

1550nm DFB DIP Laser

LDM5S82 Series

Features

- *Analog bandwidth 800MHz*
 - *High-reliability DFB LD*
 - *Operating wavelength 1550 nm*
- Cooled 14-pin DIP package, single mode FC/PC connector*

Application

- *Telecom access, junction and application*
- *Fiber transmission and fiber repeater*

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	
Case Operating Temperature Range	Tc	°C	-10	+65	
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
Thermal electric cooler	Forward current	IFD	mA	-	2
	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)

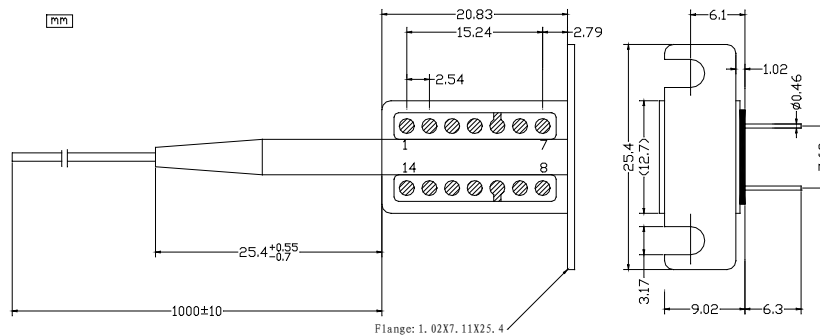
Parameter	Symbol	Unit	Min	Type	Max	Test condition
Electrical Characteristics						
Operating Voltage	Vop	V	-	-	1.8	CW, If=Ith+20mA
Threshold Current	Ith	mA	-	15	30	CW
Modulation current	Im	mA	10	-	40	If = Ith+20mA
Rise/Fall Time	Tr/f	ns	-	0.3	0.5	Ib=Ith; 20%~80%
Analog bandwidth	-	MHz	-	800	-	CW, -3dB
Monitor Current	Im	μA	50	-	1000	CW
Optical Characteristics						
Optical Output Power	Po	mW	0.5	-	1.0	CW
Central Wavelength	λc	nm	1520	-	1570	CW

Spectral Width	$\Delta\lambda$	nm	-	0.3	0.5	CW, -20dB
Side mode suppression ratio	SMSR	dB	30	-	-	CW
Tracking Error	ΔPf	dB	-	± 0.5	-	CW 0-60°C Im=Im@25°C
Series resistance	-	Ω	-	10	-	
TEC cooler	current	-	mA	-	800	CW
	voltage	-	V	-	1.5	CW

Pin Description

Pin	Description	Pin	Description	Bottom View
1	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	Data rate	Laser	Optical Power	Temp
LDM5S821	14-pin DIP cooled	800MHz	1550 nm DFB	0.5mW	-5~60°C
LDM5S822	14-pin DIP cooled	800MHz	1550 nm DFB	1.0mW	-5~60°C

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Edition 2009-12-01

Published by Wuhan Telecommunication Devices Co.,Ltd.

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