AlGaAs laser diodes

RLD78NZH2

The RLD78NZH2 is the best suitable laser diode for high-speed laser printer and PPC. The power limits is 10mW to print at high-speed.

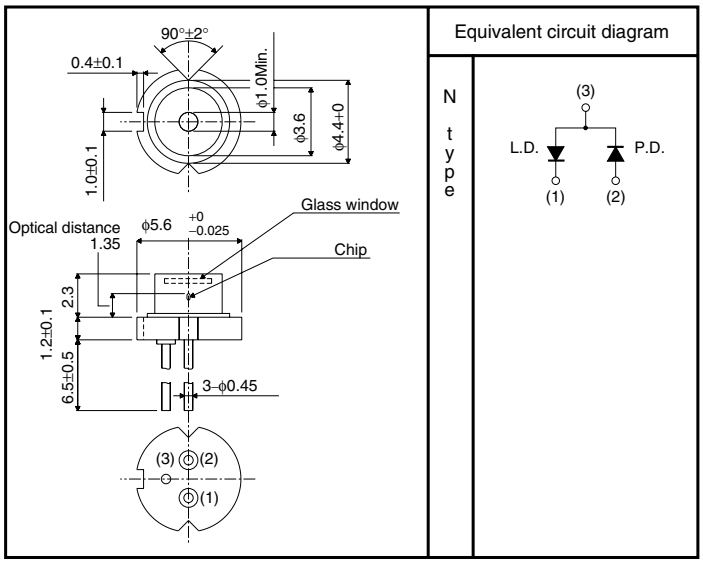
●Applications

High-speed laser printers
PPC

●Features

1) Absolutemax. output power 10mW.
2) High-precision, compact package. (ϕ5.6mm)
3) Low droop.
4) Can be driven by single power supply (N type).

●External dimensions (Unit : mm)



●Absolute maximum ratings (Tc=25°C)

Parameter		Symbol	Limits	Unit
Output		P_O	10	mW
Reverse voltage	Laser	V_R	2	V
	PIN photodiode	$V_{R\ (PIN)}$	30	V
Operating temperature		Topr	−10 to +60	°C
Storage temperature		Tstg	−40 to +85	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I_{th}	–	20	45	mA	–
Operating current	I_{op}	–	40	65	mA	P_O=6mW
Operating voltage	V_{op}	–	1.9	2.3	V	P_O=6mW
Differential efficiency	η	0.2	0.4	0.8	mW/mA	$\frac{4mW}{I(6mW) - I(2mW)}$
Monitor current	I_m	0.2	0.4	1.0	mA	P_O=6mW
Parallel divergence angle	$\theta_{//}$*	8	11	15	deg	P_O=6mW
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	–100	–	+100	μm	–
Peak emission wavelength	λ	770	785	795	nm	P_O=6mW
Droop	ΔP	–	5	10	%	P_O=6mW

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

●Electrical and optical characteristic curves

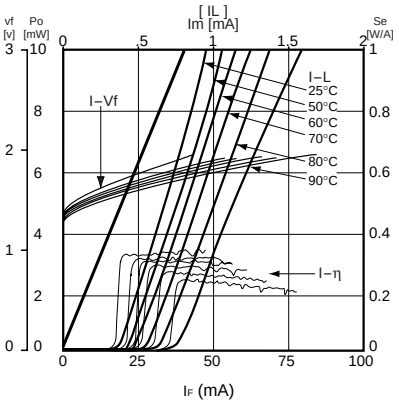


Fig.1 Dependence of I–L on temperature

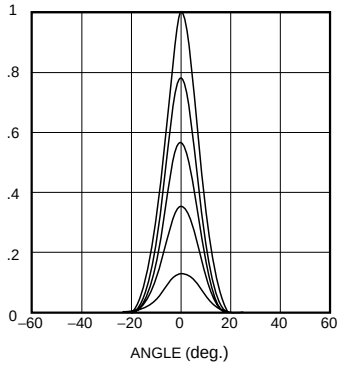


Fig.2 Parallel far field pattern

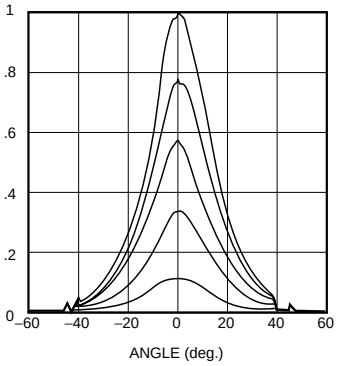


Fig.3 Perpendicular far field pattern

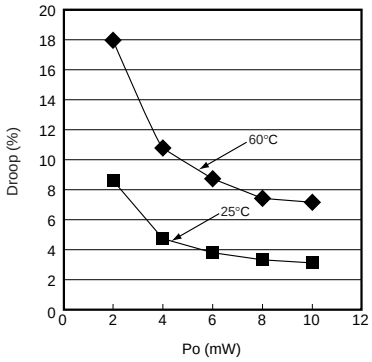


Fig.4 Dependence of droop on output power and temperature

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