

MX41112

112 Gb/s 4:1 Multiplexer

MICRAM

Type: Module	Technology: SiGe	f_T / f_{max} : 170/250 GHz	Metallization: 4	Ref.-No.: R1023
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Brief description

The MX41112 is a 4:1 high-speed Multiplexer for data rates up to 112 Gb/s. Key features are:

- single-ended and differential IO operation,
- broadband operation,
- adjustable output swing,
- scalable architecture (e.g. 16:1 MUX),
- single supply voltage,
- clock outputs for synchronisation.

At the data inputs, the MX41112 consists of four symmetrical buffers which allow for single ended as well as differential drive. Furthermore the input buffers provide a high input sensitivity of 50 mVpp (single ended).

The same holds for the clock input, which runs at half of the frequency of the output data rate (so called 'half-rate clocking': e.g. 56 GHz clock for 112 Gb/s output data rate).

The Multiplexer core consists of three 2:1 Multiplexers arranged in a tree structure to achieve the 4:1 multiplexing functionality.

The MX41112 exhibits a fully symmetrical differential 50 Ω CML data output buffer which provides either one differential output signal or two single ended output signals. For multi-purpose applications the single ended output CML voltage swing can be adjusted between 300 and 600 mV_{pp}.

As a functional add-on, the MX41112 provides the original clock frequency and the by 2 divided clock signal as output signals. This output can e.g. be used for proper eyediagram triggering or building higher order multiplexer architectures.

For verification of the correct data to clock alignment at the input, the MX41112 provides a monitor output of the retimed input data signals (D0-D3 selectable).

Main fields of application are:

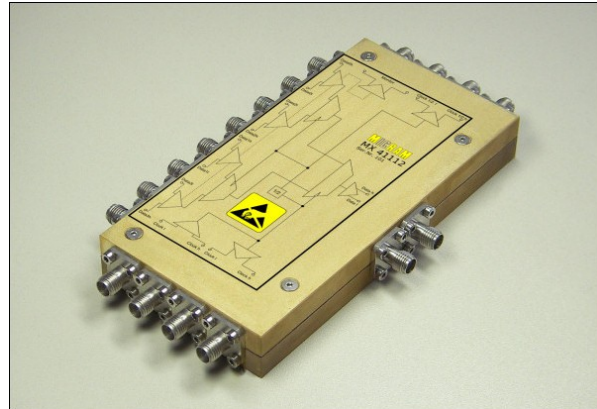
- Basic multiplexer module for 100G for Ethernet and data transmission systems,
- speed upgrade of measurement equipment,
- test data generation.

Package

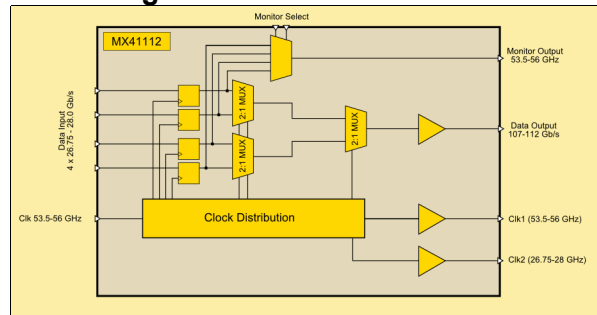
The MX41112 will be available as ruggedized module with K/V connectors.

For further information on the MX 41112 please contact your MICRAM sales representative.

MX41112 module



Block diagram of the MX41112



MX41112 electrical data

Power supply (V_{ee})	4.5 V
Current consumption	~2 A
max. Datarate	112 GB/s
min. Input amplitude	50 mV _{pp}
max. Output amplitude	600mV _{se} /1.2 V _{diff}

MX41112 simulated differential output signal @ 112 GB/s

