

ITLA-3135-C ITLA-3120-L

Narrow linewidth ITLA

MSA-compliant, Narrow Linewidth, High Power Integrated Tunable Laser Assembly

Features

- CW DFB tunable laser assembly for DWDM systems
- Tunable over C- or L-Band
- Narrow linewidth to enable coherent detection for 40G/100G applications (LW<500Khz)
- High optical power (35 mW – C band and 20 mW – L band)
- Excellent Relative Intensity Noise (RIN): < -145 dB/Hz
- High Side Mode Suppression Ratio (SMSR): > 45 dB
- Highly reliable DFB performance and wavelength stability
- Built-in Digital Signal Processor (DSP) and control electronics

Applications

- DWDM coherent optical transport
Transmission Laser
Local Oscillator

Benefits

- Easy integration using OIF MSA-compliant ITLA

The ITLA-3135-C and TLB-3120-L are compact widely tunable laser assemblies optimized for linewidth with up to 35mW launch power in the C band and 20mW in the L band. The narrow linewidth and frequency stability is enabled by Santur's phase-shifted DFB laser chip and unique packaging technology.

The ITLA assembly offers low noise and narrow linewidths for 40 and 100 Gb/s Coherent Applications.

The ITLA assembly includes an integrated wavelength locker, industry standard electrical and firmware interfaces, and a unique stable and reliable DFB laser design.

High performance, reliability, ease of manufacture, and economies of scale derived from the exclusive, proven design differentiate this product from others in the industry.



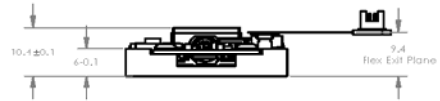
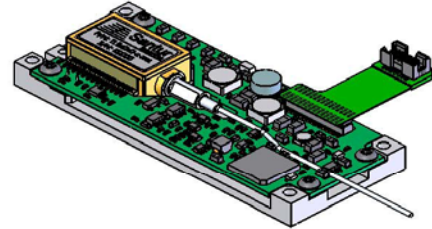
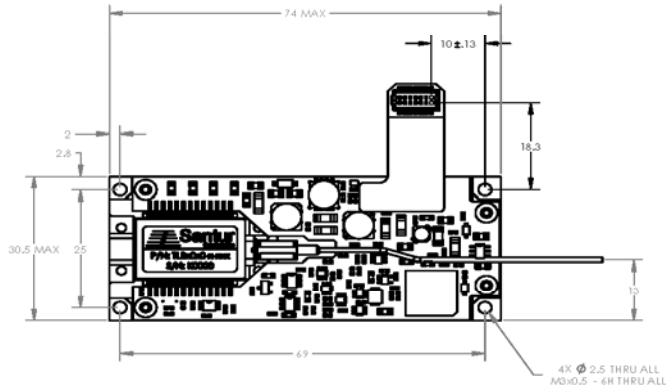
Specifications:

Symbol	Parameter	Conditions	ITLA-3135-C-401			ITLA-3120-L-401			Unit
			Min	Typ	Max	Min	Typ	Max	
Output Power									
P_{peak}	Radiant output power from pigtail	-	-	35	-	-	20	-	mW
	Power Variation	Over wavelength	-0.5		0.5	-0.5		0.5	dB
		Over temperature	-0.5		0.5	-0.5		0.5	dB
Optical Characteristics									
λ_R	Wavelength tuning range	-	35.1		-	37.05		-	nm
	Channel spacing	ITU Grid		50			50		GHz
	Lower wavelength limit		-	-	1528.77	-	-	1570.42	nm
	Upper wavelength limit		1563.86	-	-	1607.47	-	-	nm
	Wavelength Tuning	Deviation from ITU grid	-15		15	-15		15	GHz
T_{switch}	Wavelength switching speed	-	-	2	30	-	2	30	seconds
f_w	Spectral linewidth	FWHM	-	100	500	-	100	500	KHz
f_d	Frequency inaccuracy over life	Steady-state	-1.5		1.5	-1.5		1.5	GHz
SMSR	Side mode suppression ratio	-	40	50	-	40	50	-	dB
ISO	Optical isolation	-	30	-	-	30	-	-	dB
RIN	Relative intensity noise	20 MHz to 10 GHz	-	-145	-140	-	-145	-140	dB/Hz
PER	Polarization extinction ratio	E-field along slow axis	20	-	-	20	-	-	dB
OSNR	Optical signal to noise ratio		50			50			dB
Electrical Specifications									
V_{cc}	Positive supply voltage	-	3.15	3.3	3.45	3.15	3.3	3.45	V
V_{ee}	Negative supply voltage		-5.45	-5.2	-4.94	-5.45	-5.2	-4.94	V
I_{cc}	Positive supply current	-	-	-	1.5	-	-	1.5	A
I_{ee}	Negative supply current, peak	while tuning			1.2			1.2	A
P_d	Total power dissipation, steady-state	$T_{case} = 25^\circ\text{C}$	-	-	5.5	-	-	5.5	W
		$T_{case} = 75^\circ\text{C}$	-	-	7.5	-	-	7.5	W
Fiber Pigtail									
	Fiber type	Fujikura Panda PM	-	-	-	-	-	-	
L	Length of pigtail	-	1.0	-	-	1.0	-	-	m
R	Bending radius	-	25	-	-	25	-	-	mm
	Optical connector	LC/UPC	-	-	-	-	-	-	
	Key alignment	Slow axis	-	-	-	-	-	-	
Absolute Maximum Ratings									
T_{op}	Case operating temperature*	-	-5	-	75	-5	-	75	$^\circ\text{C}$
T_{stg}	Storage temperature range*	-	-40	-	85	-40	-	85	$^\circ\text{C}$
	Signal pin voltage		-0.3		3.6	-0.3		3.6	V

*non-condensing

Custom OEM specifications possible. Contact Santur for your needs.

Mechanical Outline:



Schematic measurements are in millimeters.

Flex-attached primary connector, Samtec ASP-119097-01, mates with Samtec CLM-107-02-F-D.

Pin Assignment

Pin Name	Pin #	Pin #	Pin Name
+3.3V	1	2	DIS*
+3.3V	3	4	SRQ*
GND	5	6	MS*
GND	7	8	TxD
-5.2V	9	10	RxD
-5.2V	11	12	RST*
OIF Reserved	13	14	Not used

Additional information on the communication interface and command set can be found in OIF document OIF-ITLA-MSA-01.0. See www.oiforum.com.



This is an OEM product that does not comply with the requirements of 21 CFR Subchapter 1 as applicable. It is the responsibility of the user to report the end product and to certify that it meets all applicable requirements.



DANGER: Fiber output is >10 mWatt at 1555 nm.
Do not look into fiber end.

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