#35 Cuijing Road, Pingshan New District, Shenzhen 518118, China
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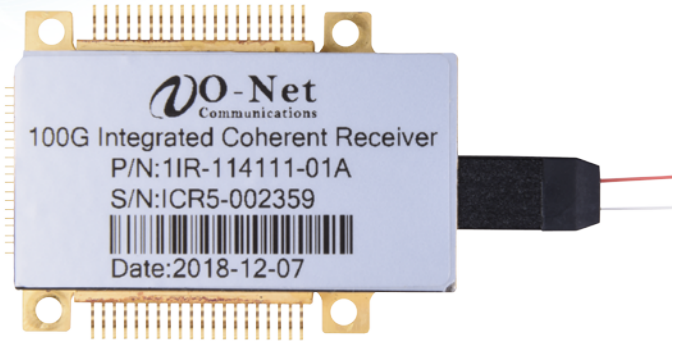
100 Gbps Integrated Coherent Receiver

Features

- C-Band operation
- Auto gain control amplifier
- OIF compliant
- RoHS compliant
- Bell core GR-468-Core compliant



Applications

- 100 Gbps DP-QPSK optical communication systems
- Submarine long-haul transmission

Main Specifications

1. Operating Conditions

Parameter	Condition	Max	Min	Typical	Unit
Amplifier Bias Voltage	5%	3.465	3.135	3.3	V
Photodiode Bias Voltage	0.05	3.465	3.135	3.3	V
Total Power Consumption				1000	mW
Supply Current				300	mA
Operating Case Temperature		75	-5		℃
Relative Humidity	Non-condensation	85	5		%
Operating Frequency Range	C-Band	196.2	191.35		THz
Average Optical Input Power Local Oscillator	CW			12	dBm
Average Optical Input Power DP-QPSK Signal	DP-QPSK	0	-18		dBm

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2. Electrical Specifications

Parameter	Condition	Max	Min	Typical	Unit
Bit Rate	DP-QPSK			4x28	Gbps
Photodiode Responsivity	CW Single-Input	0.12	0.05	0.06	A/W
Single Ended Coherent Power Conversion Gain	Min Gain: f=1 GHz, VGC<0.5 V			15	V/W
	Max Gain: f=1 GHz, VGC>2.4 V			150	V/W
Nominal Single-Ended Output Voltage in AGC Mode	AGC Mode, VOA = 1 V			150	mV_{p-p}
	AGC Mode, VOA = 1.1 V			250	mV_{p-p}
	AGC Mode, VOA = 1.4 V			450	mV_{p-p}
Maximum Single-Ended Output Swing				1300	mV_{p-p}
Total Harmonic Distortion	V_{out} = 250 mV			<2.5	%
	V_{out} < 500 mV			<4.5	
3 dB Cut-Off Frequency	Assuming full VGA range			22	GHz
Group Delay Variation	0.045 ~ 14 GHz			±7	ps
	14 GHz - f3 dB			±14	
Electrical Output Reflection Coefficient (S22)	F < 16 GHz			-10	dB
	16 GHz – 24 GHz			-6	
Bandwidth of Gain Control Input				1	MHz
Low Frequency Cut Off	AC-Coupling			100	kHz
Photodiode Dark Current	T=25°C			5	nA

3. Optical Specifications

Parameter	Condition	Max	Min	Typical	Unit
Common Mode Rejection Ratio (CMMR)	LO: DC f=16 GHz			-12	dBe
	SIG: DC f=16 GHz			-20	dBe
I/Q Imbalance	f < 20 GHz			±1	dBo
LO/SIG Imbalance	f < 20 GHz	±0.5			dBo
Phase Deviation		5	-5		°
Optical Return Loss	1550 nm		27		dBo
Skew: p,n		2			ps
Skew_ch		10			ps

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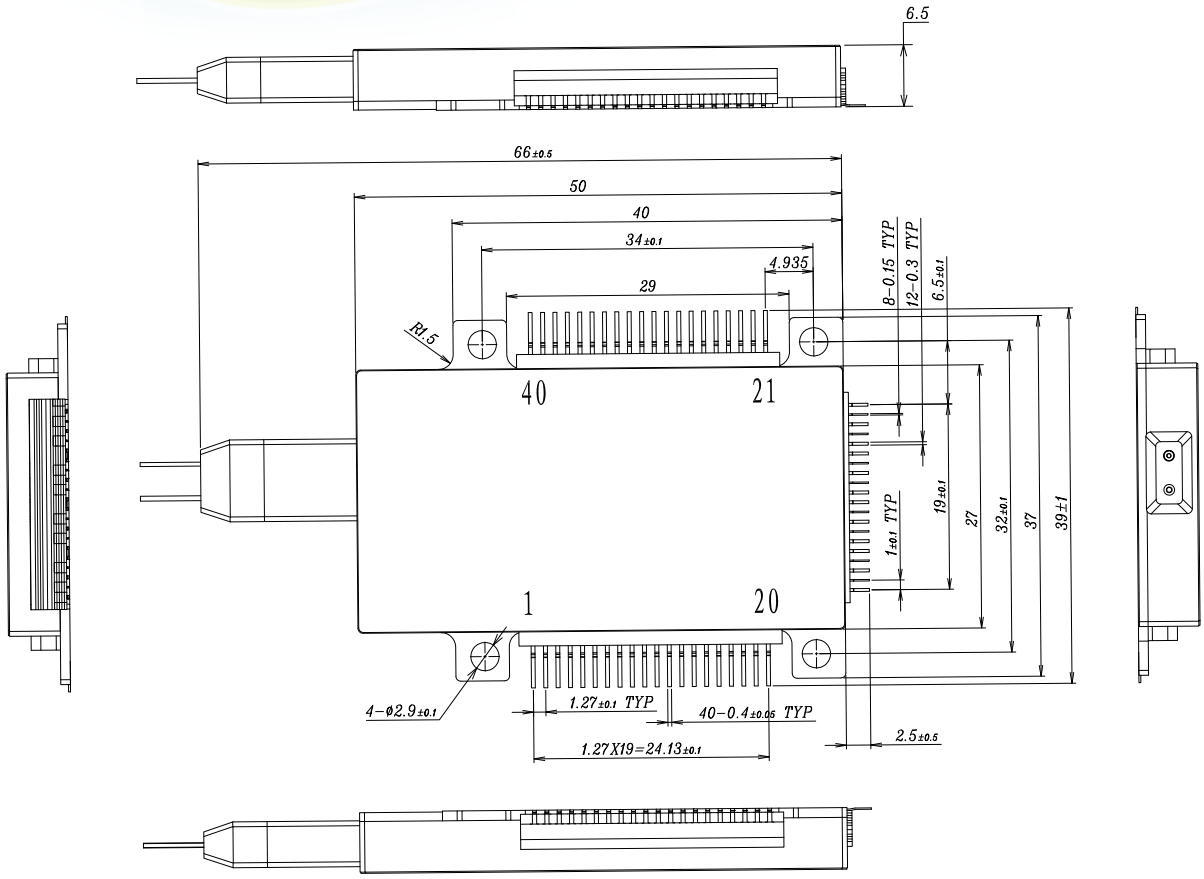
Mechanical Dimensions



Order Information

- The above specifications represent the typical performance of an O-Net 100G Integrated Coherent Receiver.
- Please contact our Sales to discuss your specific requirements.