

# Alcatel 1948 PLI

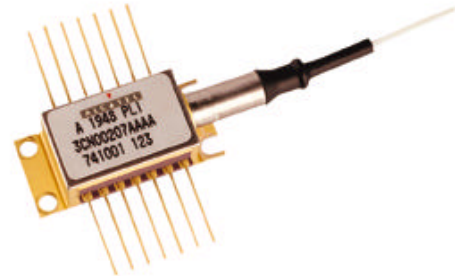
## High Power 1480 nm

### Pump Laser module with Isolator

#### Description

The Alcatel 1948 PLI module contains a SLMQW 1480 nm high power laser coupled to the pigtail with an optical isolator. It incorporates a thermo-electric cooler, precision NTC thermistor, and a monitor photodiode. The Alcatel 1948 PLI can be pigtailed with a standard Single Mode Fiber (SMF) or a Polarization Maintaining Fiber (PMF).

The Alcatel 1948 PLI is dedicated to 1480 nm pumped Erbium-Doped Fiber Amplifiers (EDFA).



#### Features

- Low profile package
- From 140 to 200 mW output power versions
- Low drive current
- SMF or PMF
- 30 db optical isolation
- InGaAsP SLMQW laser
- Internal TEC and monitor photodiode
- Hermetic 14-pin butterfly package
- Full performance in operating case temperature from 0 to + 70 °C

#### Applications

- High power Erbium-Doped Fiber Amplifier
- Co and Contra EDFA pumping
- Instrumentation

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## Optical Characteristics

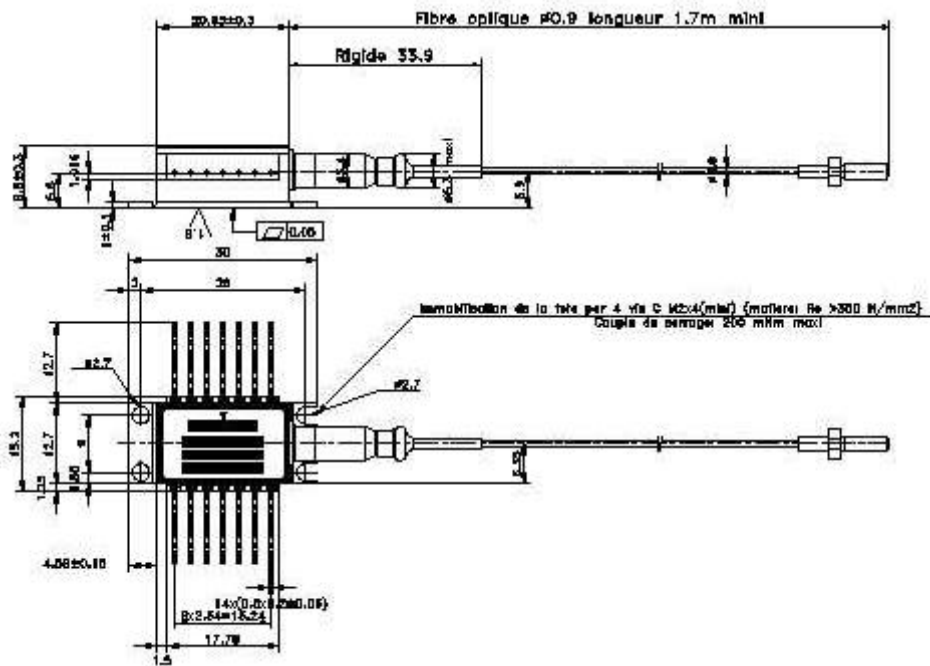
Parameter	Conditions	Min.	Typ.	Max.	Unit
Threshold current (I <sub>th</sub> )			35	65	mA
Output power (P <sub>f</sub> ) (see codes)	I <sub>f</sub> = 700 or 600 mA	140	155		mW
	I <sub>f</sub> = 700 or 600 mA	160	175		
	I <sub>f</sub> = 700 or 600 mA	180	200		
	I <sub>f</sub> = 700 or 800 mA	190	210		
Forward voltage (V <sub>f</sub> )	@ I <sub>f</sub>		2.1	2.5	V
Monitoring current	@ I <sub>f</sub>	300			μA
Wavelength range		1460		1490	nm
Spectral width (RMS)	- 10 dB			20	nm
Photodiode dark current	V = - 5 V			50	nA
Photodiode capacitance	V = - 5 V, 1 MHz			15	pF
Thermistor resistance		9.5		10.5	Ko
TEC current (I <sub>tec</sub> )	ΔT= 45°C; T <sub>chip</sub> = 25°C; T <sub>case</sub> = 70°C			1.3	A
TEC voltage (V <sub>tec</sub> )	ΔT= 45°C; T <sub>chip</sub> = 25°C; T <sub>case</sub> = 70°C			4.2	V

## Absolute maximum ratings

Parameter	Min	Max	Unit
Operating case temperature	-5	70	°C
Storage temperature	-40	85	°C
Laser forward current		1000	mA
Laser reverse voltage		2	V
Photodiode forward current		1	mA
Photodiode reverse voltage		20	V
TEC voltage		4.6	V
TEC current		1.7	A
ESD applied to PIN detector (pin 3&4) <sup>[1]</sup>		100	V
ESD applied on all other pins <sup>[1]</sup>		2000	V
Lead soldering time (at 350°C)		3	s
Package mounting screw torque		0.2	Nm

<sup>[1]</sup> Human body model

## Mechanical details



## Pin-out

Pin	Description
1	Peltier Cooler (+)
2	Thermistor
3	Photodetector Anode
4	Photodetector Cathode
5	Thermistor
6	NC
7	NC
8	NC
9	NC
10	Laser Anode
11	Laser Cathode
12	NC
13	Case
14	Peltier Cooler (-)

Laser pigtail : 0.9mm jacket

Length 0.9m minimum

SMF : SMF 28 (or equivalent), or

PMF : Fujikura SM15-P-8/125/UV/UV-400

Slow axis (or equivalent)

Tighten the 4 screws (C M2x4) up to 200 mN/m - Do not exceed this mounting torque

## Ordering information

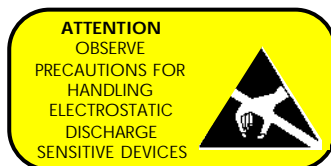
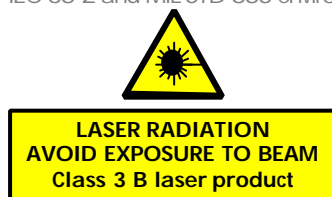
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Pigtail SMF		Code				
		3CN 00207 XY## (XY see below)				
Min power (mW)		140	160	180	190	200
Max current (mA)	600	AE	AJ	AF		
	700	AC	AK	AL	AG	AN
	800				AM	AP

PMF		Code				
		3CN 00349XY## (XY see below)				
Min power (mW)		140	160	180	190	200
Max current (mA)	600	AB	AF	AC		
	700	AA	AG	AH	AD	AK
	800				AJ	AL

## Standards

ITU-T G.652 optical fiber  
 ITU-T G.653 shifted dispersion fiber  
 IEC 68-2 and MIL STD 883 environment



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