

# 670nm/10mW CircularBeam Laser Diode

## CircuLaser™ Laser Diode

Circular beam with diffraction-limited performance and low divergence in a standard package

- 10mW Optical Power
- Built-in Monitor Photodiode
- Circular, diverging beam with  $\mu$ Lens™ technology
- Numerical Aperture (NA)  $\sim 0.11$
- Aberration  $\sim \lambda/4$  peak to valley
- AlGaInP index-guided, MQW Laser Diode
- Hermetically sealed package
- Standard 9mm (TO) package



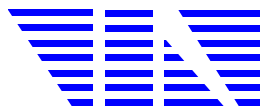
### Absolute Maximum Ratings (case temperature = 25°C)

Parameter	Symbol	Minimum	Maximum	Unit
Optical Output Power	$P_o$	-	10	mW
LD Reverse Voltage	$V_R$ (LD)	-	2	V
PD Reverse Voltage	$V_R$ (PD)	-	30	V
Operating Temperature	$T_{opr}$	-10	+50	°C
Storage Temperature	$T_{std}$	-20	+70	°C

### Optical and Electrical Characteristics (case temperature = 25°C)

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Test Conditions
Threshold Current	$I_{th}$	20	35	60	mA	
Operating Current	$I_{op}$	-	40	-	mA	$P_o = 10mW$
Operating Voltage	$V_{op}$	-	2.2	2.7	V	$P_o = 10mW$
Optical Output Power	$T_{opr}$	-		10	mW	Kink free
Slope Efficiency	$\eta$	0.3	0.5	0.8	mW/mA	$P_o = 6mW$
Wavelength	$\lambda$	660	670	680	nm	$P_o = 10mW$
Circularity	$\phi$		-	1.2:1.0	Ratio	$P_o = 10mW$
Beam Divergence	$\theta$	5	8	11	Deg	$P_o = 10mW$ , FWHM
Off axis Angle	$\Delta\theta$	-	-	$\pm 3$	Deg	
Monitor Current	$I_s$	0.3	0.8	1.5	mA	$P_o = 10mW$ $V_R$ (PD)=5V
Astigmatism	$A_s$	-	0.1	0.25	Waves	

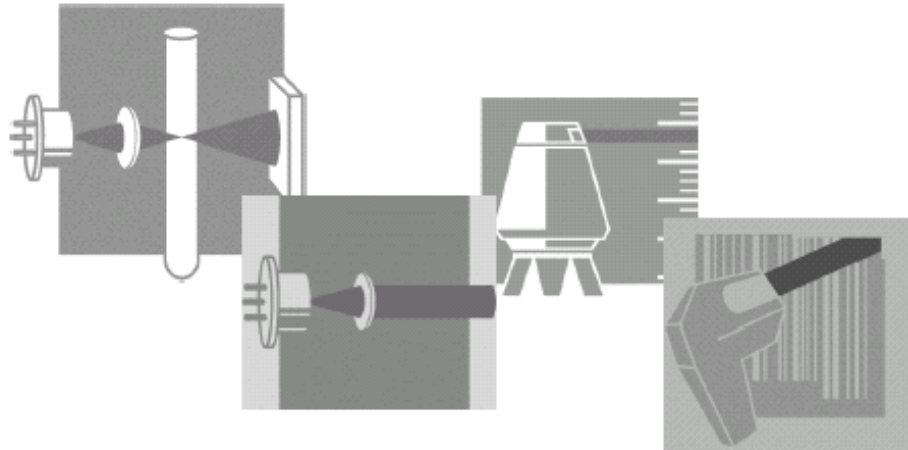
Specifications are subject to change without notice.  
Each CircuLaser is provided with test data.



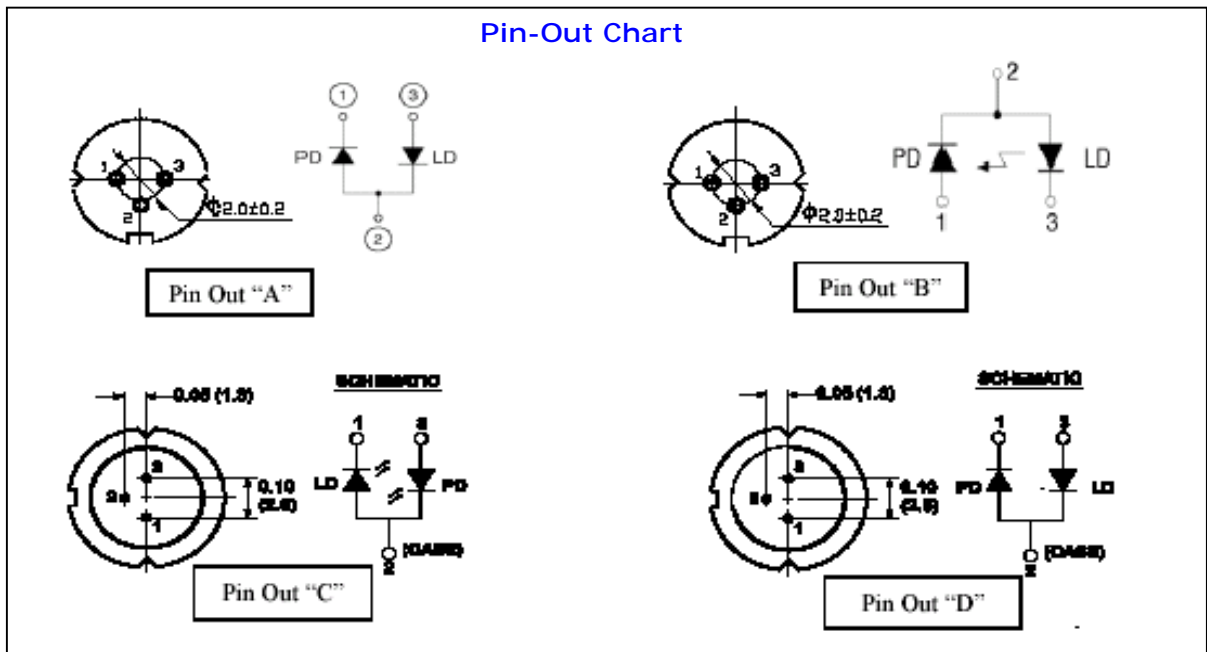
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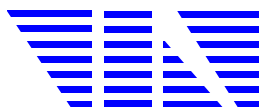
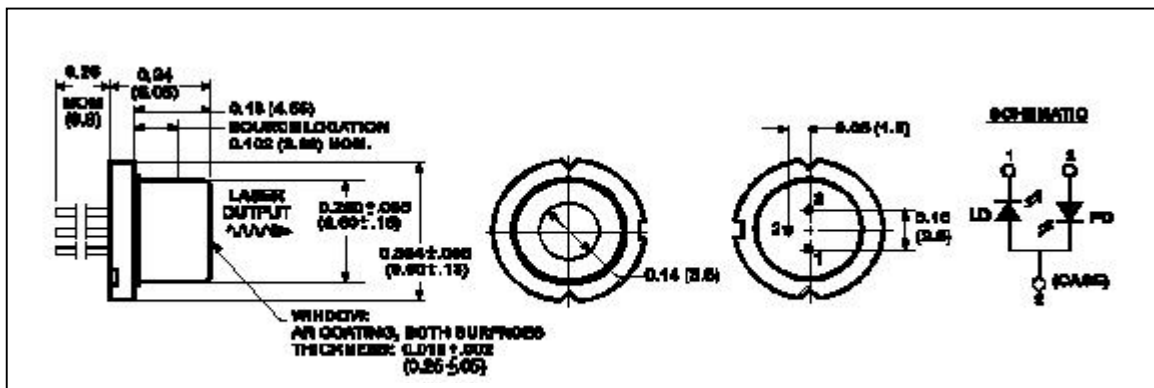
Circularity, Beam quality, and Beam divergence..... All in one



Pin-Out Chart



Mechanical Package and Layout  
(TO-9 package shown)



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