

2.5Gbps and 4Gbps GaAs PD-TIA Receivers for 850nm Gigabit Ethernet and Fiber Channel

Features

- Low noise and high speed transimpedance amplifier built-in for optical data links in the wavelength of 850nm
- High reliability
- 5 pin package available for an independent PD connection or input power monitoring



Applications

- High speed data communications
- 1x/2x/4x fiber channel receiver
- Gigabit ethernet

Package drawings are seen in datasheet of 'Package Option for KPDx, KPDxA, KPGx, KPIX Series.'

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Supply voltage	V_{cc}	-0.5 to 6.0	V
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C

1) KPGX2GB-LR33S

Electrical and Optical characteristics (Ta=25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating voltage	V_{op}	3.0		3.6	V	
Supply current	I_{cc}		24		mA	
Bit rate	BR		2.5		Gbps	
Bandwidth @-3dB	BW		1.75		GHz	$R_L=50\Omega$, $P_i=-10dBm$
Optical sensitivity	P_{min}		-20		dBm	differential, BER=10 ⁻¹²
Output impedance	Z_o	40	50	60	Ω	single ended
Differential output voltage	V_o	160	200	240	mVpp	$R_L=50\Omega$
Photo-electric conversion efficiency	η_{PE}		3.1		kV/W	single ended, $R_L=50\Omega$

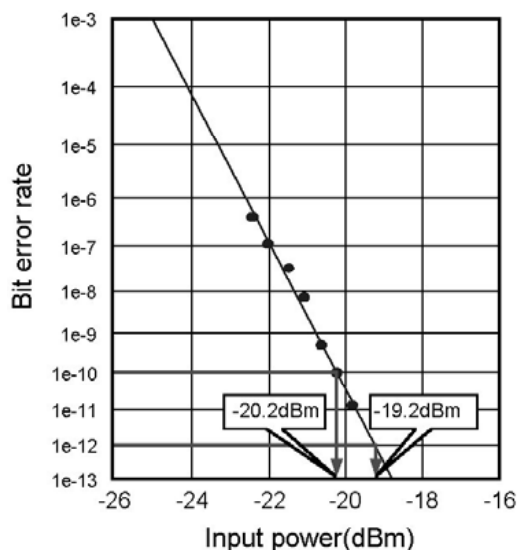
Specifications are subject to change without notice.

2) KPGX4G-LR33S

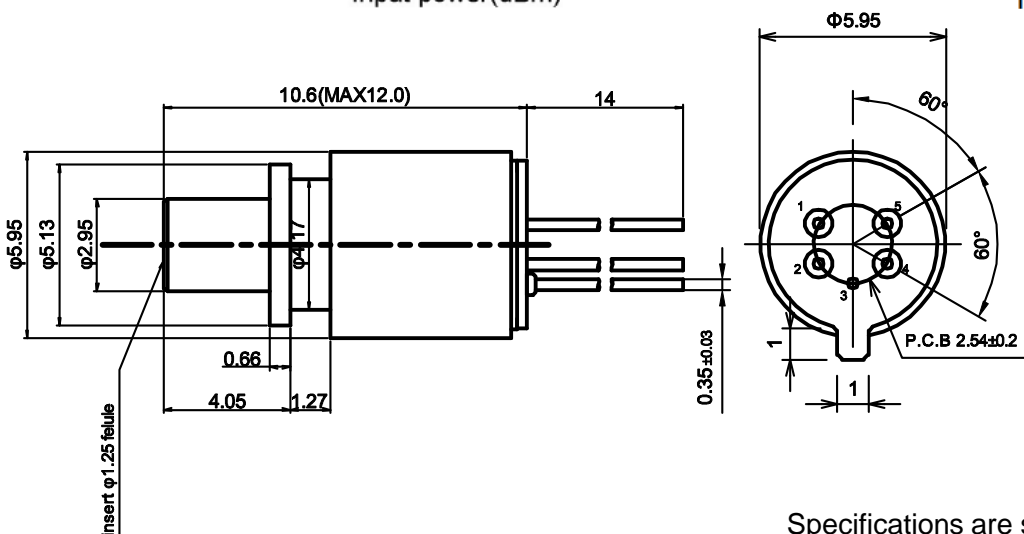
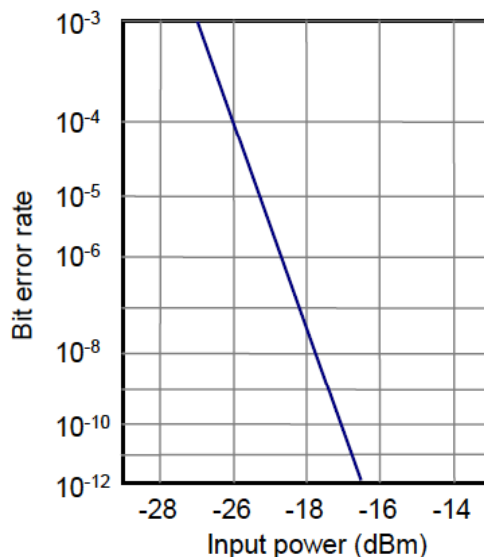
Electrical and Optical characteristics (Ta=25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating voltage	V_{op}	3.0	3.3	3.6	V	
Supply current	I_{cc}		24		mA	
Bit rate	BR		4.25		Gbps	
Bandwidth @-3dB	BW		3.2		GHz	$R_L=50\Omega, P_i=-10dBm$
Optical sensitivity	P_{min}		-17		dBm	differential, BER=10 ⁻¹⁰
Output impedance	Z_o	40	50	60	Ω	single ended
Differential output voltage	V_o	160	200	240	mVpp	$R_L=50\Omega$
Photo-electric conversion efficiency	η_{PE}		2.2		kV/W	single ended, $R_L=50\Omega$

KPGX2GB Bit error rate



KPDx4G Bit error rate



PIN	Function
1	V_{PD}
2	OUT
3	GND
4	OUTB
5	V_{CC}

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