



SG4-RET-RX-2/SC-R

SG4000 Dual Return Receiver Scalable Network Solution

Motorola's SG4000 optical node supports RF over Glass (RFoG) architectures with a high-sensitivity, dual return-path analog receiver.

FEATURES

- 1260 – 1620 nm optical wavelength range
- 24 to –15 dBm optical input
- 5 to 200 MHz RF Passband
- Low input noise
- 48 dB gain
- RoHS Compliant
- Monitored via SG4-DOCSIS transponder

Motorola's SG4000 modular optical node supports the evolution of Hybrid Fiber Coaxial (HFC) networks to more advanced optical collector or hub node architectures. In particular, RF over Glass (RFoG) has emerged as a viable solution for Multiple Service Operators (MSOs) that require a Fiber-to-the-Home (FTTH) solution in new or existing node locations.

The SG4-RET-RX-2/SC-R module contains two independent, high-sensitivity receiver circuits that help operators overcome excessive link budgets by performing RF regeneration of optical signals within the node. It also allows return signals from multiple RFoG serving groups to be aggregated at the node by RF combining and/or wavelength multiplexing.

The SG4-RET-RX-2/SC-R is primarily designed for use with burst mode Optical Network Units (ONUs) and regenerates an RF output suitable for input directly to the SG4-DRT-2X digital return or other SG4000 analog transmitter.

Each receiver features an RF test point and a user-accessible plug-in JXP location for measuring input signals and setting proper attenuation during installation. A jumper enabled injection point is provided to further assist in setting levels appropriate for the end-point receiver.

The module also features a Status/Fault LED that provides visual indication of each receiver's condition. The SG4-RET-RX-2/SC-R can be remotely monitored and enabled/disabled via Motorola's DOCSIS transponder and Element Management System (EMS).

DATA SHEET

SG4-RET-RX-2/SC-R SG4000 Return Receiver Scalable Network Solution

Specifications

OPTICAL PERFORMANCE:

Optical Wavelength	1260–1620nm
Optical Input Power Range	–24 to –15 dBm
Maximum Optical Input Power	+ 3 dBm Max
Optical Power Test Point Scale Factor	1.0 V/0.01mW

RF PERFORMANCE:

RF Passband	5–85 MHz	5–200 MHz
Gain	42 dB nominal, adjustable to 48 dB	42 dB nominal, adjustable to 48 dB
Response change over temperature	±1.0 dB	±1.5 dB
Flatness	±1.0 dB pk-pk Max.	1.50 dB pk-pk Max.
RF Return Loss	18 dB Min.	18 dB Min.
Equivalent Input Noise Current	2.5 pA/Hz ^{1/2} Max.	2.5 pA/Hz ^{1/2} Max.

DC PERFORMANCE:

DC Supply Current (24 Volts)	250 mA Max.
DC Supply Current (5 Volts)	10 mA Max.

MECHANICAL/ENVIRONMENTAL

Module Dimensions	2.1 in L x 6.5 in W x 2.4 in D (5.3 cm x 16.5 cm x 6 cm)
Module Weight	1.0 lbs (0.45 kg)
Node Operating Temperature Range	–40 °F to 140 °F (–40 °C to 60 °C)

ORDERING INFORMATION

568847-002-00	SG4-RET-RX-2/SC-R
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Specifications subject to change without notice.



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