

RLD-78PP-G1 / RLD-78NP-G1

In addition, they have the appropriate characteristics for sensor application as well.

- 1) Minimum variation of radiation beam angle.
- 2) Low droop.
- 3) High stability wave length.
- 4) Can be driven by single power supply.

			P T y p e	
	N T y p e			

Parameter		Symbol	Limits	Unit
Output		Po	5	mW
Reverse voltage	Laser	V _R	2	V
	PIN photodiode	V _{R(PIN)}	30	V
Operating temperature		T _{opr}	-10~+60	°C
Storage temperature		T _{stg}	-40~+85	°C

Laser Diodes

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I_{th}	10	25	45	mA	-
Operating current	I_{op}	15	45	65	mA	$P_o=3mW$
Operating voltage	V_{op}	-	1.9	2.3	V	$P_o=3mW$
Differential efficiency	η	0.1	0.2	0.3	mW/mA	$\frac{2mW}{I(3mW)-I(1mW)}$
Monitor current	I_m	0.3	0.55	0.9	mA	$P_o=3mW$
Parallel divergence angle	$\theta_{//}^*$	8	11	15	deg	$P_o=3mW$
Perpendicular divergence angle	$\theta_{\perp}^*$	25	30	38	deg	
Parallel deviation angle	$\Delta\phi_{//}$	-	-	± 2	deg	
Perpendicular deviation angle	$\Delta\phi_{\perp}$	-	-	± 3	deg	
Emission point accuracy	ΔX ΔY ΔZ	-	-	± 80	μm	-
Peak emission wavelength	λ	770	785	795	nm	$P_o=3mW$
Droop	ΔP	-	5	10	%	$P_o=3mW$

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

●Electrical and optical curves

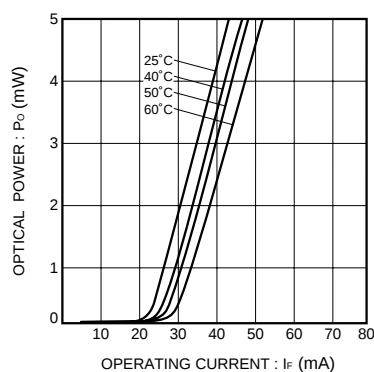


Fig. 1 Optical output vs. operating current

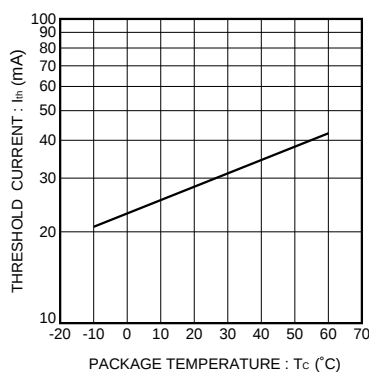


Fig. 2 Dependence of threshold current on temperature

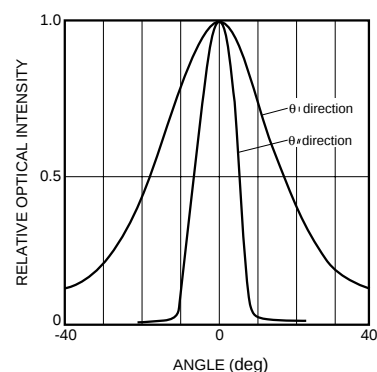


Fig. 3 Far field pattern

Laser Diodes

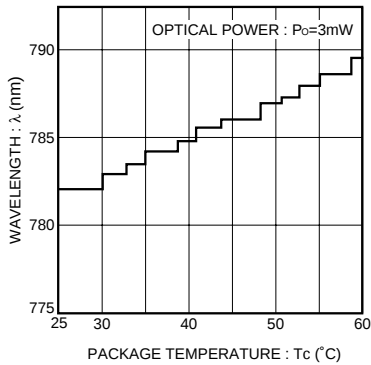


Fig. 4 Dependence of wavelength on temperature

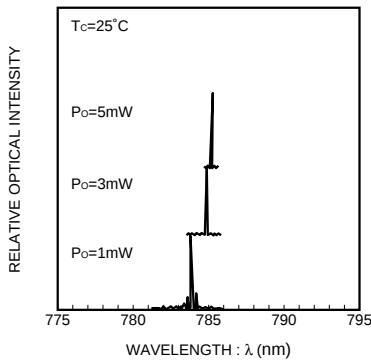


Fig. 5 Dependence of emission spectrum on optical output

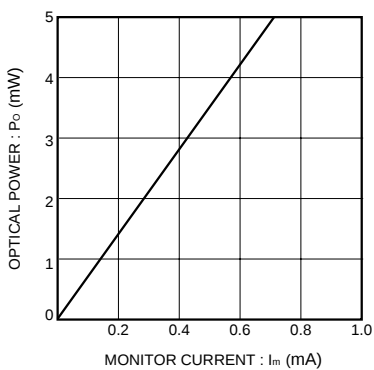


Fig. 6 Monitor current vs. optical output

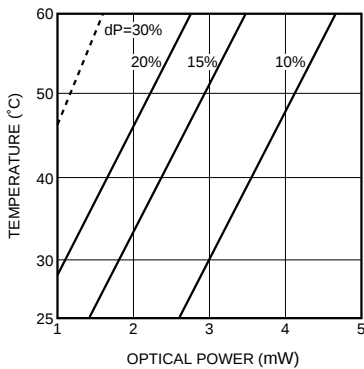


Fig. 7 Temperature vs. output guidelines for various droop percentages

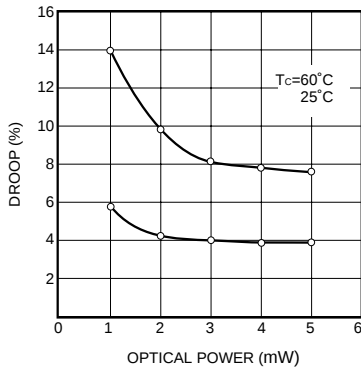


Fig. 8 Dependence of droop on output