

IDPTS-1530nm Fiber coupled BTF Laser Diode

Description:

1530±2nm DFB laser, power $\geq 10.00\text{mw}$, 14-pin butterfly package built-in optical isolator and thermoelectric cooler, 1.00+0.10m single-mode pigtail with 900um tight tube, SC/UPC connector.

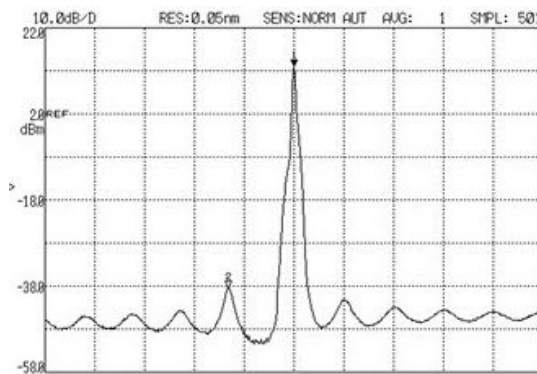
Application

Signal source in CWDM/DWDM network

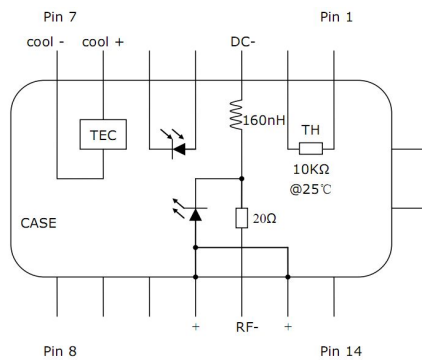
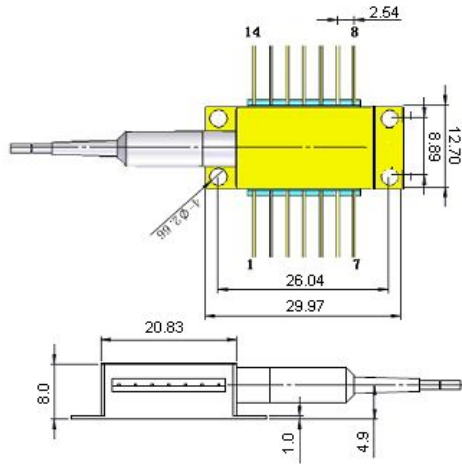
Optical fiber sensing system

Gas detection

Quantum Teleportation



The package dimensions of the structure



PIN No	PIN assignment
1	Thermistor
2	Thermistor
3	Laser DC bias cathode (-)
4	PD monitor anode (+)
5	PD monitor cathode (-)
6	Thermoelectric cooler (+)
7	Thermoelectric cooler (-)
8	NC
9	NC
10	NC
11	Laser anode(+),Case
12	Laser RF input cathode (-)
13	Laser anode(+),Case
14	NC

Specifications

	Parameters	symbol	unit	Test conditions	Specification		
B	Extremum				MIN	TYP	MAX
1	Laser reverse voltage	V_{RLMAX}	V	/	/	/	2.00
2	Forward current/	I_{FLMAX}	mA	/	/	/	150.00
3	Operating temperature range	T_C	°C	/	-20.00	/	70.00
4	Storage temperature range	T_{sgt}	°C	/	-40.00	/	85.00
5	Photodiode reverse voltage	V_{RPDMAX}	V	/	/	/	10.00
6	Photodiode forward current	I_{FPDMAX}	mA	/	/	/	2.00
7	Thermistor temperature	/	°C	/	/	/	100.00
8	Cooler current	/	A	/	/	/	1.900
C	Optical Characteristics (at 25°C laser temperature)						
1	Center Wavelength	λ_C	nm	$T_L=15\sim 35^\circ\text{C CW}$	1528.00	1530.00	1532.00
2	Linewidth	LW	MHz	CW 5mW	/	3.00	/
3	bandwidth(-3dB)	BW	GHZ	5mW	2.50	/	/
4	Relative Intensity Noise	RIN	dB/Hz	5mW, 50MHz~2.5GHz	/	-140.00	/
5	Side-mode Suppression Ratio	SMSR	dB	CW	35.00	42.00	/
6	Optical Isolation	/	dB	0°C-70°C	/	30.0	/
7	Wavelength Drift	$\Delta\lambda$	nm	25year	/	/	±0.10

8	Wavelength/ Temperature Coefficient	$d\lambda/dT$	nm/ °C	/	/	0.09	/
9	Dynamic Spectral Width	$\Delta\lambda$	nm	2.5GHz, @-20dB	/	0.32	/
D	Electrical Characteristics (at 25°C laser temperature)						
1	Peak Optical Output Power	P_p	mW	/	15.00	/	/
2	Threshold Current	I_{TH}	mA	CW	/	14.00	25. 00
3	Driving Current	/	mA	$P_o=15mW$	/	120.0 0	/
4	Laser forward voltage	V_{LF}	V	$P_o=15mW$	/	1.60	2.0 0
5	Laser operating temperature	T_L	°C	/	15.00	/	35. 00
6	Monitor Reverse Voltage	V_{RMON}	V	/	3.00	5.00	10. 00
7	Monitor Current	I_{RMON}	mA	$P_o=15mW$	0.01	/	2.0 0
8	Monitor dark current	I_D	μA	$I_F=0mA, V_{RMON}=5.0$ V	/	0.01	0.1 0
9	Input Resistance	Z_{IN}	Ω	/	/	25.00	/
10	Thermistor Current	I_{TC}	μA	/	10.00	/	100 .00
11	Thermistor resistance	R_{TH}	K Ω	$T_L=25^\circ C$	9.50	/	10. 50
12	Cooler current	I_{TEC}	A	$T_L=25^\circ C,$ $T_{around}=70^\circ C$	/	/	1.2 0
13	Cooler voltage	V_{TEC}	V	$T_L=25^\circ C,$ $T_{around}=70^\circ C$	/	/	3.5 0
E	Environmental Stress Screening			Specification			
1	Baking (Temperature / Duration)	C / Hr		+85°C/48Hr			
2	Temperature Cycling (Temperature	C / Hr		-40°C to +85°C/48Hr			

	Range / Cycles)		
F	Mechanical and Configuration		
1	Labelling (Label Material & Dimension)		N/A
2	Serialization (Laser Marking or others)		Printed paster
3	Package Dimension		14 butterfly needle shell sealed package
4	Packing		Vacuumize black anti-static plastic package
G	Others Parameters		
1	RoHS Required	Yes/No	Yes
2	Pigtail Type	SMF-28e	0.9 tight tube
3	Pigtail Length		1.00+0.10m
4	Laser Application		/
5	Connector Type		FC/APC