

972-235-7584



GET A QUOTE

## PH785DBR Mercury Series

PH785DBR Mercury Series High-Power  
Single-Frequency Laser Diode

785 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 785nm 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.

### Absolute Maximum Rating

Parameter	Symbol	Unit	Min	Max
Storage Temperature	$T_{STG}$	°C	0	80
Operating Temperature	$T_{OP}$	°C	5.0	70
CW Laser Forward Current, $T=25^{\circ}\text{C}$	$I_F$	mA	-	**
Laser Reverse Voltage	$V_R$	V	-	0.0
TEC Current	$I_{TEC}$	A	-1.1	1.1
TEC Voltage	$V_{TEC}$	V	-3.0	3.0

Thermistor Current	$I_{\text{THRM}}$	mA	-	1.0
Thermistor Voltage	$V_{\text{THRM}}$	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	783	785	787
Optical Output Power	$P_o$	mW	See Power Options Call-out		
Slope Efficiency	$\eta_d$	W/A	0.75	0.85	-
Threshold Current	$I_{\text{th}}$	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	-	0.5	1.0
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

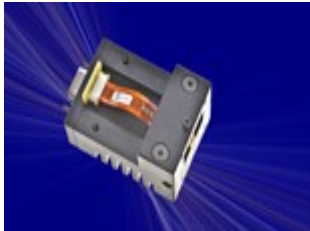
Part number example: PH785DBR080TS. Assign optical power from those available. Use a three-digit format for all power entries. These devices are sensitive to ESD.

# The Mercury™ Package

Minimum Power (mW)

040 120

080 180



Mercury™ with HSM



Mercury™

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