

RG8G3122A

2 × 128Gbaud Linear TIA

The RG8G3122A is a dual-channel 128Gbaud linear Trans-Impedance Amplifier (TIA) for 800G and beyond Integrated Coherent Receivers (ICRs).

The RG8G3122A integrates two TIA signal paths for I and Q channels. The high-performance, low power, and compact design of the RG8G3122A also enables optical sub-assembly of u-ICR and IC-TROSA for small form factor integrated optical modules.

Applications

- 800G and beyond coherent systems with 128Gbaud higher-order QAM modulation format
- Optical sub-assembly of u-ICR and IC-TROSA for small form factor optical modules

Features

- Dual-channel integrated 128Gbaud linear TIA with analog control interface
- 50 to 1,500Ω typical differential linear transimpedance
- > 27dB dynamic range
- > 80GHz adjustable SDD21 3dB-bandwidth at room temperature
- Automatic and manual gain control, output voltage control, peak detection and shutdown functionalities
- Low THD, low crosstalk, and low power consumption

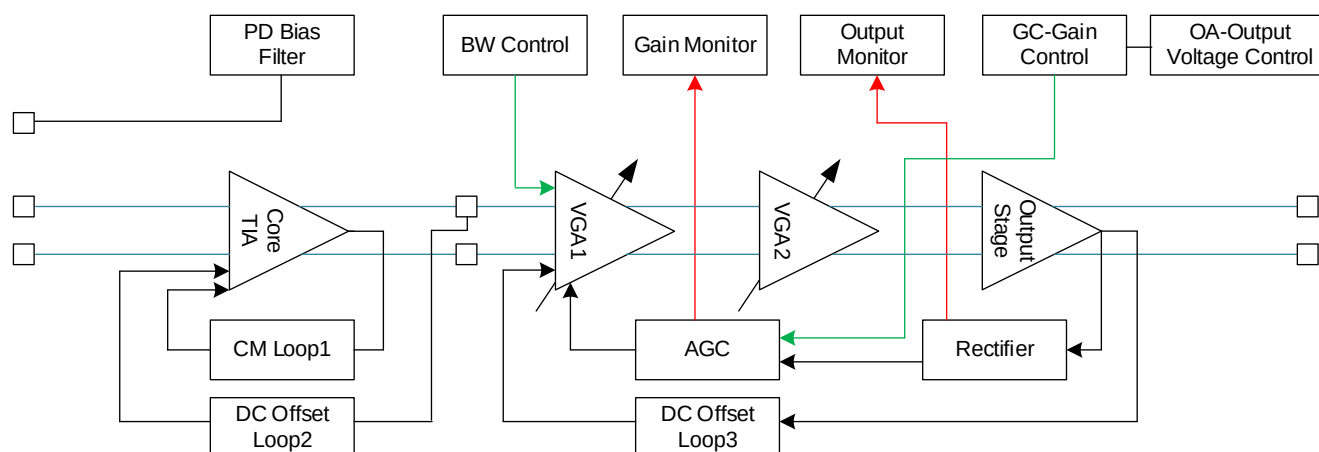


Figure 1. Block Diagram

IMPORTANT NOTICE AND DISCLAIMER

RENESAS ELECTRONICS CORPORATION AND ITS SUBSIDIARIES ("RENESAS") PROVIDES TECHNICAL SPECIFICATIONS AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for developers skilled in the art designing with Renesas products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. Renesas grants you permission to use these resources only for development of an application that uses Renesas products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Renesas intellectual property or to any third party intellectual property. Renesas disclaims responsibility for, and you will fully indemnify Renesas and its representatives against, any claims, damages, costs, losses, or liabilities arising out of your use of these resources. Renesas' products are provided only subject to Renesas' Terms and Conditions of Sale or other applicable terms agreed to in writing. No use of any Renesas resources expands or otherwise alters any applicable warranties or warranty disclaimers for these products.

(Disclaimer Rev.1.0 Mar 2020)

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

Contact Information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit:
www.renesas.com/contact/

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.