MITSUBISHI
ELECTRONIC DEVICE GROUP

OPTOELECTRONICS
FU-622SLD-1

1.48μm Pump LD Module

FEATURES

- PPIBH Laser Diode specifically optimized for pump laser applications
- Emission wavelength is in the 1.48μm band
- Built-in thermal electric cooler
- Butterfly package
- With photodiodes for optical output monitoring
- Diodes are hermetically sealed for high reliabiltiy

ABSOLUTE MAXIMUM RATINGS (T_{LD} = 25°C)

Symbol	Items		Conditions	Ratings	Unit
I_F	Forward current	Laser diode	CW	800	mA
V_{RL}	Reverse voltage		—	2	V
V_{RD}	Reverse voltage	Photodiode for monitoring	—	20	V
I_{FD}	Forward current		—	2	mA
T_c	Operating case temperature		—	–20 ~ 65	°C
T_{stg}	Storage temperature		—	–40 ~ 70	°C

CHARACTERISTICS (T_C = 25°C, T_{LD} = 25°C, unless otherwise noted)

Symbol	Items	Test Conditions	Min.	Typ.	Max.	Unit
I_{th}	Threshold current	CW	—	65	—	mA
I_{op}	Operating current	CW	—	620	710	mA
V_{op}	Operating voltage	CW, If = I_{op} (Note 1)	—	1.9	2.3	V
P_F	Optical output power from fiber end	CW, If = I_{op}	36	45	—	mW
λc	Light-emission central wavelength	CW, If = I_{op}	1465	1475	1490	nm
Δλ	Spectral width (RMS)	CW, If = I_{op}	—	10	—	nm
Er	Tracking error (Note 2)	T_c = –20 ~ 65°C, APC, ATC	—	0.3	—	dB
η	Differential efficiency	—	—	0.09	—	mW/mA
I_{mon}	Monitor current	CW, If = I_{op}, V_{RD} = 5V	0.1	—	—	mA
I_D	Dark current (PD)	V_{RD} = 5V	—	0.1	1	μA
C_t	Capacitance (PD)	V_{RD} = 5V, f = 1MHz	—	10	—	pF

Note 1: If = LD forward current

Note 2: $Er = MAX \left| 10 \cdot \log \frac{P_F}{P_{F(25°C)}} \right|$

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THERMAL CHARACTERISTICS (T_{LD} = 25°C, T_C = –20 ~ 65°C)

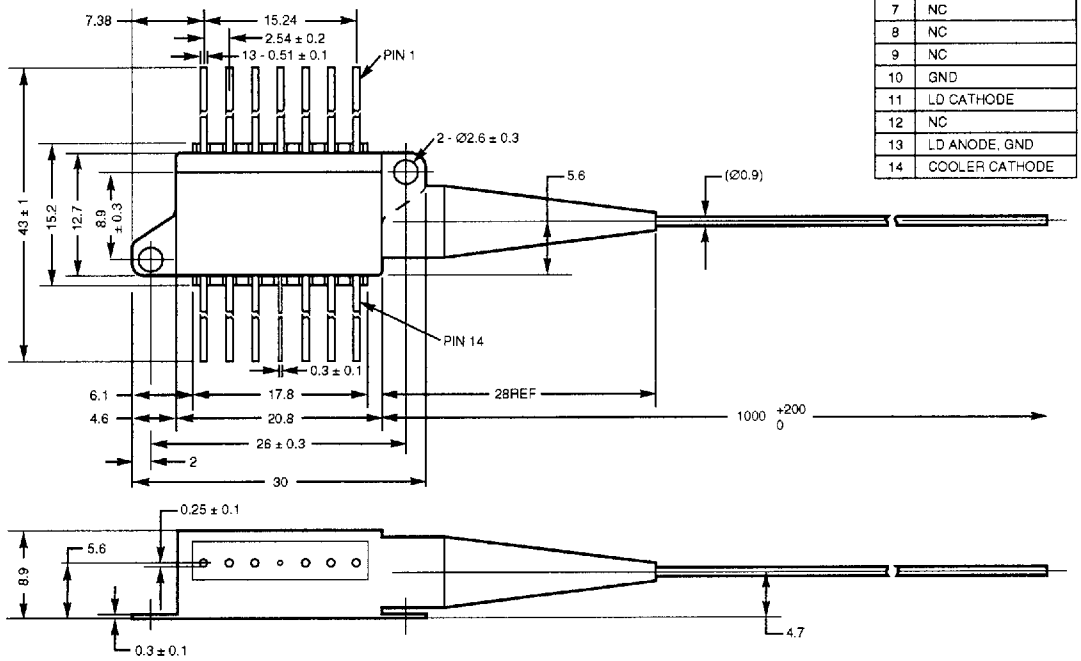
Symbol	Parameters	Conditions	Min.	Typ.	Max.	Unit
R_{th}	Thermister resistance	T_{LD} = 25°C	9.5	10	10.5	KΩ
B	B constant of thermister resistance	—	—	3950	—	K
ΔT	Cooling capacity	T_c = 65°C	40	—	—	°C
I_{pe}	Cooler current	ΔT = 40°C	—	1.3	1.5	A
V_{pe}	Cooler voltage	ΔT = 40°C	—	2.7	3.5	V

FIBER PIGTAIL SPECIFICATIONS

Items	Specifications	Units
Type	SM	—
Mode-field dia.	10 ± 1	μm
Cladding dia.	125 ± 2	μm
Jacket dia.	0.9	mm

OUTLINE DRAWING

PIN	FUNCTION
1	COOLER ANODE
2	THERMISTER
3	PD ANODE
4	PD CATHODE
5	GND
6	NC
7	NC
8	NC
9	NC
10	GND
11	LD CATHODE
12	NC
13	LD ANODE, GND
14	COOLER CATHODE



Note 1: Tolerances unless noted ±0.5