

1310nm DFB Cooled 14pin DIP Laser

LDM3S85- Series

Features

- Analog bandwidth 1200MHz
- High-reliability DFB LD
- Operating wavelength 1310nm
- 14-pin DIP cooled package, single mode FC/PC connector

Application

- Optical transmitter for SDH/PDH
- 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 1.2Gb/s applications, it has a significant cost advantage.

Wuhan Telecommunication Devices Co., Ltd.

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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
	Reverse voltage	VRD	V	-	15
Monitor detector	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)

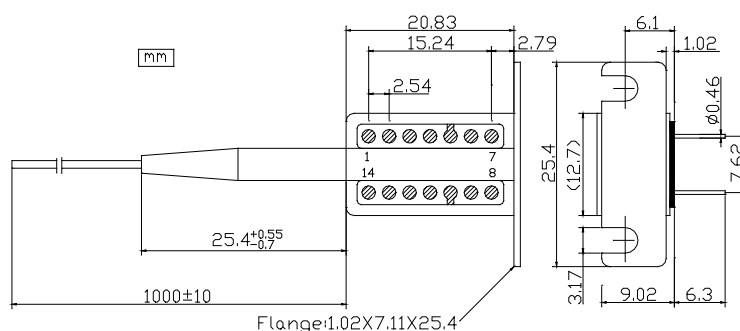
Parameter	Symbol	Unit	Min	Type	Max	Test condition
Electrical Characteristics						
Operating Voltage	Vop	V	-	-	1.8	CW, If = Ith+20mA
Threshold Current	Ith	mA	-	15	25	CW
Modulation current	Imod	mA	10	20	40	If = Ith+20mA
Rise/Fall Time	Tr/f	ns	-	0.3	0.5-	Ib=Ith; 20%~80%
Analog bandwidth	-	MHz	-	1200	-	CW, -3dB
Monitor Current	Im	μA	80	-	-	CW
Optical Characteristics						
Optical Output Power	Po	mW	1	-	3	If=Ith+20mA
Central Wavelength	λc	nm	1290	-	1330	CW
Side mode suppression ratio	SMSR	dB	30	-	-	CW

Spectral Width	$\Delta\lambda$	nm	-	0.3	0.5	CW, -20dB
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
LDM3S851	14-pin DIP	1.2GHz	1310nm DFB	1mW	-5~60°C
LDM3S852	14-pin DIP	1.2GHz	1310nm DFB	2mW	-5~60°C
LDM3S853	14-pin DIP	1.2GHz	1310nm DFB	3mW	-5~60°C

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