## Laser diodes

# Red laser diodes for digital video discs (DVD) RLD-65MC / RLD-65PC

The RLD-65MC and RLD-65PC are red-colored laser diodes developed for use with DVDs.

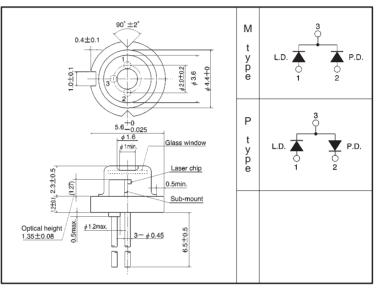
With the introduction of a strained multi quantum well in the active layer, a low threshold current is achieved. Also, with a high operating temperature range that reaches up to 70°C, this laser diode can be used with DVD-ROM.

Applications
DVD-movies
DVD-ROM
Laser pointer
Bar code readers

#### Features

- Low threshold current from the introduction of a strained multi quantum well in the active layer.
- Guaranteed operation at the high temperature of 70°C.

External dimensions (Units: mm)



#### •Absolute maximum ratings (Tc = $25^{\circ}$ C)

Parameter		Symbol	Limits	Unit
Output		Ρο	7	mW
Reverse	Laser	VR	2	V
	PIN photodiode	VR(PIN)	30	V
Operating temperature		Topr	-10~+70	°C
Storage temperature		Tstg	-40~+85	Ĵ



Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Threshold current	lth	-	40	70	mA	—	
Operating current	lop	-	50	80	mA	Po=5mW	
Operating voltage	Vop	-	2.3	2.8	V	Po=5mW	
Differential efficiency	η	0.2	0.4	0.8	mW / mA	2mW I(5mW)—I(3mW)	
Monitor current	lm	0.10	0.20	0.50	mA	Po=5mW Vrpin=15V	
Parallel divergence angle	θ // *	6.5	8	10	deg		
Perpendicular divergence angle	$ heta  \bot^*$	20	27	35	deg	Po=5mW	
Parallel deviation angle	Δθ//	-	-	±2	deg		
Perpendicular deviation angle	$\Delta \theta \perp$	-	-	±3	deg	1	
Emission point accuracy	ΔX ΔY ΔZ	_	_	±80	μm	Po=5mW	
Peak emission wavelength	λ	645	655	665	nm	Po=5mW	
Level aberration	ΔΦ	-	—	λ/30	rms	NA=0.15 Po=5mW	

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

\*  $\theta$   $\perp$  and  $\theta$  // are defined as the angle within which the intensity is 50% or more of the peak value.

•Electrical and optical curves

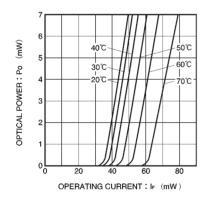


Fig.1 Optical output vs. operating current

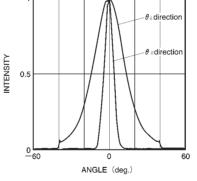
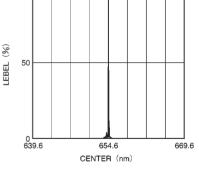


Fig.2 Far field pattern



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Fig.3 Emission spectrum