

TGA4947-SL

Dual channel 40Gb/s & 100Gb/s Modulator Driver

TriQuint 
SEMICONDUCTOR

Applications

- 40 GB/s Optical Market: DQPSK
- 100 GB/s Optical Market: DP-QPSK

Product Features

- 40 & 100 Gb/s Performance
- Dual Channel, Single-ended Input and Output
- Integrated broadband bias tees
- Adjustable Output Amplitude, 3 Vpp – 9 Vpp
- Channel / Channel Isolation, 30 dB to 40 GHz
- Low Additive RMS Jitter, 600 fsec
- High Output Drive, 8Vpp with 0.4 Vpp Input
- Gain, 30 dB at 20 GHz
- Low DC Power Dissipation, 2.4 W total for Vout = 6 Vpp at Vd=5 V
- Rise and Fall Times, 10.5 psec
- Hot Pluggable
- Package Size: 16 x 10.5 x 3.6 mm

General Description

The TriQuint TGA4947-SL is a dual channel optical modulator driver amplifier designed for the 40 and 100 Gb/s optical markets. The TGA4947-SL is a compact SMT package with 30 dB channel to channel isolation up to 40 GHz.

The TGA4947-SL consists of two channels of three high performance wideband amplifiers and integrated broadband bias tees assembled in a 16 x 10.5 x 3.6 mm package, requiring a minimum of off-chip components. A single TGA4947-SL placed between the MUX and Optical Modulator provides OEMs with a modulator driver surface mount solution.

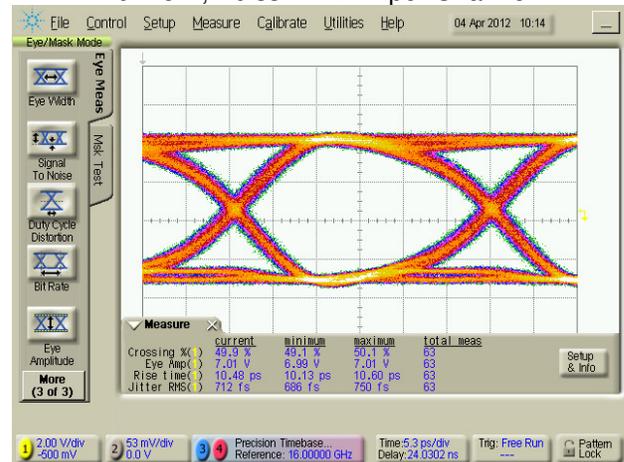
The TGA4947-SL provides Metro and Long Haul designers with system critical features such as: low power dissipation, high signal to noise ratio (SNR), high voltage drive capability (3 Vpp amplitude adjustable up to 9 Vpp), fast rise and fall times, low output jitter, and low input drive sensitivity (0.4 Vpp – 1 Vpp at Vout = 8Vpp).

The TGA4947-SL finish is lead-free. RoHS compliant. Evaluation boards and bias boards are available upon request.



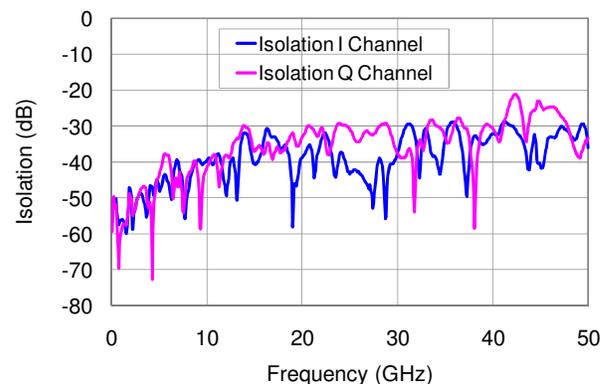
Eye Diagram

Vout = 7 Vpp, 32 Gbps Vin=0.5 Vpp
Vd = 5 V, Pdis = 1.2 W per Channel



Channel-Channel Isolation

TGA4947-SL Dual Driver Isolation vs Frequency
Vd = 7 V, Vc1 = 0.5 V, Vc2 = 0.25 V, Vc3 = 0.05 V,
Idq1 = 45 ma, Idq2 = 52 ma, Idq3 = 90 mA



Ordering Information

Part No.	ECCN	Description
TGA4947-SL	5A991.b	Dual Channel 40 & 100 Gb/s Modulator Driver