

### High Performance CMOS Transimpedance Amplifier for 1.25Gbps Applications

#### Main Features

- Typical **-32.0 dBm sensitivity**, +3 dBm overload at 1.25 Gbps (0.9 A/W PIN,  $C_{PD} = 0.5$  pF,  $BER = 10^{-12}$ )
- Typical transimpedance: 55 k $\Omega$
- Internal regulated photodiode bias
- No internal ROSA/BOSA VDD supply decoupling capacitor required for typical operation
- Photodiode Receiver Signal Strength Indication (RSSI) monitor output, with selectable Sink or Source current modes
- Pad compatible with all popular industry 1.25Gbps TIAs
- Single +3.3V supply
- -40°C to +95°C Operating temperature range

#### Applications

- EPON, Gigabit Ethernet, Fiber Channel
- SFF, SFP, GBIC transceivers

#### Product Overview

The HLR1G00 is a high sensitivity transimpedance amplifier with automatic gain control manufactured in a low cost, pure CMOS process. The AGC enables over 35 dB of dynamic operating range, resulting in a high performance TIA designed for cost sensitive fiber optic applications such as EPON transceivers, Gigabit Ethernet and Fiber Channel.

The HLR1G00 is pad compatible with all popular industry 1.25Gbps TIAs whilst offering superior performance. The HLR1G00 can be used in cost sensitive applications or as a drop-in replacement for existing applications without major re-design effort.

Featuring photodiode monitor and monitor invert functions as well as being designed to operate without the requirement for a VDD supply decoupling capacitor within the ROSA, the HLR1G00 offers the most flexible, high performance receiver solution for 1.25Gbps applications.

#### Block Diagram

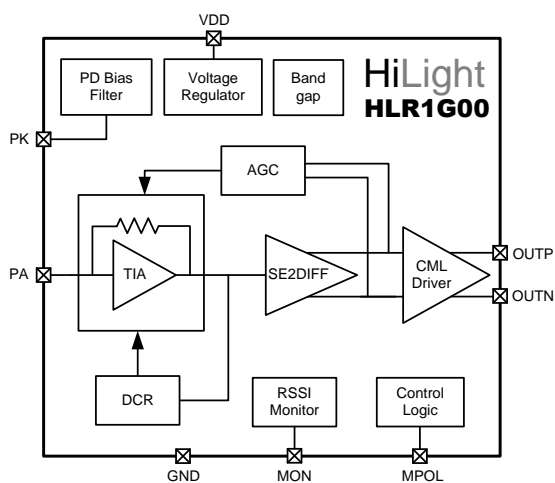


Figure 1 - HLR1G00 Block diagram

#### Pad Out

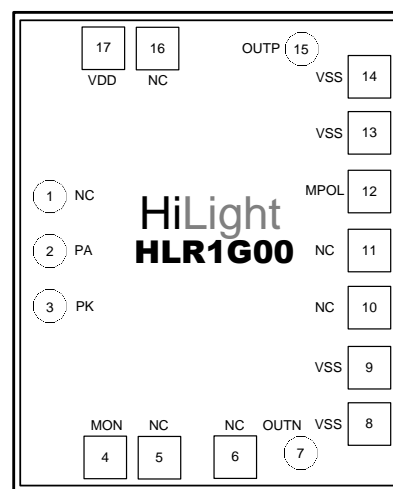


Figure 2 – HLR1G00 Pad Out

## Ordering Information

Part Number	Package
HLR1G00-WP	400 known good die in waffle tray packs
HLR1G00-GRP4-5K	5,000 pcs known good die reconstructed into a 4 inch format on a 6" Grip Ring.
HLR1G00-GRP6-5K	5,000 pcs known good die reconstructed into a 4 inch format on a 8" Grip Ring
HLR1G00-GRP6-10K	10,000 pcs known good die reconstructed into a 6inch format on a 8" Grip Ring

## HiLight Address and Contact Details

HiLight Semiconductor Ltd  
Delta House  
Enterprise Road  
Southampton  
SO16 7NS  
United Kingdom  
Tel: +44 238 097 0330

Please contact your local sales representative or [sales@hilight-semi.com](mailto:sales@hilight-semi.com) for further information and support.