

ALM930 – 1550nm Narrow Linewidth CW Laser

DESCRIPTION

The ALM930 series of 1550nm DFB laser modules are specifically developed for use as a ultra narrow linewidth source for use in sensing or interferometric applications. All critical components, including optical isolator, TEC, thermistor, laser, and monitor photodiode are hermetically sealed in a butterfly package.

FEATURES

- Low Relative Intensity Noise
- Narrow Linewidth (< 600 kHz)
- Internal TEC, Thermistor & Monitor PD
- 14 pin Butterfly Package
- High Optical Power (> 40 mW)
- Polarization Maintaining Fiber

APPLICATIONS

- Sensing

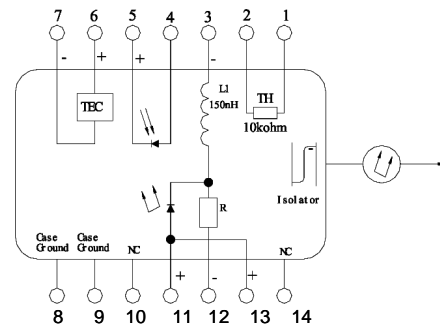
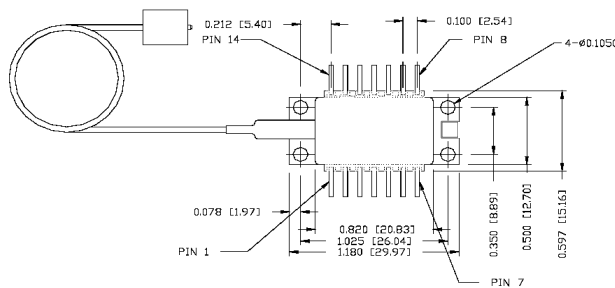
MODEL OPTIONS

ALM930 – XXX – YY

XXX:	Linewidth	YY:	Output Power
100	< 100 kHz	40	40 mW
200	100-200 kHz	50	50 mW
400	200-400 kHz	60	60 mW
600	500-600 kHz		

For Special Wavelength Requests, please contact us

MECHANICAL DRAWINGS



- Type: PMF fiber, flame retardant Hytrel coating, 0.9 mm diameter
- Length: 1-meter minimum
- Nominal Pin Lead Length: 5mm (from external package wall)

PIN ASSIGNMENTS

Pin	Function	Pin	Function
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	DC Laser Bias (-)	10	NC
4	MPD Anode	11	Laser Common (+)
5	MPD Cathode	12	Laser Modulation (-)
6	TEC (+)	13	Laser Common (+)
7	TEC (-)	14	NC

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ELECTRO-OPTICAL CHARACTERISTICS						
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Case Temp Range	T_C		0		65	°C
Laser Threshold Current	I_{TH}		-	25	40	mA
Laser Operating Current	I_{OP}		-		400	mA
Laser Operating Voltage	V_{OP}		-		2.1	V
Operating Output Power	P_o	ALM930-XXX-40 ALM930-XXX-50 ALM930-XXX-60	40 50 60		-	mW
Operating Wavelength	λ_{OP}	$I_F=I_{OP}, T=T_{OP}$	1530		1570	nm
Side Mode Suppression	SMSR	$I_F=I_{OP}$	30	45	-	dB
Optical Isolation	ISO		30	35	-	dB
Spectral Linewidth	Δl	See model #s	-	-		
Relative Intensity Noise	RIN	20-1000 MHz	-	-	-160	dB/Hz
Monitor PD Responsivity	r_{MPD}	--	5		200	$\mu A/mW$
Monitor PD Dark Current	I_D	$I_{OP}=0mA$	-		0.2	μA
TEC Current	I_{TEC}	$0 < T_C < 65^\circ C, I_F=400 mA$	-1.2		1.2	A
Thermistor Resistance	R_{TH}		9.5	10	10.5	$k\Omega$
TE Cooler Voltage	V_{TH}	$T_{OP}=15-35^\circ C$ over T_C	-2.5		2.5	V
Polarization Extinction Ratio	PER	E-field along slow axis	18	20		dB
Temperature Tracking Error		$0 < T_C < 65^\circ C$	-0.5	-	0.5	dB

MAXIMUM RATINGS						
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Storage temperature		continuous	-40	-	85	°C
Monitor photodiode reverse voltage		60 seconds	-	-	15	V
		continuous	-	-	10	
Forward DC laser current		continuous			400	mA
Reverse DC laser voltage		continuous			1	V
TEC cooler current		continuous	-1.9	-	1.9	A