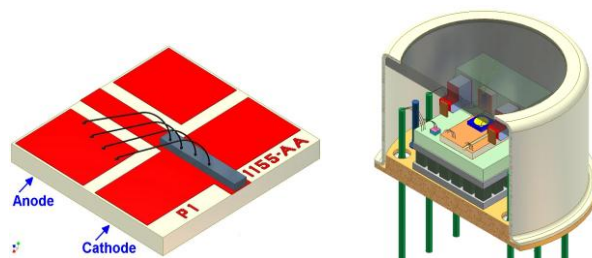


PH760DBR 760nm Series

High-Power Single-Frequency Laser Diode

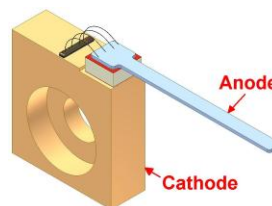
Technology

- 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 O₂ 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. Designed specifically for O₂ detection.

Absolute Maximum Ratings

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 <u>1/</u>	I _P	mA	-	5.0
Photodiode Reverse Voltage <u>1/</u>	V _R	V	-	20.0
Photodiode Dark Current, V _R =10V, LD I _F =0, <u>1/</u>	I _D	nA	-	50
TEC Current <u>1/</u>	I _{TEC}	A	-2.0	2.0
TEC Voltage <u>1/</u>	V _{TEC}	V	-6.0	6.0
Thermistor Current <u>1/</u>	I _{THRM}	mA	-	1.0
Thermistor Voltage <u>1/</u>	V _{THRM}	V	-	10
Lead Soldering Temperature, 10 sec. Max.	-	°C	-	260

1/ TO8 package

**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	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 , $\underline{2}/$	R_T	K Ω	-	10	-
Photodiode Dark Current, $V_R=10\text{V}$, LD $I_F=0$, $\underline{2}/$	I_D	nA	-	-	50
Laser Line Width @ 150mA	$\Delta\nu$	MHz	0.7	1	10
Polarization Extinction Ratio, $\underline{1}/$	PER	dB	-16	-19	-
Beam Divergence @ FWHM	$\theta_{ } \times \theta_{\perp}$	$^\circ$	-	6 X 26	8 X 30
Side Mode Suppression Ratio	SMSR	dB	-30	-	-
Laser Polarization				TE	
Mode Structure			Fundamental Mode		

$\underline{2}/$ TO-8 package

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.

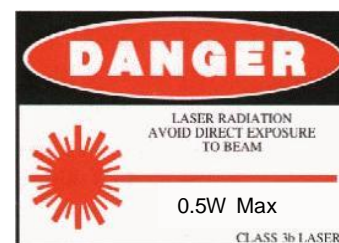
PH760DBR 

Minimum Power
(mW)

040
080

Package Type

CS Chip on Submount
CM 'C' Mount
T8 TO-8



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