DL-53X8AR-CXX0 Series

Uncooled 1470 ~ 1610 nm CWDM MQW-DFB LD for CATV return path application

DESCRIPTION

DL-53X8AR-CXX0 series are designed for coupling a single mode optical fiber with 1470 ~ 1610 nm CWDM MQW-DFB uncooled laser diode. DL-53X8AR-CXX0 series are the best kits as light source for CATV return path application.

FEATURES

- 8-Channel CWDM : from 1470 nm to 1610 nm, each Step 20 nm
- Uncooled DFB Laser Diode with MOW Structure
- High Reliability, Long Operation Life
- Single Frequency Operation with High SMSR
- -20 to 75℃ operation without active cooling
- Built-in InGaAs monitor photodiode
- Low Inter-modulation Distortion
- Built-in Isolator

CHARACTERISTICS

ELECTRICAL AND OPTICAL CHARACTERISTICS (T_C = 25°C)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{th}	Threshold Current	CW, Room Temperature CW, Over Temperature		10	15 50	mA mA
Iop	Operation Current	CW, Room Temperature CW, Over Temperature			50 100	mA mA
V_{op}	Operating Voltage	CW, I_F=Iop		1.2	1.5	V
P_f	Optical Output Power Part No.:DL-5338AR DL-5348AR DL-5358AR	CW, I_F=Iop		 2.0 3.0 4.0		 mW mW mW
λc	Central Wavelength	CW, I_F=Iop	λ-3	λ	λ+2	nm
SMSR	Side Mode Suppression Ratio	CW, I_F=Iop	30	35		nm
$\Delta P_f / P_f$	Tracking Error	APC, -20~75 ℃	-1		1	dB
Im	PD monitor Current	CW, I_F=Iop, V_{RD}=1V	100		1500	μA
I_D	PD Dark Current	V_{RD}=5V			0.1	μA
C_t	PD Capacitance	V_{RD}=5V, f=1 MHz		10	15	pF
IMD2	Second-Order Intermodulation	(*1)			-50	dBc
IMD3	Third-Order Intermodulation	(*1)			-55	dBc
CNR	Carrier to Noise Ratio	(*2)	51			dB
BF	Bandpass Flatness	Peak to Valley, 5~300 MHz			1.0	dB
RIN	Relative Intensity Noise	f=5~300 MHz			-145	dB/Hz
Iso	Optical Isolation	λ = λc	30			dB

Note: *1. 20 Km fiber loss, 2-tone (13 MHz and 19 MHz), OMI=0.1 for each RF Channel.
*2. 1-tone with OMI=0.2, through 20 km fiber

OPTOWAY TECHNOLOGY INC. No.38, Kuang Fu S. Road, Hu Kou, Hsin Chu Industrial Park, Hsin Chu, Taiwan 303
Tel: 886-3-5979798 Fax: 886-3-5979737
E-mail: sales@optoway.com.tw http: // www.optoway.com.tw

ABSOLUTE MAXIMUM RATINGS

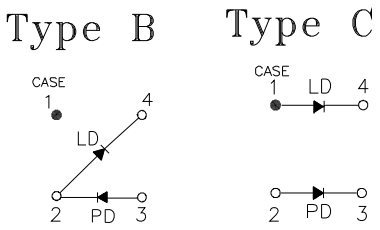
Stress in excess of the absolute maximum rating can cause permanent damage to the device. These are absolute stress rating only. Functional operation of the device is not implied at these or any other conditions in excess of these given in the operational sections of the datasheet. Exposure to absolute ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Max	Unit
Optical Output Power (5338AR / 5348AR / 5358AR)	Po		3 / 4 / 5	mW
LD Reverse Voltage	V_{RL}		2	V
PD Reverse Voltage	V_{RD}		10	V
PD Forward Current	I_{FD}		1	mA
Soldering Temperature	T_{solder}		260 / 10	°C / sec
Operating Temperature Range	T_{op}	-20	75	°C

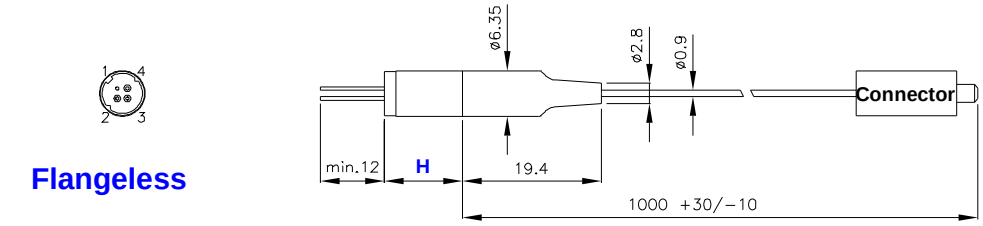
PRECAUTIONS for USE

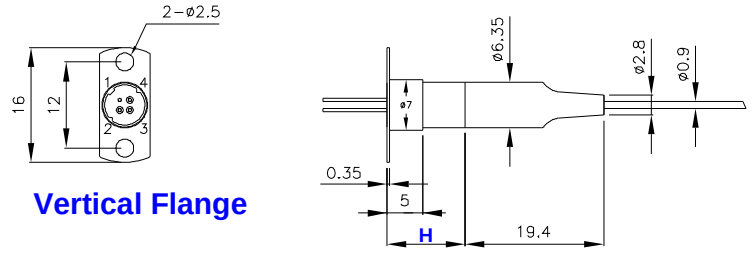
1. ESD protection is imperative. Use of grounding straps, anti-static mats, and other ESD protective equipment is recommended when handling or testing an any junction photodiodes.
2. Fiber pigtails should be handled with less than 10N pull and with a bending radius greater than 30 mm.

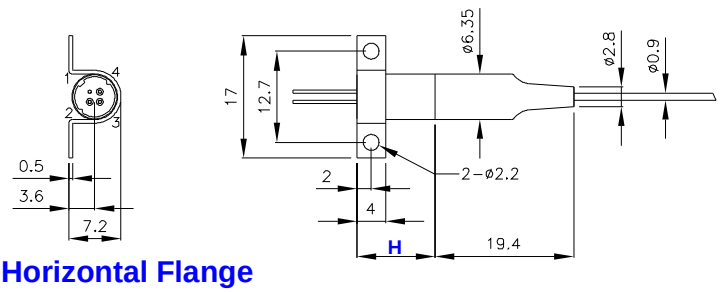
MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



P/N	H
DL-5338AR-CXX0-XXXS	9
DL-5348AR-CXX0-XXXS	10.9
DL-5358AR-CXX0-XXXS	10.9







OPTOWAY TECHNOLOGY INC. No.38, Kuang Fu S. Road, Hu Kou, Hsin Chu Industrial Park, Hsin Chu, Taiwan 303
Tel: 886-3-5979798 Fax: 886-3-5979737
E-mail: sales@optoway.com.tw http: // www.optoway.com.tw 6/1/2008 V1.0

ORDER INFORMATION

Part No.: D L - 5 3 □ □ A R - C □ □ 0 - □ □ □ S

Code	Pout (mW)
3	2
4	3
5	4

Code	Wavelength
47	1470 nm
49	1490 nm
51	1510 nm
53	1530 nm
55	1550 nm
57	1570 nm
59	1590 nm
61	1610 nm

Code	Pin Assignment
5	Type B
8	Type C

Code	Isolator
S	Single-Stage

Code	Connector
S	SC/PC
F	FC/PC
T	ST/PC
L	LC/PC
X	No connector
SA	SC/APC
FA	FC/APC
TA	ST/APC
LA	LC/APC

Code	Flange
V	Vertical
H	Horizontal
X	No Flange

Note: Specifications subject to change without notice.

Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2008/6/1