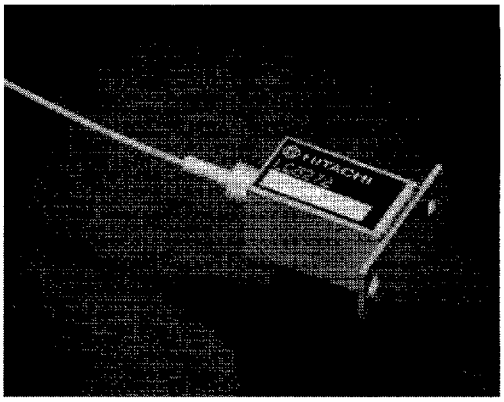
LC5272 Laser Diode Module

Description

The LC5272 is a multi longitudinal mode laser diode module..

Features

- 1.3 μm Fabry-Perot laser diode
- High speed operation (up to 622Mb/s)
- Internal monitor photodiode, thermistor and thermo-electric cooler
- Hermetically sealed, 14-pin dual-in line package
- High reliability



Absolute Maximum Ratings (T_C = 25°C)

Item	Symbol	Rated Value	Units
Operating case temperature	T_{opr}	–20 to 60	°C
Storage case temperature	T_{stg}	–40 to 70	°C
LD forward current (CW)	I_F	150	mA
LD reverse voltage	$V_{R\ (LD)}$	2	V
PD reverse voltage	$V_{R\ (PD)}$	15	V
Thermistor current	I_T	0.2	mA
Cooling current	I_C	1.4	A
Lead soldering temperature	T_s	260	°C
Lead soldering time	—	10	sec

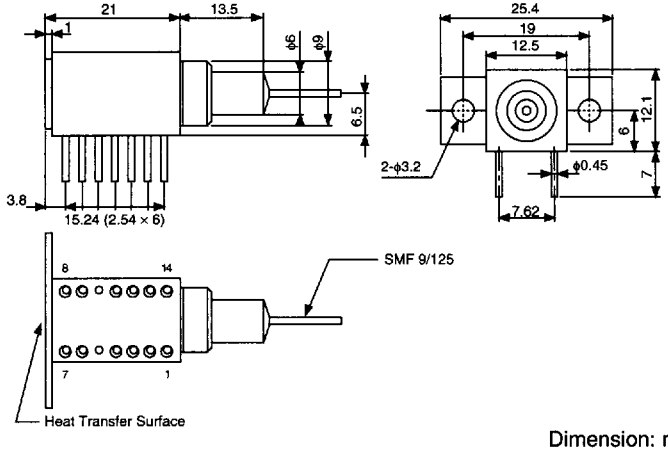
Fiber Pigtail Specifications

Item	Rated Value	Units
Core diameter	10±1	μm
Cladding diameter	125±3	μm
Jacket diameter	0.9±0.1	mm
Cutoff wavelength	≤1270	nm
Fiber length	≥2000	mm

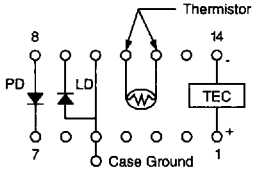
Optical Characteristics (T_{LD} = 25°C)

Item	Symbol	Min	Typ	Max	Units	Test Conditions
Threshold current	I_{th}	—	25	40	mA	CW
LD forward voltage	V_F	—	1.3	1.5	V	$I_F = I_{th}$ + 20 mA
Fiber output power	P_f	1.0	1.5	—	mW	$I_F = I_{th}$ + 20 mA
Optical rise time	t_r	—	0.3	0.5	ns	$I_B = I_{th}$, 10 to 90%
Optical fall time	t_f	—	0.3	0.5	ns	$I_B = I_{th}$, 10 to 90%
Peak wavelength	λ_p	1290	1310	1330	nm	$I_F = I_{th}$ + 20 mA
Spectral width	$\Delta\lambda$	—	2	5	nm	FWHM, $I_F = I_{th}$ + 20 mA
Monitor current	I_m	200	500	—	μA	$V_{R\ (PD)}$ = 10 V, $I_F = I_{th}$ + 20 mA
PD dark current	I_{DARK}	—	0.1	0.5	μA	$V_{R\ (PD)}$ = 10 V
Thermistor resistance	R_{th}	—	10	—	kΩ	T_{LD} = 25°C
Thermistor constant	R	—	—	3900	K	
Cooling current	I_C	—	—	1.0	A	ΔT = 40K, $I_F = I_{th}$ + 20 mA
Cooling voltage	V_C	—	1.3	1.6	V	ΔT = 40K, $I_F = I_{th}$ + 20 mA

Outline Drawings and Pin Descriptions



Dimension: mm



Pin	Description	Pin	Description
1:	TE Cooler (+)	8:	PD Anode
2:	NC	9:	LD Cathode
3:	NC	10:	LD Anode, Case Ground
4:	NC	11:	Thermistor
5:	LD Anode, Case Ground	12:	Thermistor
6:	NC	13:	NC
7:	PD Cathode	14:	TE Cooler (–)