TL-2010-C
TL-2020-C

Ultra Low Power Dissipation Design

High Optical Power Widely Tunable Laser Module

Features

- 1550 nm CW DFB laser module for DWDM systems
- <3.9W maximum power dissipation at 75C case
- High optical power (up to 20 mW) without an SOA
- Tunable over L-Band: 37 nm tuning range
- Highly reliable DFB performance
- Integrated wavelength locker
- Excellent Relative Intensity Noise (RIN): -140 dB/Hz typical
- Narrow line-width: 3 MHz typical
- High Side Mode Suppression Ratio (SMSR): 50 dB typical
- Built-in Digital Signal Processor (DSP) and control electronics
- Compatible with OIF tunable laser MSA

The TL-2010-C and TL-2020-C are a new generation of compact 10 and 20 mW widely tunable transmission lasers built with Santur's own proprietary packaging technology. This package provides for a highly efficient, small form factor module with the lowest power dissipation in the industry.

*Ideally suited for use in a wide variety of DWDM systems, the Santur **TL-2010/TL-2020-C** provides the best combination of performance features available, offering a unique combination of high optical power, wide tunability, and low power dissipation. The **TL-2010/TL-2020-C** module includes an integrated wavelength locker, industry standard electrical interface, and a uniquely stable and reliable DFB laser design.*

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

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Specifications:

Symbol	Parameter	Conditions	TL-2010-C Min	TL-2010-C Typ	TL-2010-C Max	TL-2020-C Min	TL-2020-C Typ	TL-2020-C Max	Unit
Output Power									
P_{peak}	Radiant output power from pigtail	-	-	10	-	-	20	-	mW
	Power Variation	Over wavelength	-0.3		0.3	-0.3		0.3	dB
		Over temperature	-0.3		0.3	-0.3		0.3	dB
Optical Characteristics									
λ_R	Wavelength tuning range	-		35			35		nm
	Channel spacing	ITU Grid	25	50		25	50		GHz
	Wavelength limits		1528.77		1563.86	1528.77		1563.86	nm
T_{switch}	Wavelength switching speed	-	-	2	15	-	2	15	seconds
f_w	Spectral linewidth	FWHM	-	3	10	-	3	10	MHz
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	-	-137	-130	-	-143	-135	dB/Hz
PER	Polarization extinction ratio	E-field along slow axis	20	-	-	20	-	-	dB
Electrical Power Supply Specifications									
V_{cc}	Supply voltage with respect to GND	-	3.15	3.3	3.45	3.15	3.3	3.45	V
I_{cc}	Peak supply current while tuning	-	-	-	3.0	-	-	3.0	A
P_d	Total power dissipation, steady-state	T_{case} = 25ºC	-	1.0	1.5	-	1.0	1.5	W
		T_{case} = 75ºC	-	1.7	3.6	-	2.0	3.9	W
Fiber Pigtail									
	Fiber type	Fujikura Panda PM	-	-	-	-	-	-	
L	Length of pigtail	-	1.0	-	-	1.0	-	-	m
R	Bending radius	-	35	-	-	35	-	-	mm
F	Tensile strength (fiber to case)	-	-	-	5	-	-	5	N
	Optical connector	FC/UPC R-Type (narrow key)	-	-	-	-	-	-	
	Key alignment	Slow axis	-	-	-	-	-	-	
Absolute Maximum Ratings									
T_{op}	Case operating temperature*	-	-5	-	75	-5	-	75	ºC
T_{stg}	Storage temperature range*	-	-40	-	85	-40	-	85	ºC
	Signal pin voltage				5.5			5.5	V
	Power pin voltage				3.6			3.6	V

*non-condensing

Custom OEM specifications possible. Contact Santur for your needs.

Part Number Format

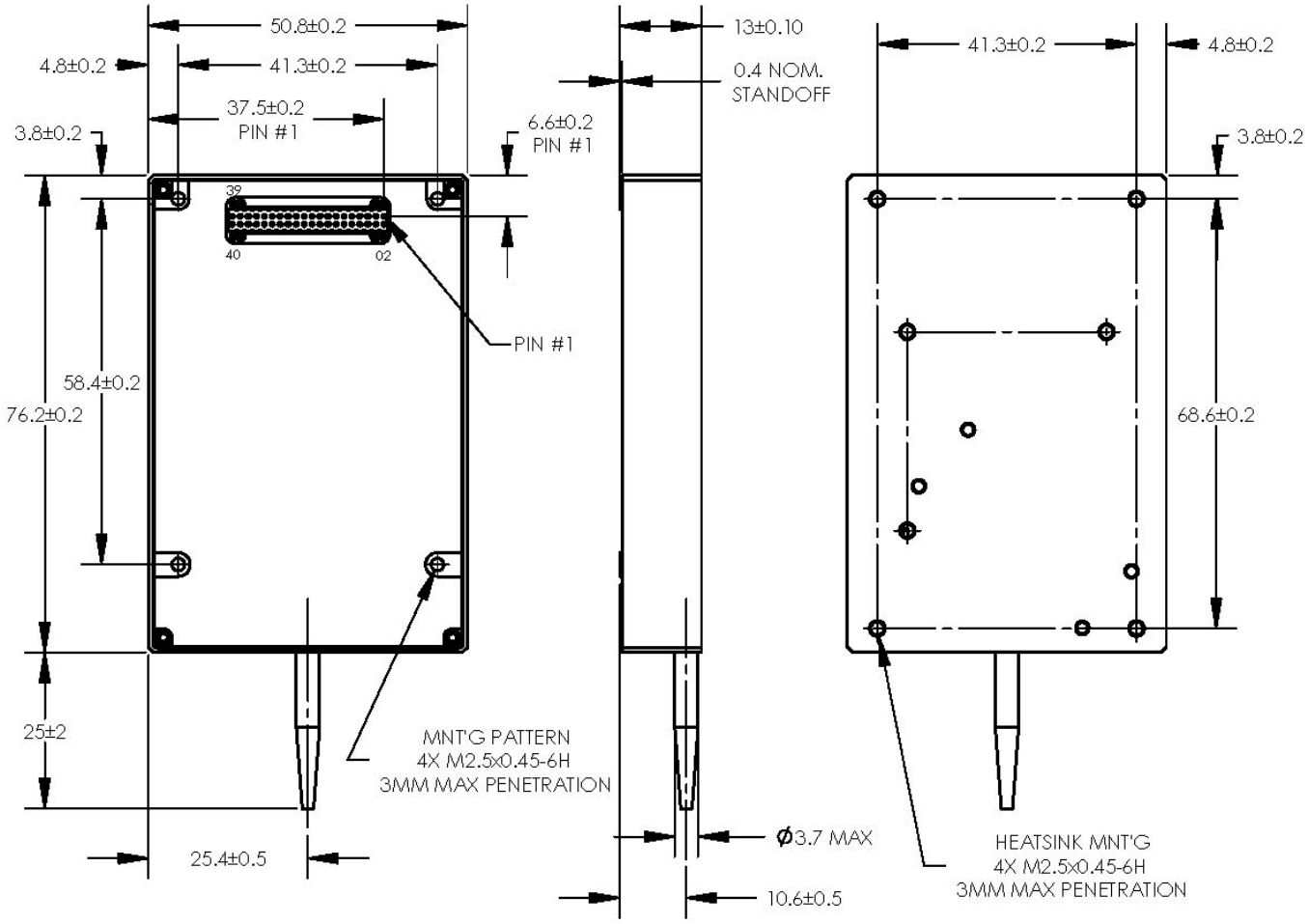
T L -2 0 x 0 –C - 1 0 y (- A)

x	Power
1	10 mW
2	20 mW

y	Channel Spacing
1	50 GHz
2	25 GHz

-A ASCII command set instead of OIF MSA binary interface

Mechanical Outline:



Schematic measurements are in millimeters.
Customer to use 40-pin SAMTEC CLP-120-02-*-D or equivalent soldered flush to board.

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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 >20 mWatt at 1585 nm.
Do not look into fiber end.

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