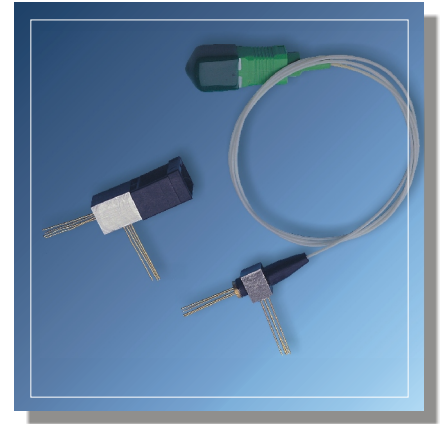


1310nm/1550nm Diplexer Assembly

Description

The PT8338 series contain a 1310nm MQW F-P laser diode as transmitter, an InGaAs photo-detector integrated with a trans-impedance amplifier (5V or optional 3.3V) into the TO-can as receiver, and an edge filter (1310nm transmitting / 1550nm reflecting) to separate 1310nm output light (including 1310nm light reflected back) and 1550nm input light. Together with PT8538 or PT8638, the most compact and cost-effective 1310/1550nm WDM with single fiber provided, a duplex optical link can be built for a wide variety of data communication applications with high-speed up to 1Gb/s signal rate, long distance up to 20km or 60km. They use 9/125 μ m diameter single fiber with optional FC or SC/PC connector.



Transmitter Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Center Wavelength	λ	CW	1260	1310	1360	nm
Threshold Current	I_{th}	CW	-	8	25	mA
Operating Current	I_{op}	CW	-	20	50	mA
Power PT8338	-3□-1	P_o $I_{th}+20mA$	0.1	0.25	0.4	mW
	-3□-2		0.4	0.7	1.0	mW
	-3□-3		1.0	2.0	-	mW
Spectral Width	$\Delta\lambda$	CW(RMS)	-	-	4	nm

Receiver Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Wavelength	λ	$\Delta R < 10\%$	1530	1550	1570	nm
Responsivity	R	1550nm	0.6	-	-	A/W
Operating Current	I_{op}	3.3V(5.0V)	-	-	35	mA
Optical Isolation	-	1310/1550nm	35	-	-	dB
Optical Cross Talk	-3□-□	-	-	-	-45	dB
Full Duplex Sensitivity	-	$P_o = -10dBm$	-	-	-35	dBm

Absolute Maximum Ratings

Parameter	Condition	Min	Max	Units
Operating Temperature	T_{op}	-40	+85	°C
Storage Temperature	T_{stg}	-40	+85	°C
Lead Soldering Temperature/Time	T_{sld}	-	240/10	°C/s
Optical Return Loss	PC connector	14	-	dB

Features

- MQW F-P 1310nm laser diode as transmitter
- InGaAs PIN with TIA (5V or optional 3.3V) as receiver
- 1310 nm wavelength output, output power up to 1.0mW
- 1550 nm wavelength input, responsivity 0.6A/W
- Isolation > 35dB and cross talk < -45dB for low cross talk versions
- Integrated WDM coupler (1310nm transmitting/ 1550nm reflecting)
- Coaxial single mode fiber package with optional FC or SC/PC connector
- Operation temperature from -40 to 85°C

Applications

- Telecommunication systems
- Data communication systems