

1310nm RF modulated DFB laser 10GHz



● Product Description

Microwave distributed feedback (DFB) lasers provide exceptional performance for linear fiber communications in very wide bandwidth applications. The ML1001 linear fiber lasers are a good choice for transmitting 10MHz to 18GHz signals using coaxial cable systems. They greatly improve the reliability of microwave communication networks by transmitting RF signals in pristine format. Due to these superior characteristics, our laser products provide significantly improved high signal quality for a wide range of applications including antenna remote control, telemetry, timing and reference signal distribution, measurement and delay lines, etc.

● Part Number

LP-780SM-FA-C

● Product features

High dynamic range、 10MHz to 18GHz bandwidth 、 Low threshold current、
 High output power、 7-pin butterfly package with SMA connector、 Operating
 temperature: -40~85°C、 High reliability

● Application area

Remote antennas、 Cellular and PCS networks 、 Military communications、
 Tracking, telemetry and control

Parameters

Photoelectric parameters (Tc=25°C)

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Optical output power	P	6	8		dBm	1
Threshold current	I _{th}		10		mA	-
Operating current	I _{op}		55	100	mA	
Operating voltage	V _{op}		1.5	2.5	V	-
Peak wavelength	λ	-	1310	-	nm	
Slope efficiency	SE	0.2			W/A	
Side mode suppression ratio	SMSR	30			dB	
Noise	RIN		-150	-130	dB/Hz	
Bandwidth (-3dB, I=60mA)	S ₂₁		18		Ghz	
Return loss	S ₁₁		-10	-6	dB	
Input 1dB compression			18		dBm	
Thermistor	R _{th}		10		Kohm	@25C
TEC current	I _t			1.2	A	2
TEC voltage	V _t			2.5	V	2
Capacitance (PD)	CPD			20	pF	
Monitor current	I _m	0.05		2.0	mA	
Dark current (PD)	IPD			50	nA	

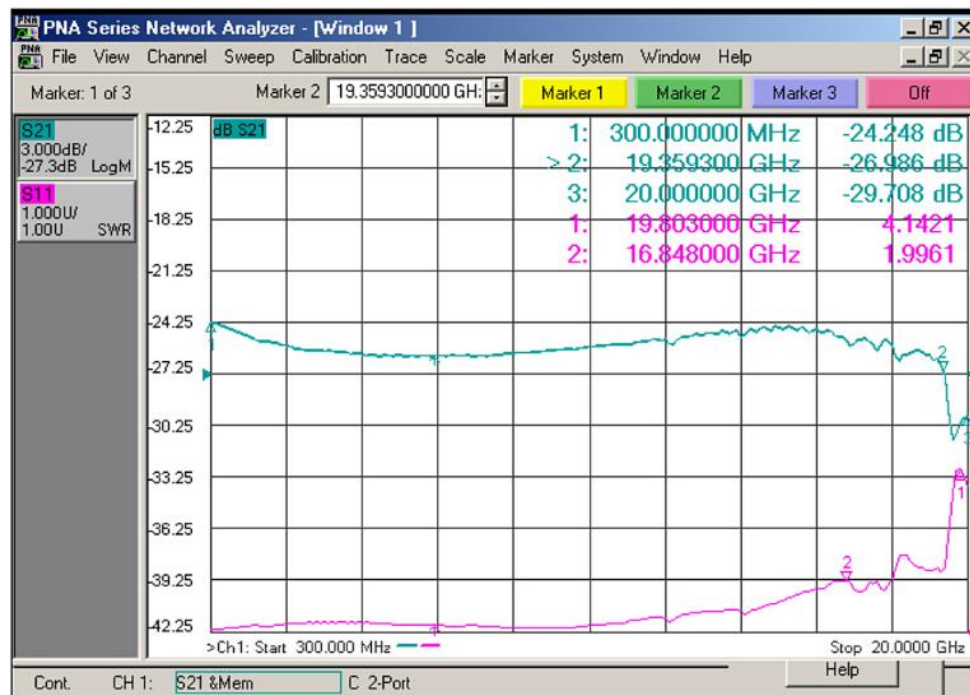
Notes:

1. Laser temperature set at 25°C, bias current at 55mA
2. Operating temperature -5~75°C

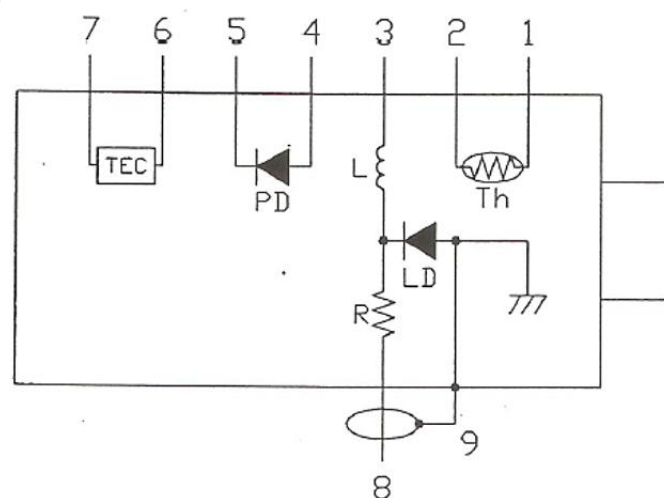
Absolute maximum parameters

Parameter	Symbol	Min.	Max.	Unit
Laser diode forward current	If		120	mA
Laser diode reverse voltage	V		1	V
PD reverse voltage	Vr		2	mA
Operating temperature	To	-40	+85	°C
Storage temperature	Ts	-40	+85	°C
Storage relative humidity	RHstg		85	%

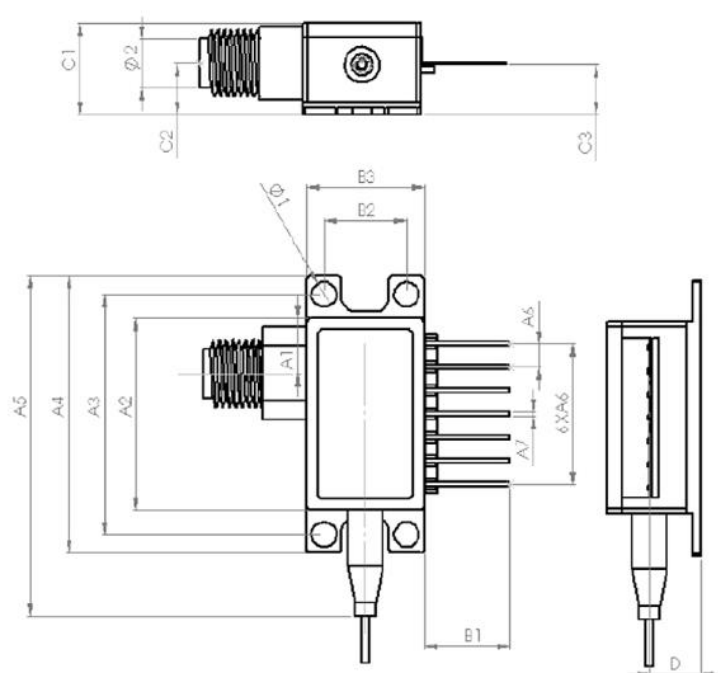
Typical data



Package and pin definition



Lead#	Function
1	Thermistor
2	Thermistor
3	LD-(Bias)
4	PD anode
5	PD cathode
6	Cooler+
7	Cooler-
8	LD-(RF)
9	LD+/GND



size	A1	A2	A3	A4	A5	A6	A7	B1
Typical	6	20.83	26	30	48	2.54	0.5	9
Size	B2	B3	C1	C2	C3	D	Φ1	Φ2
Typical	8.89	12.7	10	5.6	5.46	5.46	2.7	5.4

Ordering information

PN#: ML1001A-DFB-31-FA

Operating wavelength: 1310nm

bandwidth: A: 10GB, B: 15GB, C: 18GB, D: 20GB

Connector : FA: FC/APC