

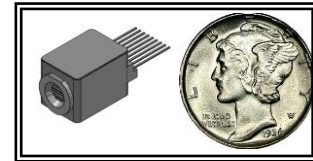
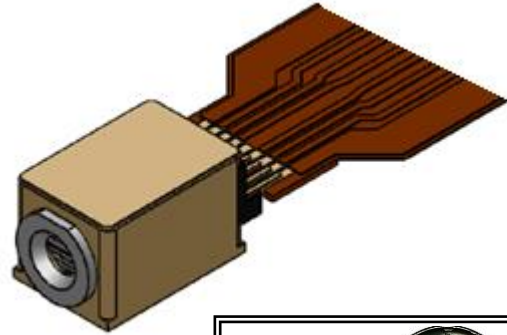
767nm Mercury™ Series High-Power Single-Frequency Laser Diode PH767DBRXXXTS

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 767nm 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. Spectroscopy certified to D2 line of Potassium.

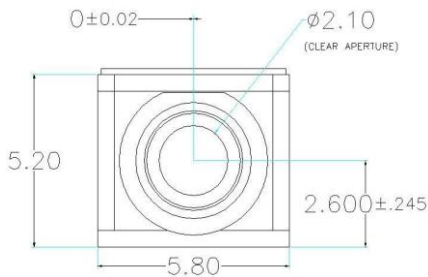
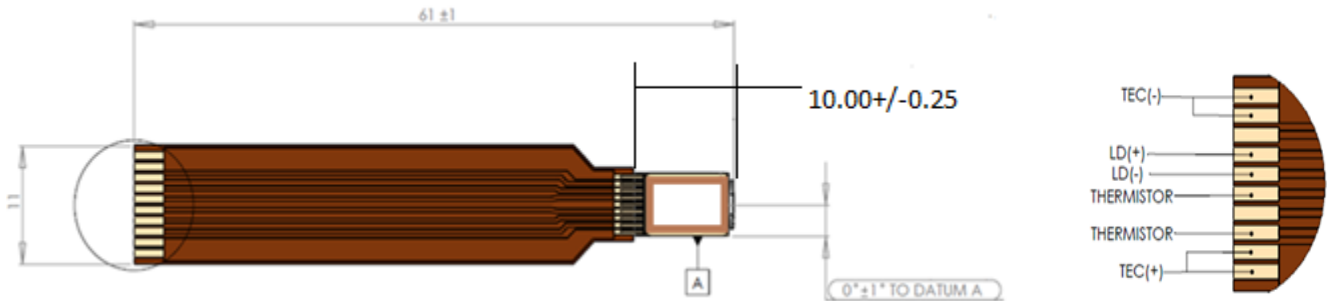
Absolute Maximum Ratings

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_{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	766	767	768
Optical Output Power	P _o	mW	See Power Options Call-out		
Slope Efficiency	η_d	W/A	0.50	0.7	-
Threshold Current	I _{th}	mA	-	100	120
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	K Ω	-	10	-
Laser Line Width	$\Delta\nu$	MHz	-	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		



Dimensions in mm

1. Hermeticity: 5×10^{-8} ATM_(He)/cc/sec
2. Window: Sapphire coated with AR both sides, 700nm-1100nm >90% transmission
3. LD facet to outer surface of window holder is 1.3mm typical
4. LD is centered to package (not window)
5. Package base is W85CU15
6. Final finish: 60 μ m of Au over 100 μ m Ni
7. Module is supplied with 2" flex interconnect (FPC). FPC will interface to Molex connector PN522071060. Custom FPC is optional.

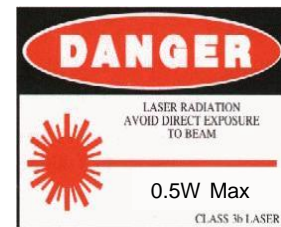
How To Order

Part number example: PH767DBR080TS. Assign optical power from those available. Use a three-digit format for all power entries. These devices are sensitive to ESD.

PH767DBR TS

Typical Power (mW)

040
080



Photodigm, Inc. reserves the right to make changes in design, specifications and other information at any time, and without prior notice. The information contained within the product bulletin is believed to be accurate. However, no responsibility is assumed for possible inaccuracy or omission.