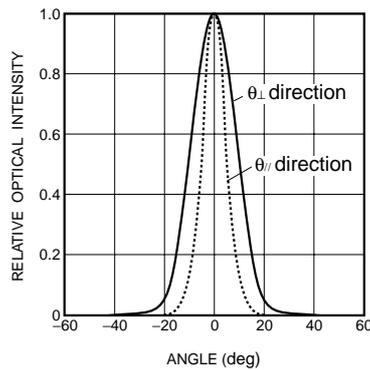


Fig.2 Far field pattern

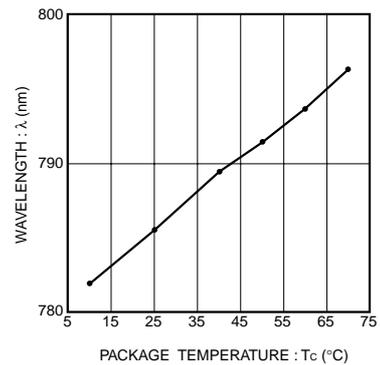


Fig.3 Dependence of wavelength on temperature