

CW Laser Diodes 650 nm – 785 nm



Employment of highly controllable molecular beam epitaxy (MBE) and development of SAM laser of ideal laser structure enable us to massmanufacture a new generation RLD series.

APPLICATIONS:

- For Compact Disc Players,
 CD-ROM
- For DVD-movies,
 DVD-ROM,
 Bar code reader

■ For Laser Beam Printers,

Optical LAN

- Laserpointers
- General Packaging
 Specifications

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For Compact Disc Players, CD-ROM

■ For Compact Disc Players RLD-78MA, RLD-78MA4, RLD-78MAT1, RLD-78MAT4S

The characteristic of all models are best fitted to suppress laser noise and inner structure of package prevents 3 beam double-reflection to detector. The RLD-78MA4 and RLD-78MAT4S are designed for low power consumption and the RLD-78MAT1 for higher reliability usage.

Part No.	W Application	Wavelength λp	Absolute maximum ratings (Tc = 25 °C)				Elect	rical and (Condition Po	Equivalent circuit diagram			
		(nm)	Po (mW)	V _R (V)	Topr Max. (°C)	V _F (V)	I _{TH} (mA)	lop (mA)	lm (mA)	⊖⊥ (deg)	⊖ // (deg)	SIN Min (dB)	— (mW)	ulayram
RLD-78MA	General purpose CD players	785	5	2	60	1.9	35	45	0.2	37	11	60	3	Fig. 1
RLD-78MA4	Small portable CD players	785	4	2	60	1.9	25	35	0.2	37	11	60	2.5	Fig. 1
RLD-78MAT1	Car CD players	785	5	2	80	1.9	35	45	0.2	37	11	60	3	Fig. 1
RLD-78MAT4S	CD-ROM in notebook	785	4	2	75	1.9	20	25	0.09	37	11	60	2.5	Fig. 1

Note: 1. Unless otherwise specified, the electrical and optical characteristics are typical values.

■ For MD Players RLD-78MD

This model is most suitable for Mini-Disc (MD) application as it has lowest noise characteristics at optical output 7 mW.

Part No.	Application	Wavelength λp (nm)	Absolute maximum ratings (Tc = 25 °C)				Electrica		Condition Po	Equivalent circuit			
			Po (mW)	V _R (V)	Topr Max. (°C)	V _F (V)	I _{TH} (mA)	lop (mA)	lm (mA)	⊖⊥ (deg)	Θ// (deg)	(mvv)	diagram
RLD-78MD	For MD players	785	10	2	60	1.9	35	45	0.15	37	11	7	Fig. 1

For DVD-movies, DVD-ROM, Bar code reader

From CD to DVD

ROHM developed the visible (650 nm) laser diode for Digital Video Disc (DVD) applications. Well established ROHM's mass-production technology and knowledge with CD/CD-ROM leads the successful manufacturing process of the DVD laser diodes.

■ For DVD players RLD-65MC/PC

Part No.	Application (Wavelength λp	Absolute maximum ratings (Tc = 25 °C)				Electrica (Tc		Condition Po	Equivalent circuit diagram			
		(nm)	Po (mW)	V _R (V)	Topr Max. (°C)	V _F (V)	I _{тн} (mA)	lop (mA)	lm (mA)	⊖⊥ (deg)	Θ// (deg)	(mw)	diagram
RLD-65 MC	DVD, sensor, bar code, pointer	655	7	2	70	2.3	40	50	0.2	27	8	5	Fig. 1
RLD-65PC	DVD, sensor, bar code, pointer	655	7	2	70	2.3	40	50	0.2	27	8	5	Fig. 2

For Laser Beam Printers, Optical LAN

■ For Laser Beam Printers RLD-78PP-G1, RLD-78NP-G1, RLD-78NP10-G1

This is specifically designed for laser beam printer (LBP) application in a small 5.6 mm diameter package and has low "droop" characteristics. Typical droop is 5% which is very low and it will assist improving the print quality. 10 mW model RLD-78NP10-G1 is available for high speed printing requirement.

Part No.	Wavelength Application λp		Absolute maximum ratings (Tc = 25 °C)				Elect		Condition Po	Equivalent circuit				
		(nm) · ·	Po (mW)	V _R (V)	Topr Max. (°C)	V _F (V)	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	diagram						
RLD-78PP-G1	IRP	785	5	2	60	10	25	15	0.55	30	11	5	3	Fig. 2
RLD-78NP-G1	LDI	700	5	2	00	1.5	20	40	0.00	50		5	5	Fig. 3
RLD-78NP10-G1	High-speed LBP's, Digital PPCs	785	10	2	60	1.9	25	45	0.4	30	11	5	6	Fig. 3

Note: 1. Unless otherwise specified, the electrical and optical characteristics are typical values.

■ For Optical LAN RLD-78MIT, RLD-78PIT, RLD-78NIT

The RLD-78MIT/PIT/NIT is suitable for high speed optical LAN (such as Fibre Channel) as it has high speed response, long product life and high reliability.

Part No.	Application	Wavelength λp (nm)	Abso (1	lute maxir ratings Tc = 25 °C	num ;)		Electrica		Condition Po	Equivalent circuit			
			Po (mW)	V _R (V)	Topr Max. (°C)	V _F (V)	I _{TH} (mA)	lop (mA)	lm (mA)	⊖⊥ (deg)	Θ// (deg)	(mw)	diagram
RLD-78MIT	For Optical												Fig. 1
RLD-78PIT	LAN	785	5	2	80	1.9	35	45	0.2	37	11	3	Fig.2
RLD-78NIT													Fig.3

■ Laser diodes for optical LAN





■ For sensors and General Purpose Measuring Equipment RLD-78MC

The RLD-78MC is suitable for the applications such as sensing and measuring.

Part No.	Application	Wavelength λp (nm)	Abso (T	lute maxii ratings c = 25 °C	mum ;)		Electrica (Tc		Condition Po	Equivalent circuit			
			Po (mW)	V _R (V)	Topr Max. (°C)	V _F (V)	I _{TH} (mA)	lop (mA)	lm (mA)	⊖⊥ (deg)	Θ // (deg)	(mW)	alagram
RLD-78MC	Sensors, Laser Beam Printers, etc.	785	5	2	60	1.9	35	45	0.2	37	11	3	Fig. 1

Laserpointers

RLD-65NE is the red laser diode for laser pointer. The laser beam is easily focused to small spot of parallel beam by single lens and the beam has excellent brightness. RLD-65NE has negative type polarity, so it can be driven with general drive circuit. RLD-65NE has low operating current, so it's adequate for battery drive.

■ Laserpointers RLD-65NE

Part No.	Application	Wavelength plication λp (nm)	Absol	ute maxir ratings	num		Electrica (Tc	;	Condition Po	Equivalent circuit			
			Po (mW)	V _R (V)	Topr Max. (°C)	V _F (V)	I _™ (mA)	lop (mA)	lm (mA)	⊖⊥ (deg)	⊖ // (deg)	(mw)	ulagram
RLD-65NE	Laserpointer	657	5	2	+ 40	2.3	27	35	0.25	27	8	3	Fig. 3

General Packaging Specifications

Equivalent circuit diagram

External dimensions (unit: mm)



Note: For RLD-78MC only, lead length is 5.0 ± 0.5 mm Dimensional allowance is ± 0.1 unless otherwise specified.



Product Designation

- When ordering, specify the part number.
- Check each code against the tables shown below.
- Fill in from the left, leaving any extra boxes empty on the right.
- This is a general designation. For further information consult your local ROHM representative.



Safety

The light emitted from laser diodes, while almost invisible to human eye, can cause retinal damage if viewed directly. Never look directly into the laser beam or through any lenses or fibers when the system is operating.

For optical axis alignment or other operations, we recommend the use of an infrared-sensitive camera (ITV) or wearing protective goggles.



Notes

The product described in this specification in designed to be used with ordinary electronic equipment or devices (such as audio-visual equipment, office-automation equipment, communication device, electrical appliances, and electronic toys). If you intend to use this product or device which require an extremely high level of reliability and malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative advance.