

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
- 5 pin package available for an independent PD connection or input power monitoring
- High reliability
- Pigtail type and LC-ROSA are available as an option

Package drawings are seen in datasheet of 'Package Option for KPDX, KPDXA, KPGX, KPIX Series.'

Applications

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

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Supply voltage (for KPGX2GJ, KPGX4G)	V_{cc}	-0.5 to 6.0	V
Supply voltage (for KPGX1G)	V_{cc}	-0.5 to 4.0	V
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C

KPGX1G

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Operating voltage	V_{op}	3.3±7.5%			V	
Supply current	I_{cc}		30	42	mA	
Bit rate	BR		1.25		Gbps	
Bandwidth @-3dB	BW		800		MHz	$R_L=50\Omega$, $P_i=-10dBm$
Optical sensitivity	P_{min}		-24		dBm	differential, BER=10 ⁻¹²
Output impedance	Z_o		50		Ω	single ended
Differential output voltage	V_o		600		mVpp	$R_L=500\Omega$
Photo-electric conversion efficiency	η_{PE}		3.9		kV/W	single ended, $R_L>500\Omega$

Specifications are subject to change without notice.

KPGX2GJ**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		2.5		Gbps	
Bandwidth @-3dB	BW		1.75		GHz	$R_L=50\Omega$, $P_i=-10\text{dBm}$
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, $R_L=50\Omega$

KPGX4G (Preliminary)**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	$R_L=50\Omega$, $P_i=-10\text{dBm}$
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, $R_L=50\Omega$

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Contacts:www.kyosemi.co.jp / info@kyosemi.co.jp

Kansai Sales Office: 949-2 Ebisu-cho, Fushimi-ku, Kyoto, 612-8201 Japan Tel: +81 75 605 7311 Fax: +81 75 605 7312 (Overseas Sales Dept.)

Tokyo Sales Office: 24th Sky Building, 2nd Floor, 1-34-3 Shinjuku, Shinjuku-ku, Tokyo 160-0022 Japan Tel: +81 3 5312 5360 Fax: +81 3 5312 5367

Eniwa Operation: 385-31 Toiso, Eniwa-shi, Hokkaido 061-1405 Japan Tel: +81 123 34 3111 Fax: +81 123 34 2110

Kyosemi Opto America Corp: 3003 Bunker Hill Lane, Suite 102, Santa Clara, CA 95054 USA Tel: +1 408 492 1486 Fax: +1 408 492 9843