

TC-DML Series 1550nm High Bandwidth Directly Modulated Laser Module

Product Description

TC-DML series 1550nm analog broadband direct modulation laser module adopts high linear microwave direct modulation DFB laser (DML), fully transparent working mode, without RF drive amplifier, and integrates automatic power control (APC) and automatic temperature control (ATC) circuit, which ensures that the laser can transmit microwave RF signals up to 18GHz with long distance, high bandwidth and flat response, and provides excellent linear optical fiber communication for various analog broadband microwave applications. Due to avoiding the use of expensive coaxial cables or waveguides, the limitation of transmission distance is canceled, which greatly improves the signal quality and reliability of microwave communication, and can be widely used in microwaves such as remote wireless, timing and reference signal distribution, telemetry and delay lines. communication field.



Features

- High bandwidth optional 6/10/18GHz
- Excellent RF response flatness
- Wide dynamic range
- Fully transparent working mode, suitable for various signal coding, communication standards, network protocols
- Working wavelength can choose 1550nm and DWDM wavelength
- Integrated automatic power control (APC) and automatic temperature control (ATC) circuits
- No built-in driver RF amplifier, which can provide more flexibility in application
- Conventional type and mini type are available in two package sizes

Applications

- Remote Antenna
- Long-distance analog optical fiber communication
- Military three-wave communication
- Tracking, Telemetry and Control (TT&C)
- Delay lines
- Phased array



Performance Parameter

Parameter	Unit	Minimum Value	Typical Value	Maximum Value	Remark
Optical Properties					
Laser Type		DFB			
Working Wavelength	nm	1530	1550	1570	Optional DWDM
Equivalent Noise Intensity	dB/Hz			-145	
SMR	dB	35	45		
Optical Isolation	dB	30			
Output Optical Power	mW	10			
Optical Return Loss	dB	50			
Fiber Type		SMF-28E			
Optical Fiber Connector		FC/APC			
RF Characteristics					
Working Frequency@-3dB	GHz	0.1		6	
		0.1		10	
		0.1		18	
Input RF Range	dBm	-60		20	
Input 1dB Compression Point	dBm		20		
In-band Flatness	dB	-1.5		+1.5	
VSWR				1.5	
RF Return Loss	dB	-10			
Input Resistance	Ω		50		
Output Resistance	Ω		50		
RF Connector		SMA-F			
Power Supply					
Power Supply	DC	V		5	
Power Consumption		W		10	Single supply operation
Power Interface		DB-9			



Extreme Conditions

Parameter	Unit	Minimum Value	Typical Value	Maximum Value	Remark
Input RF Power	dBm			20	
Operating Voltage	V			13	
Operating Temperature	°C	-40		-85	
Storage Temperature	°C	-40		+85	
Working Relative Humidity	%	5		95	

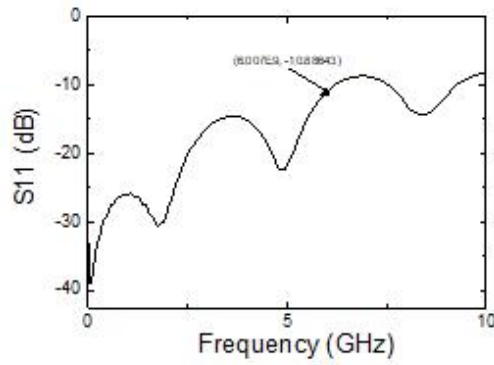
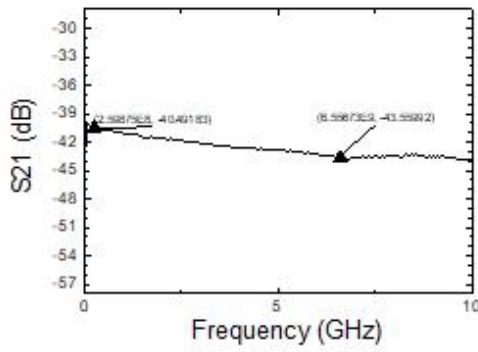
Ordering Information

TC-DML	XX	XX	X	XX	X
Direct Modulation Optical Transmitter Module	Working wavelength: 15-1550nm XX--DWDM	modulation bandwidth: 06G---06GHz 10G---10GHz 18G---18GHz	Package: M---standard module M2--MINI Module package D---Desktop	Output Power: 06---6dBm 10---10dBm	Fiber optic connector: FP---FC/PC FA---FC/APC SP---user specified

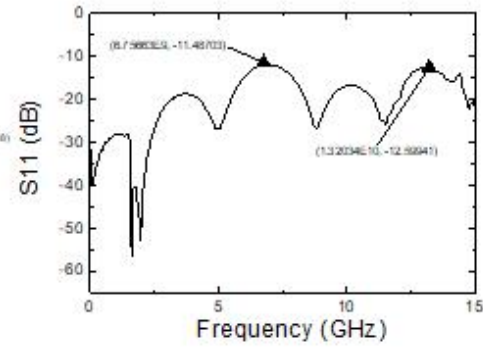
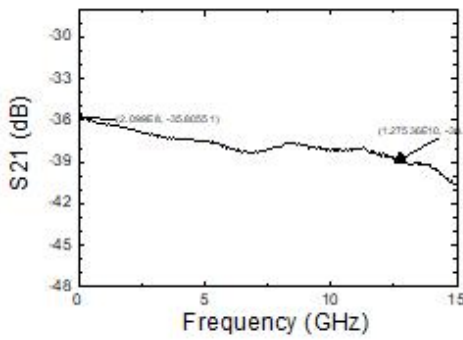
*If you have special requirements, please contact our sales staff.



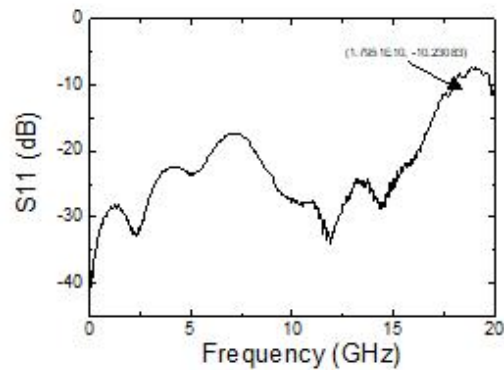
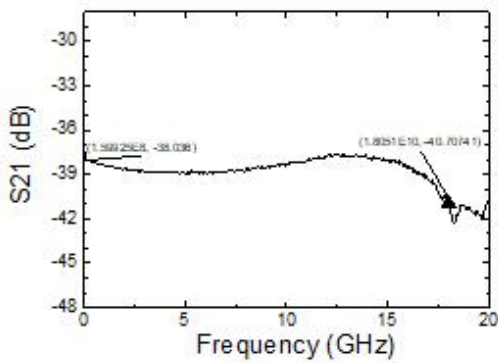
Package Size



6G S21&S11 曲线



10G S21&S11 曲线



18G S21&S11 曲线

