Alphion®
Enabling the photonic future™

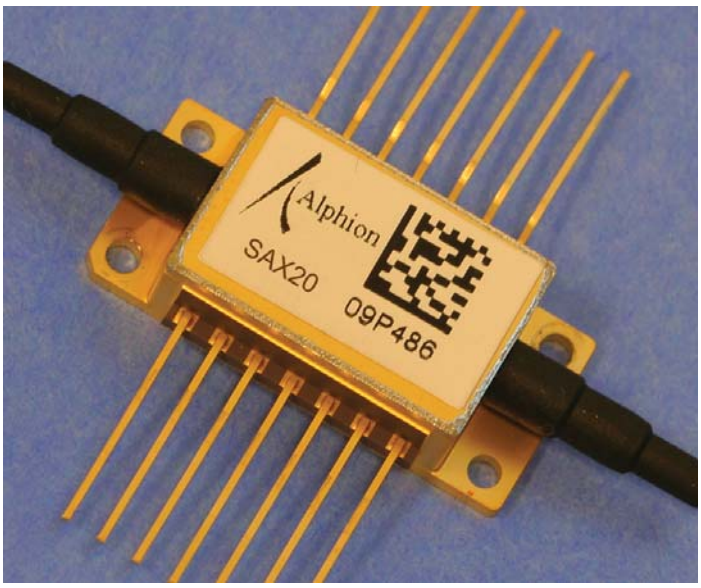
Product Brief

QLight® X-Amp

Model SAX20

Features

- 14-Pin MSA package
- Wide optical bandwidth
- X-Band (1060 nm) coverage
- Supports rates up to 160 Gb/s
- High output power



Applications

- ASE Source
- Gain medium for swept sources
- Optical gate element for pulses applications

Description

The QLight® X-Amp is a semiconductor optical amplifier (SOA) designed for medical imaging, industrial, and test and measurement applications. It is based on the Alphion proprietary QLight® technology platform for the manufacturing of advanced discrete photonics and photonic integrated circuits (PICs).

The X-Amp is available in a MSA compliant, 14-pin butterfly package, based on the Alphion standard packaging platform. The use of a laser-welded, hermetic, organics-free package ensures highly reliable operation. The package incorporates both a thermistor and a thermo-electric cooler to provide stable operation of the SOA over the full operating temperature range. The standard product is available with 20dB typical gain, and other gain options available upon request

The Alphion QLight X-Amp has unsurpassed performance when used in broadly tunable laser sources as a gain element, as a gate element for pulsed applications or as an ASE source. The X-Amp is available with polarization maintaining fiber as standard.

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SPECIFICATIONS

Absolute Maximum Ratings*

Parameter	Symbol	Min	Typ	Max	Unit	Note
Operating Temperature	T_{case}	0		70	˚C	Case Temperature
Storage Temperature	T_{store}	-40		85	˚C	
Operating Bias Current	I_f			450	mA	
Optical Amplifier Reverse Bias	V_{rev}			2	V	
Thermistor Current	I_{therm}			5	mA	
TEC Current	I_{TEC}			1.8	A	
TEC Voltage	V_{TEC}			3.4	V	

* Stresses in excess of the Absolute Maximum Ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational section of the datasheet. Exposure to Absolute Maximum Ratings for extended periods can adversely affect the device reliability.

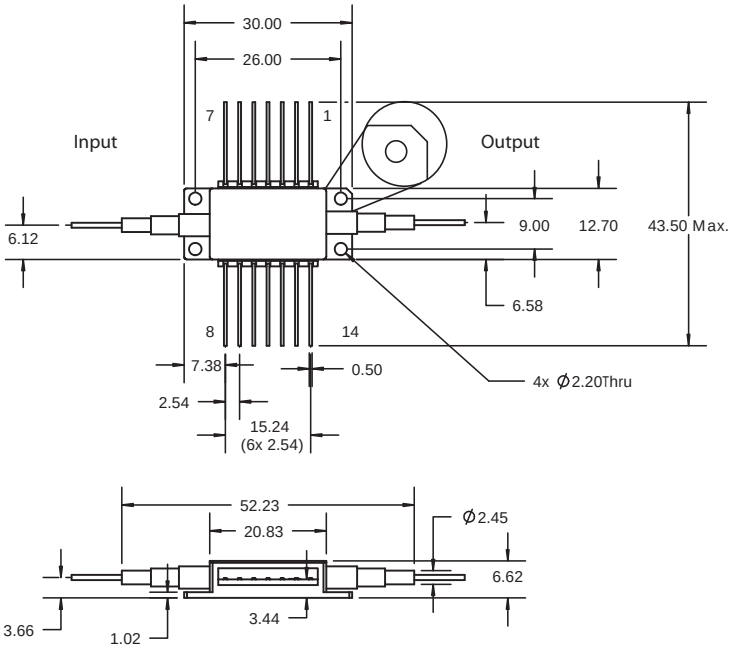
Operating Specifications*

Parameter	Symbol	Min	Typ	Max	Unit	Note
Operating Wavelength	λ	1040		1080	nm	
Peak Gain	G_{pk}		20		dB	
Peak ASE Gain WL	λ_{pk}		1060		nm	
Saturation Output Power	P_{3dB}		13		dBm	3.0 dB gain compression
Forward Voltage	V_f		2		V	
Operating Bias Current	I_{op}		350	420	mA	
Thermistor Resistance	R_{therm}		10		kΩ	At 25˚C
Total Power Consumption	P			4	W	T_{case} = 70˚C, By design

**Specifications are subject to change without notice.*

Pin Assignments			
1	TEC (+)	14	TEC (-)
2	Thermistor	13	NC
3	NC	12	NC
4	NC	11	Chip (-)
5	Thermistor	10	Chip (+)
6	NC	9	NC
7	NC	8	NC

*Note: Pin #1 is marked by a bevel (notch) at the base of the housing



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