
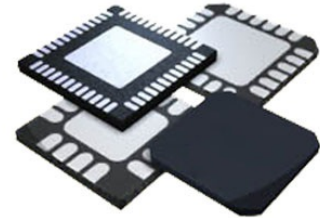


Adaptive Cable Equalizer 16-Pin QFN EP

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|----------------------|--|
| Manufacturer: | Semtech Corporation |
| Package/Case: | QFN |
| Product Type: | Drivers |
| RoHS: | RoHS Compliant/Lead free  |
| Lifecycle: | Active |



Images are for reference only

[Inquiry](#)

General Description

The GS2994 is a high-speed BiCMOS integrated circuit designed to equalize and restore signals received over 75ohm coaxial cable.

The device is designed to support SMPTE 424M, SMPTE292M and SMPTE 259M, and is optimized for performance at 270Mbps, 1.485Gbps and 2.97Gbps. The GS2994 features DC restoration to compensate for the DC content of SMPTE pathological test patterns.

The Carrier Detect output pin (CD) indicates whether a valid input signal has been detected. It can be connected directly to the SLEEP pin to enable automatic power-down upon loss of carrier. In the manual sleep mode, a voltage programmable threshold, which can be changed via the SQ_ADJ pin, forces CD high when the input signal amplitude falls below the threshold. This allows the GS2994 to distinguish between low-amplitude SDI signals and noise at the input of the device.

The equalizing and DC restore stages are disengaged when the BYPASS pin is HIGH. No equalization occurs in Bypass mode.

The GS2994 includes a gain selection pin (GAIN_SEL) which, when tied HIGH, compensates for 6dB flat attenuation.

The differential outputs can be DC-coupled to Gennum® 3.3V cable drivers and reclockers and to industry-standard 1.2V, 2.5V and 3.3V CML logic. In general, DC-coupling to any termination voltage between 1.2V and 3.3V is supported.

The GS2994 also includes programmable de-emphasis with three operating levels in order to support long PCB traces. The GS2994 is footprint and drop-in compatible with existing GS2974 and GS2984 designs.

The device is available in a 16-pin, 4mm x 4mm QFN package. Power consumption of the GS2994 is typically 166mW when DC-coupled at 1.2V.

The GS2994 is Pb-free, and the encapsulation compound does not contain halogenated flame retardant.

Key Features

SMPTE 424M, SMPTE 292M and SMPTE 259M compliant

Automatic cable equalization

Multi-standard operation from 143Mbps to 2.97Gbps

Performance optimized for 270Mbps, 1.485Gbps and 2.97Gbps. Typical equalized length of Belden 1694A cable:

140m at 2.97Gbps

200m at 1.485Gbps

400m at 270Mbps

Supports DVB-ASI at 270Mbps

Manual bypass (useful for low data rates with slow rise/fall times)

Programmable carrier detect with squelch threshold adjustment

Automatic power-down on loss of signal

Standby power <30mW (typical)

Differential output, supports DC-coupling to 1.2V -> 3.3V CML logic

0/6 dB gain boost selection pin • Selectable de-emphasis: 2dB, 4dB and 6dB

Standard EIA/JEDEC logic control and status signal levels

Single 3.3V power supply operation

166mW power consumption (typical)

Wide operating temperature range of -40°C to +85°C

Small footprint QFN package (4mm x 4mm)

Footprint compatible with the GS2974 and the GS2984

Pb-free and RoHS compliant

Application

SMPTE 424M, SMPTE 292M and SMPTE 259M coaxial cable
serial digital interfaces

Order Codes

GS2994-INE3: Lead-Free, RoHS Compliant, Tray-490 Pieces

GS2994-INTE3: Lead-Free, RoHS Compliant, Tape and Reel-250 Pieces

GS2994-INTE3Z: Lead-Free, RoHS Compliant, Tape and Reel-2500 Pieces

Recommended For You

GS1574ACNE3

Semtech Corporation

QFN16

GS2984-INE3

Semtech Corporation

QFN16

GS12090-INE3

Semtech Corporation

QFN

GS12141-INE3

Semtech Corporation

QFN40

GS3490-INE3

Semtech Corporation

QFN

GS3440-INE3

Semtech Corporation

QFN

GS2984-INE3

Semtech Corporation

QFN

GS6042-INE3

Semtech Corporation

GS6042-INE3

GS12241-INE3

Semtech Corporation

QFN

GS3140-INE3

Semtech Corporation

QFN

GS3590-INE3

Semtech Corporation

GS3590-INE3

GS3440-INE3

Semtech Corporation

GS3440-INE3

GS3140-INE3

Semtech Corporation

16-VQFN

GS2993-INE3

Semtech Corporation

QFN

GN2044SINE3

Semtech Corporation

QFN-32