


HD/SD SDI Receiver, with Integrated Adaptive Cable Equalizer complete with SMPTE Video Processing



Images are for reference only

Manufacturer:	Semtech Corporation
Package/Case:	BGA100
Product Type:	Embedded Processors & Controllers
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active

[Inquiry](#)

General Description

The GS1661A is a multi-rate SDI integrated Receiver which includes complete SMPTE processing, as per SMPTE 292M and SMPTE 259M-C. The SMPTE processing features can be bypassed to support signals with other coding schemes.

The GS1661A integrates Gennum's next-generation state-of-the-art adaptive cable equalizer technology, achieving unprecedented cable lengths and jitter tolerance. It features DC restoration to compensate for the DC content of SMPTE pathological signals.

The device features an Integrated Reclocker with an internal VCO and a wide Input Jitter Tolerance (IJT) of 0.7UI.

A serial digital loop through output is provided, which can be configured to output either reclocked or non-reclocked serial digital data. The Serial Digital Output can be connected to an external Cable Driver.

The device operates in one of four basic modes: SMPTE mode, DVB-ASI mode, Data-Through mode or Standby mode.

In SMPTE mode, the GS1661A performs SMPTE de-scrambling and NRZI to NRZ decoding and word alignment. Line-based CRC errors, line number errors, TRS errors and ancillary data check sum errors can all be detected. The GS1661A also provides ancillary data extraction. The entire ancillary data packet is extracted, and written to host-accessible registers. Other processing functions include H:V:F timing extraction, Luma and Chroma ancillary data indication, video standard detection, and SMPTE 352M packet detection and decoding. All of the processing features are optional, and may be enabled or disabled via the Host Interface.

In DVB-ASI mode, 8b/10b decoding is applied to the received data stream.

In Data-Through mode, all forms of SMPTE and DVB-ASI decoding are disabled, and the device can be used as a simple serial to parallel converter.

Key Features

Operation at 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s

Supports SMPTE 292M, SMPTE 259M-C and DVB-ASI

Integrated adaptive cable equalizer

Typical equalized length of Belden 1694A cable:

250m at 1.485Gb/s

480m at 270Mb/s

Integrated Reclocker with low phase noise, integrated VCO

Serial digital reclocked, or non-reclocked output

Ancillary data extraction

Parallel data bus selectable as either 20-bit or 10-bit

Comprehensive error detection and correction features

Output H, V, F or CEA 861 Timing Signals

1.2V digital core power supply, 1.2V and 3.3V analog power supplies, and selectable 1.8V or 3.3V I/O power supply

GSPI Host Interface

Low power operation (typically 460mW)

Small 11mm x 11mm 100-ball BGA package

Pb-free and RoHS compliant

Application

Monitors

Camera control units

Multiviewers

Production switchers

Master control switchers

VTRs

Video servers

Encoders/decoders

Up/down/cross converters

Audio de-embedders

Format detectors

Test and measurement equipment

Order Codes

GS1661AIBE3: Lead-Free, RoHS Compliant, Tray-168 Pieces

Recommended For You

GS2988-INE3

Semtech Corporation

QFN

GS2962-IBE3

Semtech Corporation

BGA

GS2970-IBE3

Semtech Corporation

BGA

GS2971AIBE3

Semtech Corporation

BGA

GS1578ACNE3

Semtech Corporation

QFN

GS2972-IBE3

Semtech Corporation

BGA100

GS2989-INE3

Semtech Corporation

QFN16

GS12281-INE3

Semtech Corporation

QFN40

GS12070-IBE3

Semtech Corporation

BGA196

GS1559-CBE2

Semtech Corporation

BGA

GS2965-INE3

Semtech Corporation

QFN

GS2961-IBE3

Semtech Corporation

BGA

GS2971-IBE3

Semtech Corporation

BGA

GS6151-INE3

Semtech Corporation

32-VFQFN

GS2960-IBE3

Semtech Corporation

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