

972-235-7584



GET A QUOTE

# 852 nm Laser Diode | PH852DBR Mercury Series

## PH852DBR Mercury™ Series High-Power Single-Frequency Laser Diode

### 852 nm Laser Diode in Mercury™ TOSA Package

#### Technology

- DBR Single-Frequency Laser Chip
- AlGaAs QW Active Layer

#### Features

- Robust, monolithic die design

- Pulsed operation for spectral stability at short pulse lengths
- Package contains TEC cooling with precise thermistor control
- High Slope Efficiency
- Hermetic package for high reliability

## Description

The 852nm Mercury™ series of high-power edge-emitting lasers are based on Photodigm’s advanced single-frequency laser technology. It provides a diffraction limited, single lateral and longitudinal mode beam in a compact hermetic package. Facets are passivated for high-power reliability. Applications include mobile spectroscopy instrumentation where durability and reliability are essential. The **852 nm laser diode** is certified for Cs D2 line spectroscopy.

### Absolute Maximum Rating

Parameter	Symbol	Unit	Min	Max
Storage Temperature	T <sub>STG</sub>	°C	0	80
Operating Temperature	T <sub>OP</sub>	°C	5.0	70
CW Laser Forward Current, T=25°C	I <sub>F</sub>	mA	-	**
Laser Reverse Voltage	V <sub>R</sub>	V	-	0.0

TEC Current	$I_{TEC}$	A	-1.1	1.1
TEC Voltage	$V_{TEC}$	V	-3.0	3.0
Thermistor Current	$I_{THRM}$	mA	-	1.0
Thermistor Voltage	$V_{THRM}$	V	-	10

\*\*Do not exceed drive current or operating power of supplied LIV

### CW Characteristics at $T_C = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Unit	Min	Typ	Max
Center Wavelength @ 150mA	$\lambda_c$	nm	850	852	854
Optical Output Power	$P_o$	mW	See Power Options Call-out		
Slope Efficiency	$\eta_d$	W/A	0.6	0.75	-
Threshold Current	$I_{th}$	mA	-	50	80
Laser Series Resistance	$R_s$	$\Omega$	-	2.0	2.5

Laser Forward Voltage @ 150mA	$V_F$	V	-	2.0	2.5
Thermistor Resistance @ 25°C	$R_T$	K $\Omega$	-	10	-
Laser Line Width	$\Delta\nu$	MHz	-	1	10
Beam Divergence @ FWHM	$\theta_{  } \times \theta_{\perp}$	°	-	6 X 28	8 X 32
Side Mode Suppression Ratio	SMSR	dB	-30	-	-
Laser Polarization				TE	
Mode Structure			Fundamental Mode		

## Handling Precautions

These devices are sensitive to ESD. When handling the module, grounded work area and wrist strap must be used. Always store in an antistatic container with all leads shorted together.

## How To Order

Part number example: PH852DBR080TS. Assign optical power from those available. Use a three-digit format for all power entries. **PH852DBR\_\_TS** These devices are sensitive to ESD.

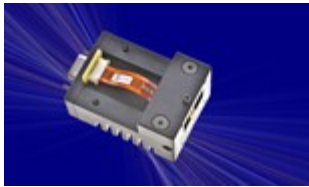
# The Mercury™ Package

Minimum Power (mW)

040 180

080 240

120 280



Mercury™ with mount  
Mercury™



**Photodigm** 



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