780 nm Laser Diode | PH780DBR Mercury Series

PH780DBR Mercury Series High-Power Single-Frequency Laser Diode

780 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 780nm 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 for the **780 nm Laser Diode** 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°C	I_F	mA	-	**
Laser Reverse Voltage	V_R	V	-	0.0

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°C unless otherwise specified

Parameter	Symbol	Unit	Min	Typ	Max
Center Wavelength @ 150mA	λ_c	nm	778	780	782
Optical Output Power	P_o	mW	See Power Options Call-out		
Slope Efficiency	η_d	W/A	0.75	0.85	-
Threshold Current	I_{th}	mA	-	50	80
Laser Series Resistance	R_S	Ω	-	2.0	2.5
Laser Forward Voltage @ 150mA	V_F	V	-	2.0	2.5
Thermistor Resistance @ 25°C	R_T	KΩ	-	10	-
Laser Line Width	Δv	MHz	-	0.5	1.0
Beam Divergence @ FWHM	$\theta_{\parallel} X \theta_{\perp}$	°	-	6 X 28	8 X 32
Side Mode Suppression Ratio	SMSR	dB	-30	-	-
Laser Polarization				TE	
Mode Structure			Fundamental Mode		

60.65 mA

Handling Precautions

How To Order

Part number example: PH780DBR080TS. Assign optical power from those available. Use a three-digit format for all power entries. **PH780DBR___TS** These devices are sensitive to ESD.

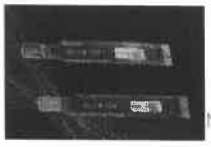
The Mercury™ Package

Minimum Power (mW)

040 120

080 180

Mercury™ with HSM



Mercury™

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