DL-53X8AC Series

Uncooled 1550 nm MQW-DFB LD for CDMA wireless communication

DESCRIPTION

DL-53X8AC series are designed for coupling a single mode optical fiber with 1550 nm MQW-DFB uncooled laser diode. DL-53X8AC series are the best kits as light source for analog application, such as optical repeater for CDMA mobile communication.

FEATURES

- 1550 nm Uncooled DFB Laser Diode with MOW Structure
- High Reliability, Long Operation Life
- Single Frequency Operation with High SMSR
- -20 to 85℃ 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-5338AC DL-5348AC DL-5358AC	CW, I_F=Iop		 2.0 3.0 4.0		 mW mW mW
λc	Central Wavelength	CW, I_F=Iop	1530	1550	1570	nm
SMSR	Side Mode Suppression Ratio	CW, I_F=Iop	30	35		nm
$\Delta P_f / P_f$	Tracking Error	APC, -20~85 ℃	-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
IMD3	Third-Order Intermodulation	(*1)			-56	dBc
RIN	Relative Intensity Noise	f=50~1000 MHz			-145	dB/Hz
Iso	Optical Isolation	λ=1550 nm	30			dB

Note: *1 2-tone (936 MHz and 958 MHz), OMI=0.2 for each RF Channel.

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ABSOLUTE MAXIMUM RATINGS

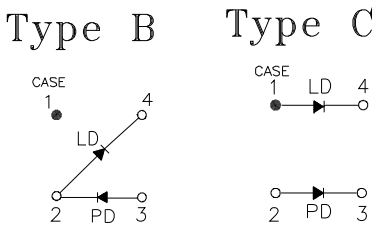
Stress in excess of the absolute maximum rating can cause permanent damage to the device. These are absolute stress rating only. Functional operation of the device is not implied at these or any other conditions in excess of these given in the operational sections of the datasheet. Exposure to absolute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

Parameter	Symbol	Min	Max	Unit
Optical Output Power (5338AC / 5348AC / 5358AC)	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	85	°C

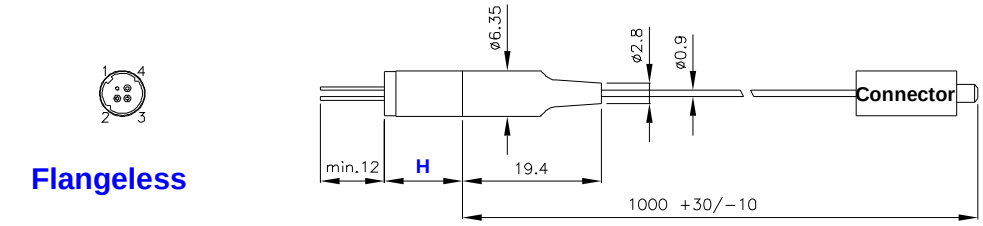
PRECAUTIONS for USE

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.

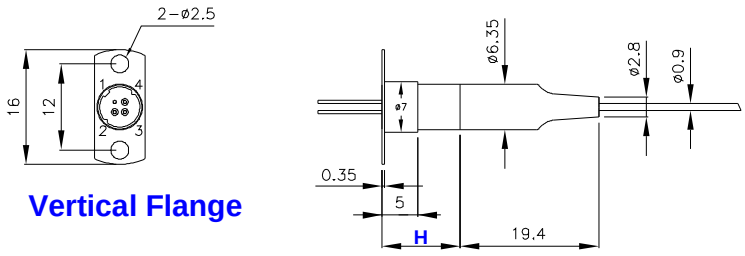
MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



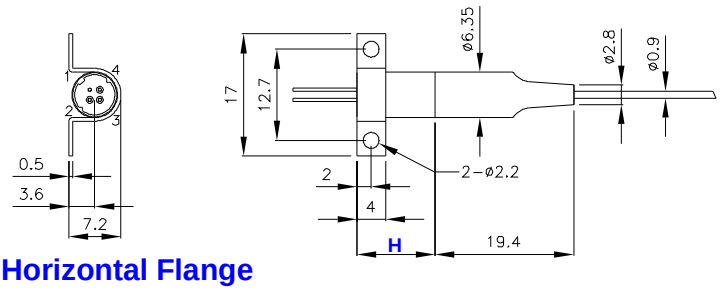
P/N	H
DL-5338AC-XXXS	9
DL-5348AC-XXXS	10.9
DL-5358AC-XXXS	10.9



Flangeless



Vertical Flange



Horizontal Flange

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ORDER INFORMATION

Part No.: D L - 5 3 □ □ A C - □ □ □ S

Code	Pout (mW)
3	2
4	3
5	4

Code	Flange
V	Vertical
H	Horizontal
X	No Flange

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	Pin Assignment
5	Type B
8	Type C

Code	Application
AC	CDMA

Note: Specifications subject to change without notice.

Revision History

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