



AC31 Series

Cooled 980 nm Pump Laser Module

Description

The AC31 series lasers are cooled 980 nm pump modules provide high power, reliable and stable pump for Erbium Doped Fiber Amplifiers (EDFAs) applications. This cooled pump laser module provides the option of using fiber Bragg grating to stabilize the pump. The device is delivered in hermetic 14-pin butterfly package with photodiode for optical power monitoring. This package includes high fiber coupling optics to achieve high optical output power.

Features

- 975 to 985 nm emission wavelength
- Operating temperature from 0 to 75°C
- High Reliability chip and package
- Fiber Bragg Grating (FBG) wavelength stabilization
- Higher power than 250 mW is available on request
- Integrated TEC and thermistor

Applications

- EDFAs and Fiber Lasers

Absolute Maximum Rating

Parameter	Min.	Max.
Laser Current Transient at 1 μ s max.	-	1A
Laser Reverse voltage	-	2.2V
Laser Reverse current	-	10 μ A
Monitor PD reverse voltage		20V
Monitor PD forward current		10mA
Storage temperature	-40°C	85°C
Operating temperature	-20°C	75°C
TEC Voltage		4V
TEC Current		2.5A
Lead soldering time at 260°C	-	10 sec.
Fiber axial pull force	-	5N
Fiber side pull force	-	2.5N
Fiber bend radius	16 mm	-

Operating Power

Product Number	Operating Power, P_{op} (mW)	Max. Operating Current, I_{op} (mA)	Minimum Kink-free Power, P_{max} (mW)
AC31-130-xy	110	250	130
AC31-140-xy	120	270	140
AC31-150-xy	130	290	150
AC31-160-xy	140	310	160
AC31-170-xy	150	330	170
AC31-180-xy	160	350	180
AC31-190-xy	170	370	190
AC31-200-xy	180	390	200
AC31-210-xy	190	410	210
AC31-220-xy	200	430	220
AC31-230-xy	210	450	230
AC31-240-xy	220	470	240
AC31-250-xy	230	490	250
AC31-260-xy	240	510	260
AC31-270-xy	250	530	270
AC31-280-xy	260	550	280
AC31-290-xy	270	570	290
AC31-300-xy	280	600	300
AC31-310-xy	290	630	310
AC31-320-xy	300	660	320
AC31-330-xy	310	690	330
AC31-340-xy	320	720	340
AC31-350-xy	330	750	350

Note: 9xy is the specified fiber Bragg grating (FBG) wavelength in nm. xy=00 for no fiber Bragg grating option.

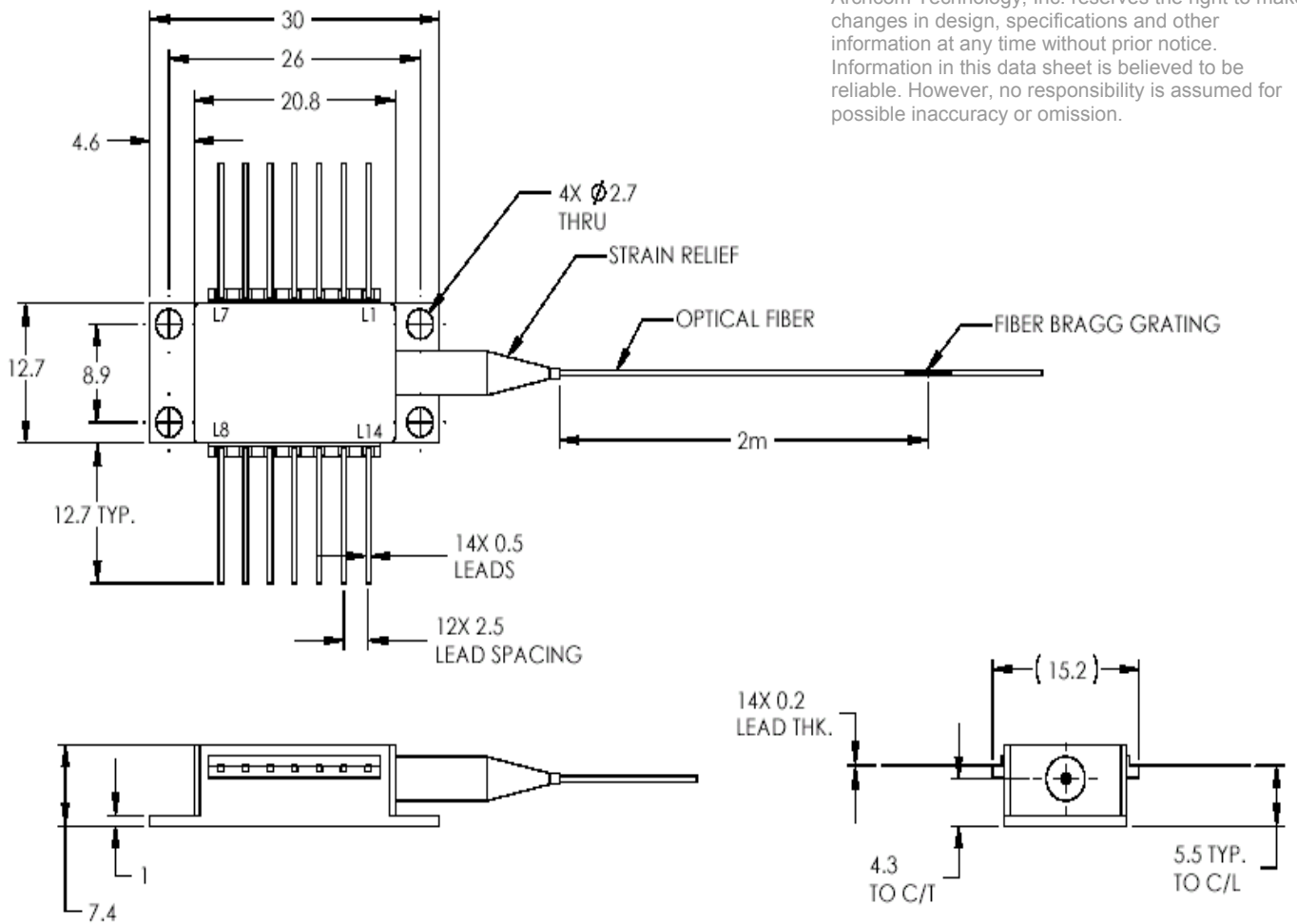
Electrical/Optical Characteristics ($T_c=25^\circ\text{C}$)

Symbol	Parameter	Test Conditions	Min.	Max	Unit
I_{th}	Threshold current	CW		40	mA
V_f	Forward voltage	$I_f=I_{op}$		2.5	V
λ_c	Center Wavelength	$T_{grating}=\text{room temp.}$	975	985	Nm
P_{pump}	Power in band	$\lambda_c \pm 1.5\text{nm}$	90%		
SMSR (w/FBG)	Side-mode-suppression ratio	Ratio of peak in band to peak out of band	-15dB		

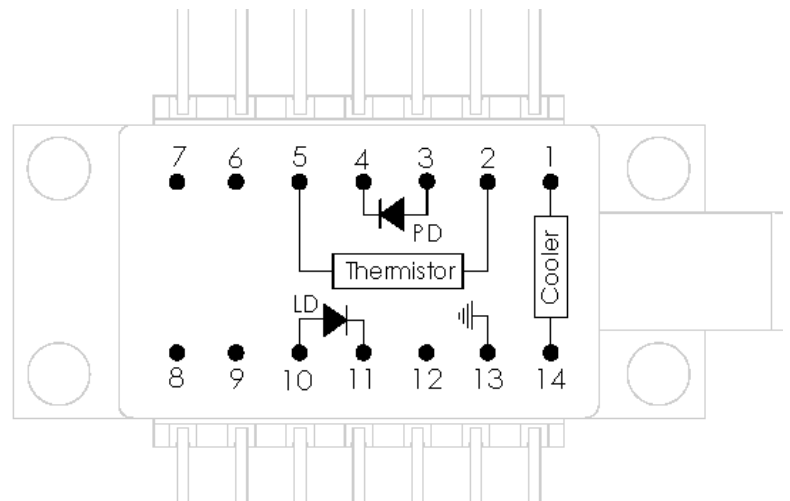
Ordering Information:

Customer needs to specify the kink free power (XXX), and FBG wavelength (XX). Example: AC31-180-78 is a pump laser module with 180 mW kink free power at 978 nm wavelength.

Outline Drawing (Dimensions in mm)



Lead Assignment Layout	
Lead #	Description
1	Cooler (+)
2	Thermistor
3	Monitor PD Anode
4	Monitor PD Cathode
5	Thermistor
6	N/C
7	N/C
8	N/C
9	N/C
10	Laser Anode
11	Laser Cathode
12	N/C
13	Case Ground
14	Cooler (-)



Top View