

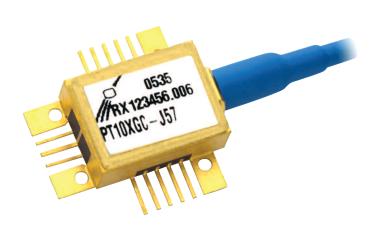
10Gb/s High Sensitivity Coplanar PIN **Preamp Receiver** PT10XGC

The module consists of a PIN photodetector, a low noise preamplifier, a connectorized single-mode fibre pigtail and a hermetic metal package with coplanar output. Optimized for use in 10 Gb/s long haul applications, either as a discrete device or within a transponder, using NRZ Modulation.

Features:

- High sensitivity, -20.5dBm typical
- Surface mount MSA compliant
- Low capacitance high speed InGaAs PIN detector
- Hermetically sealed
- Designed to exceed the requirements of Bellcore GR468-CORE
- Single mode fibre tail
- Compatible with AT10GC APD Receiver
- Output stage limits at 400mVp-p differential eliminating the need for a post amplifier
- Low Power Consumption, only 235mW
- RoHS 5/6 compliant







Characteristics

TC = 25°C unless otherwise specified.

Parameter	Symbol	Min	Тур	Max	Unit
Optical sensitivity 2 ³¹⁻ 1 BER <10 ⁻¹² [4]	Sens		-20.5	-19	dBm
Optical overload 231-1 BER <10-12	Psat	+1			dBm
High frequency -3 dB corner [2]	f3 dB	8	9		GHz
Return loss S22 (400 KHz to 7 GHz)				-8	dB
PiN bias voltage	Vpd		5		V
Dark current	ld			10	nA
PIN responsivity [1]	R	0.7	0.8		A/W
Amplifier bias voltage	Vee		-5.2		V
Amplifier current consumption	lee		45		mA
Transimpedance gain [2] [3] [5]	TZG	1600	2200	3400	Ohms

Notes

- [1] Optical wavelength between 1525nm 1575nm.
- [2] Load impedance is 50Ω (AC coupled) with a return loss >20 dB,up to 20 GHz.
- [3] Excludes PIN responsivity.
- [4] Measured with 10 Gb/s NRZ PRBS data and no FEC.
- [5] Differential.

Absolute Ratings

Parameter	Symbol	Min	Max	Unit
Amplifier bias voltage	Vcc	-6	0	V
Operating temperature [1]	Тор	-40	85	°C
Storage temperature [2]	Tstg	-40	85	°C
Optical input [3]	po		10	dBm
Fibre bend radius		35		mm
Maximum PIN bias voltage	Vpd		+7.5	V

Notes (Absolute Ratings):

- [1] The operating temperature is defined as the temperature of the module case.
- [2] The rating is referred to ambient temperature.
- [3] The optical level that causes no damage to the module. However, the electrical and optical performance specified in this document may not be guaranteed.



Pin Out

Pin #	Symbol	Parameter	Pin #	Symbol	Parameter
1	GND	Case ground	10	Out_P	Positive output
2	Vpd	PIN bias voltage	11	GND	Case ground
3	NC	No connection	12	GND	Case ground
4	Vee	Amplifier Bias	13	FBIN	No connection
5	NC	No connection	14	NC	No connection
6	GND	Case ground	15	NC	No connection
7	GND	Case ground	16	NC	No connection
8	Out_N	Negative output	17	GND	Case ground
9	GND	Case ground			

Circuit Schematic

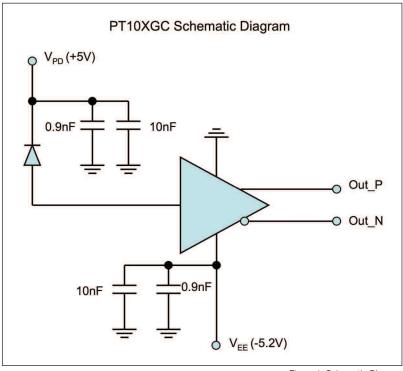


Figure 1: Schematic Diagram



Typical Performance Characteristics

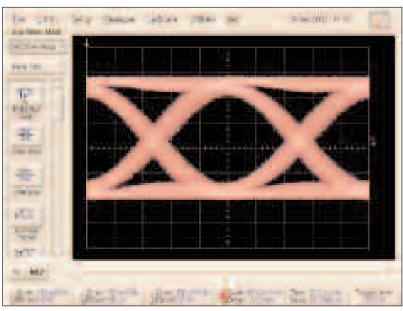


Figure 2: Typical eye diagram measured at 10 Gb/s with NRZ data

Outline Drawing

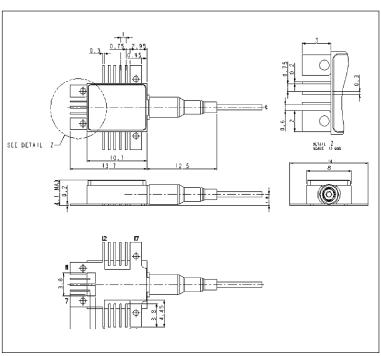


Figure 3: Outline Diagram



RoHS Compliance





Bookham is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

Ordering Information

PT10XGC

- (Connector) J = SC/PC J57 = LC

e.g. PT10XGC-J is a PT10XGC with an SC/PC connector.

Other options available on request

Contact Information

North America Bookham Worldwide Headquarters

2584 Junction Ave. San Jose CA 95134 USA

• Tel: +1 408 919 1500

• Fax: +1 408 919 6083

www.bookham.com sales@bookham.com

Europe Paignton Office

Brixham Road Paignton Devon TQ4 7BE United Kingdom

• Tel: +44 (0) 1803 66 2000

• Fax: +44 (0) 1803 66 2801

Asia Shenzhen Office

2 Phoenix Road Futian Free Trade Zone Shenzhen 518038 China

• Tel: +86 755 33305888

• Fax: +86 755 33305805 +86 755 33305807

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Bookham before they become applicable to any particular order or contract. In accordance with the Bookham policy of continuous improvement specifications may change without notice. The publication of information in this data sheet does not imply freedom from patent or other protective rights of Bookham or others. Further details are available from any Bookham sales representative.



