



# Coaxial-Pigtailed DFB-LD Module for Analog Application

## *LDM3S509-003-C10*

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### Features

- *Analog bandwidth  $\geq 1800\text{MHz}$*
- *High-stability DFB laser chip*
- *Operating wavelength 1310nm*
- *Built-in optical isolator*
- *4pin Coaxial-pigtailed package, single mode FC/PC, FC/PC connector or customized*

### Application

- *Mobile communication systems*
- *CATV transmission systems*
- *Other analog transmission applications*

### Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range			-40	85
Operating Temperature Range	$T_c$	$^{\circ}\text{C}$	-20	85
Relative Humidity	RH	%	-	85
Laser Diode Reverse Voltage	$V_{RL}$	V	-	2
Laser Diode Forward Current	$I_{FL}$	mA	-	150

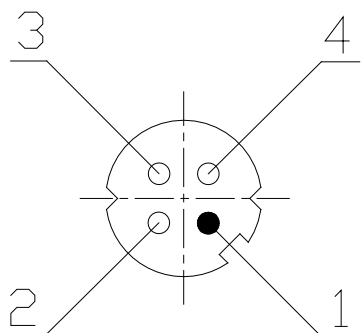
Monitor PD Reverse Voltage	$V_{RPD}$	V	-	15
Monitor PD Reverse Current	$I_{RPD}$	mA	-	2
Lead Solder Temperature	-	°C	-	260
Lead Soldering Time	-	s	-	10

## Specifications ( $T_c=25\text{ }^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Unit	Min	Typ	Max	Condition
<b>Electrical Characteristics</b>						
Threshold Current	$I_{th}$	mA	-	30		CW
			-	-	40	CW, over temperature
Operating Voltage	$V_{op}$	V	-	-	1.6	
Monitor PD Current	$I_m$	uA	100	-	-	CW, $V_{RPD}=5V$ , at rated $P_o$
Monitor PD Dark Current	$I_d$	nA	-	-	10	CW, $V_{rPD}=5V$
			-	-	-	CW, $V_{rPD}=5V$ , over temperature
Analog bandwidth	BW	MHz	1800			-3dB
Third order distortion	IMD3	dBc			-60	$f_1=872MHz, f_2=874MHz$
<b>Optical Characteristics</b>						
Optical Output Power	$P_o$	mW	1.8	2		
Slope Efficiency	$\eta$	W/A	0.09	0.1	-	CW
Optical Wavelength	$\lambda_c$	nm	1280	1310	1340	CW
			1265	-	1355	CW, Over temperature range
Side Mode Suppression Ratio	SMSR	dB	30	-	-	CW
Spectral Width	$\Delta\lambda$	nm	-	-	1	CW, -20dB
Optical isolation	ISO	dB	30	-	-	
Tracking Error	TE	dB	-1	-	+1	CW, $P_o=2mW$ , Note1

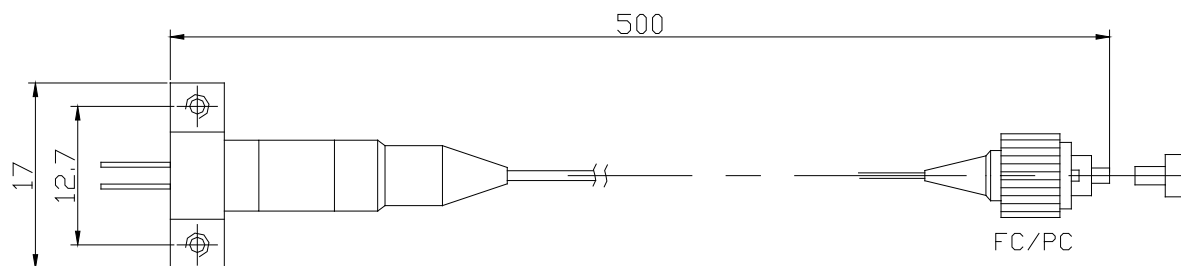
**Note1:**  $TE=10\log(P_T/P_r)$

## Pin Description



Pin	Description (A Version)
1	LD anode (case)
2	LD cathode
3	PD cathode
4	PD anode

## Package Outline



**Figure.1** Tabs with 0.9mm pigtail jacket

*Note:* All dimension are in mm.

## Ordering Information

Part No.	Specifications				
	Package	Tx	Pout	Top	PIN Description
LDM3S509-003-C10	Coaxial-pigtailed	1310nm DFB	1.8mW	-20~85°C	A Version

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