



## 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

#### Absolute Maximum Rating

Parameter	Min.	Max.
Laser Current Transient at 1 $\mu$ s max.	-	1A
Laser Reverse voltage	-	2.2V
Laser Reverse current	-	10 $\mu$ 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

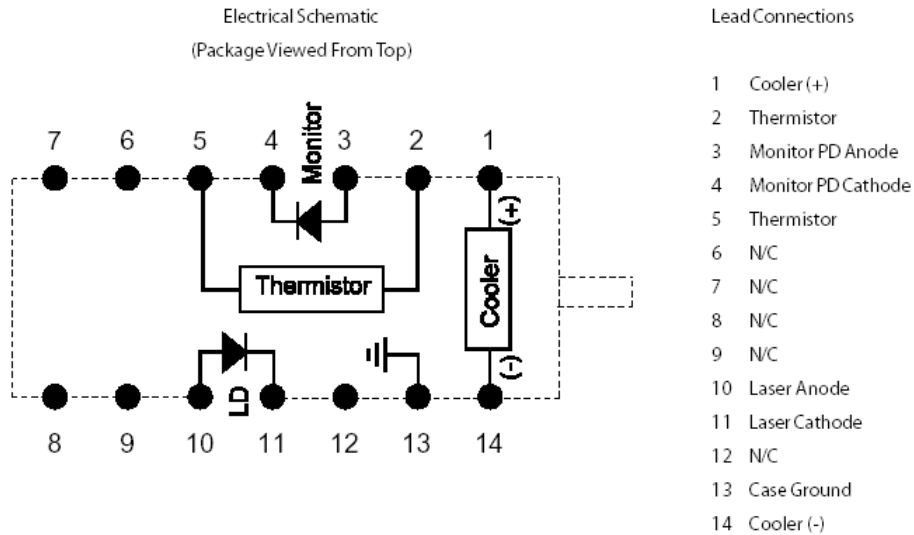
Product Number	Operating Power, $P_{op}$ (mW)	Max. Operating Current, $I_{op}$ (mA)	Minimum Kink-free Power, $P_{max}$ (mW)
AC31-130-xy	110	240	130
AC31-140-xy	120	255	140
AC31-150-xy	130	275	150
AC31-160-xy	140	295	160
AC31-170-xy	150	315	170
AC31-180-xy	160	335	180
AC31-190-xy	170	355	190
AC31-200-xy	180	375	200
AC31-210-xy	190	395	210
AC31-220-xy	200	415	220
AC31-230-xy	210	435	230
AC31-240-xy	220	455	240
AC31-250-xy	230	475	250

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		25	mA
$V_f$	Forward voltage	$I_f=I_{op}$		2.2	V
$\lambda_c$	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		

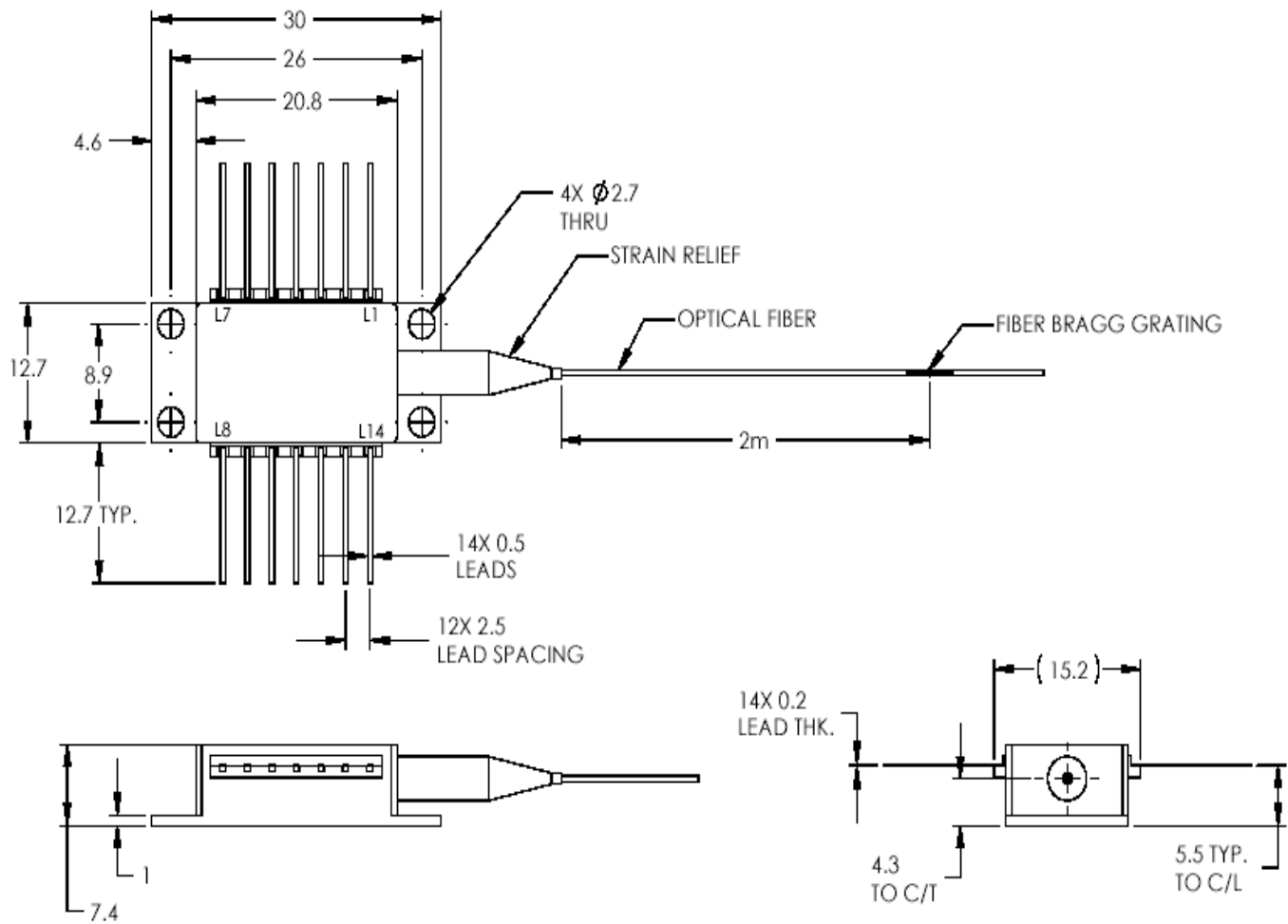
## Lead Connections



### 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 nm kink free power at 978 nm wavelength.

## Outline Drawing (Dimensions in mm)



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