972-
235-
7584

760 nm Laser Diode | PH760DBR Series

Technology

- DBR Single-Frequency Laser Chip
- AlGaAs QW Active Layer
- Facets passivated to withstand high power without catastrophic optical damage (COD)
- Epi designed for high reliability

Features

- Wavelength tunable across several lines of the O_2 spectrum around 760nm
- Pulsed operation for spectral stability at short pulse lengths
- High power for CW applications
- High Slope Efficiency

Description

This monolithic laser diode incorporates a distributed Bragg reflector (DBR) for stable frequency performance over its life time. It provides a diffraction limited, single lateral and longitudinal mode beam. Facets are passivated for high reliability. The **760 nm Laser Diode** is designed specifically for O_2 detection.

Absolute Maximum Rating

Parameter	Symbol	Unit	Min	Max
Storage Temperature	T_{STG}	°C	0	80
Operating Temperature	T_{OP}	°C	10.0	40
CW Laser Forward Current,T=25°C	I_F	mA	-	120**
Laser Reverse Voltage	V_R	V	-	0.0
Photodiode Forward Current 1/	I_P	mA	-	5.0
Photodiode Reverse Voltage 1/	V_R	V	-	20.0
Photodiode Dark Current, V_R=10V, LD I_F=0, 1/	I_D	nA	-	50

TEC Current 1/	I_{TEC}	A	-2.0	2.0
TEC Voltage 1/	V_{TEC}	V	-6.0	6.0
Thermistor Current 1/	I_{THRM}	mA	-	1.0
Thermistor Voltage 1/	V_{THRM}	V	-	10
Lead Soldering Temperature, 10 sec. Max.	-	°C	-	260

**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	759	760	762
Optical Output Power @ 150mA	P_o	mW	See Power Options Call-out		
Slope Efficiency	η_d	W/A	0.6	0.75	-
Threshold Current	I_{th}	mA	-	70	90

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, 2/	R_T	KΩ	-	10	-
Photodiode Dark Current, V_R=10V, LD I_F=0, 2/	I_D	nA	-	-	50
Laser Line Width @ 150mA	Δv	MHz	0.7	1	10
Polarization Extinction Ratio, 1/	PER	dB	-16	-19	-
Beam Divergence @ FWHM	$\theta_{\parallel} \times \theta_{\perp}$	°	-	6 X 26	8 X 30
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: PH760DBR040CM. Assign optical power from those available. Use a
three-digit format for all power entries. Call factory for special frequency selection and certification to certain atomic absorption lines.

Package Type

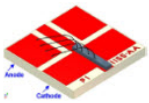
(CS) Chip on Submount

(CM) 'C' Mount

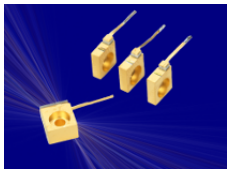
(T8) TO-8

Minimum Power (mW)

040 080



Chip on Submount
(CS)



C-Mount

TO-8

Photodigm

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