

1550nm FP Cooled 14pin DIP Laser

LDM5S81- Series

Features

- *Bandwidth 800MHz*
- *1550 nm wavelength*
- *High-performance FP LD*
- *Cooled 14-pin DIP package, single mode FC/PC connector*

Application

- *Optical transmitter for optical communication, meters and apparatuses, fiber repeater in mobile communication*
- *Light source*

Description

Dual-in-line packages (DIP) have enough inner space to house a thermo-electric-cooler (TEC) module and a mounting plate for heat dissipation and maintain the laser diode working at a stable temperature. Although DIP is not suitable for data rate higher than 800Mb/s applications, it has a significant cost advantage.

Absolute Maximum Ratings

Parameter		Symbol	Unit	Min	Max
Storage Temperature Range		Ts	°C	-40	+85
Relative Humidity		RH	%	-	85
Laser chip	Forward current	IFL	mA	-	100
	Reverse current	IRL	mA	-	2
	Reverse voltage	VRL	V	-	2
Monitor detector	Reverse voltage	VRD	V	-	15
	Reverse photocurrent	IRD	mA	-	1
	Forward current	IFD	mA	-	2
Thermal electric cooler	Voltage	-	V	-	2
	Current	-	A	-	1.5
Lead Solder Temperature		-	°C	-	260
Lead Soldering Time		-	S	-	10
Fiber yield strength			kgf	-	1
Fiber bend radius			mm	30	-

Recommended Operating Conditions

Parameter		Symbol	Unit	Min	Max
Case Operating Temperature Range		Tc	°C	-5	60
Power supply Voltage		Vcc	V	-	5
Relative Humidity		RH	%	-	80
Bias current		Ib	mA	-	50
Modulation current		Im	mA	-	40
TEC cooler current		Icooler	mA	-	800

Specifications (T=25 °C, unless otherwise noted)

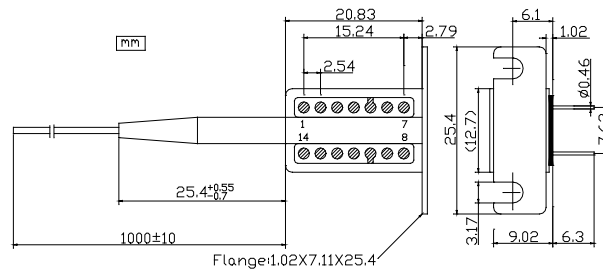
Parameter	Symbol	Unit	Min	Type	Max	Test condition
Electrical Characteristics						
Operating Voltage	Vop	V	-	-	1.8	CW
Threshold Current	Ith	mA	-	20	30	CW
Modulation current	Im	mA	10	-	40	If = Ith+20mA
Rise/Fall Time	Tr/f	ns	-	0.3	0.5	Ib=Ith; 20%~80%
Analog bandwidth	-	MHz	-	800	-	CW -3dB
Monitor Current	Im	μA	100	-	1000	CW
Optical Characteristics						
Optical Output Power	Po	mW	0.1	-	2.0	If=Ith+20mA
Central Wavelength	λc	nm	1520	1550	1580	CW
Spectral Width	Δλ	nm	-	3	5	CW, RMS

Tracking Error		Δ Pf	dB	-	± 0.5	-	CW, 0~60°C Im=Im@25°C
Series resistance		-	Ω	-	10	-	CW
TEC cooler	current	-	mA	-	-	800	CW
	voltage	-	V	-	-	1.5	CW

Pin Description

Pin	Description	Pin	Description	Bottom View
	Cooler (+)	10	LD (P) Case ground	See "Package Outline "
5	Case ground	11	Thermistor	
7	Detector (N)	12	Thermistor	
8	Detector (P)	14	Cooler (-)	
9	LD (N)	others	NC	

Package Outline



Ordering Information

Part No.	Specification					
	Package	Bandwidth	Laser		Optical Power	Temp
LDM5S811	14-pin DIP cooled	800MHz	1550 nm	FP-	0.1mW	-5~60°C
LDM5S812	14-pin DIP cooled	800MHz	1550 nm	FP-	0.5mW	-5~60°C
LDM5S813	14-pin DIP cooled	800MHz	1550 nm	FP-	1.0mW	-5~60°C
LDM5S814	14-pin DIP cooled	800MHz	1550 nm	FP-	2.0mW	-5~60°C

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