

## EQ6-26 Equalizer (26 Gb/s)

### DEVICE OVERVIEW

#### General Description

The EQ6-26 passive equalizer is an ideal solution for compensating for low pass filtering effects in RF/microwave and high speed digital systems. This equalizer provides positive slope from DC to 26.5 GHz with a DC attenuation value of 6 dB and a 50-ohm match maintained over the entire operating range.

[Download s-parameters here](#)



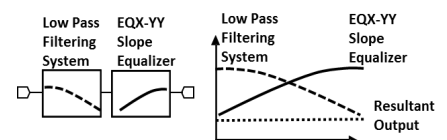
#### Features

- 26 Gb/s Equalizer
- Matched 50 Ohm Impedance on Input and Output Ports

#### Applications

- Signal Integrity
- Digital Communications

#### Functional Block Diagram



#### Part Ordering Options

| Part Number | Description         | Package | Packing Size | Green Status | Product Lifecycle | Export Classification |
|-------------|---------------------|---------|--------------|--------------|-------------------|-----------------------|
| EQ6-26      | Equalizer (26 Gb/s) | -       | -            | Non-RoHS     | Released          | EAR99                 |

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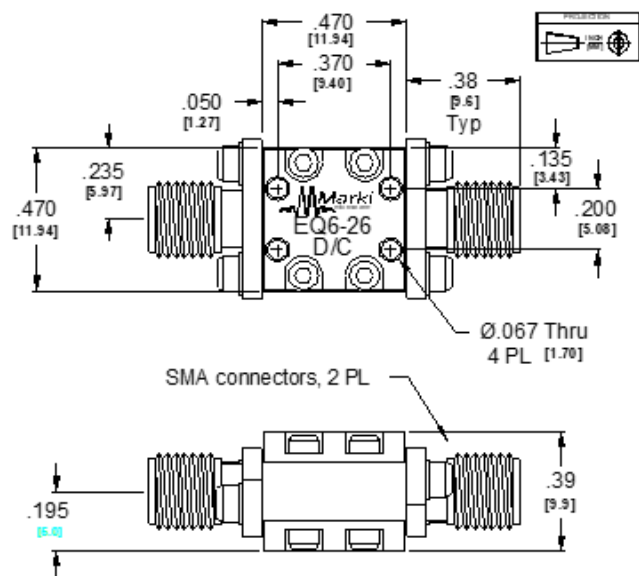
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## Revision History

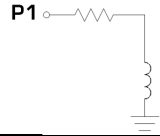
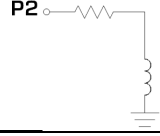
| Revision Code | Revision Date | Comment                    |
|---------------|---------------|----------------------------|
| -             | 2023-05-18    | Datasheet Initial Release. |

Port Configuration and Functions

Port Diagram



Port Functions

| Port   | Function     | Description                                                                                   | Equivalent Circuit for Package                                                                   |
|--------|--------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Pad    | Ground       | Ground is provided through metal housing and outer coax conductor.                            | <b>GND</b>  |
| Port 1 | Input/Output | Port 1 is DC connected to ground through a resistor. DC block is required if voltage present. | <b>P1</b>   |
| Port 2 | Input/Output | Port 2 is DC connected to ground through a resistor. DC block is required if voltage present. | <b>P2</b>   |

**Specifications**

**Package Information**

| Parameter  | Details | Rating           |
|------------|---------|------------------|
| Weight     | -       | 9g               |
| Dimensions | -       | 11.94 x 11.94 mm |

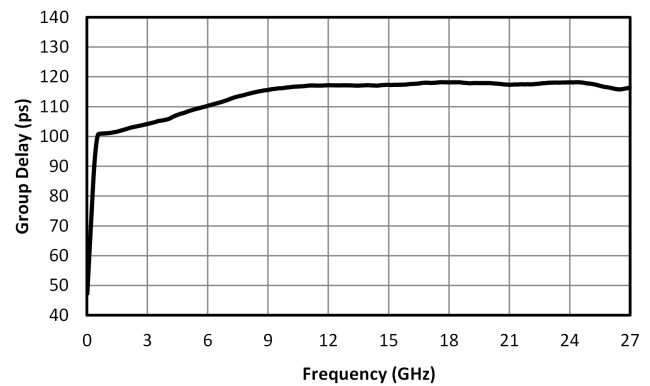
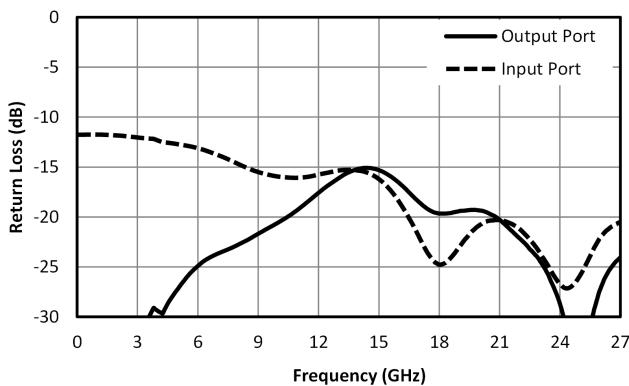
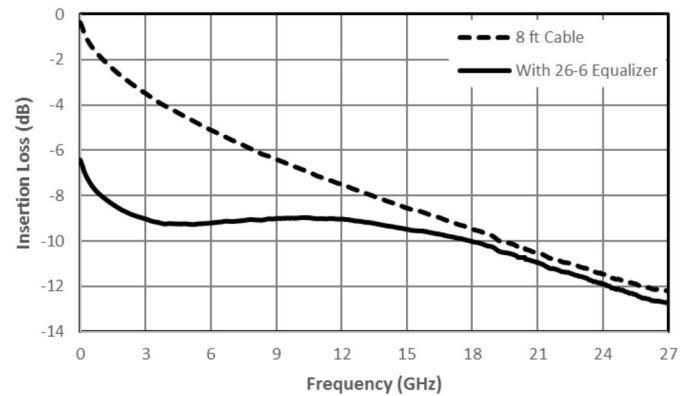
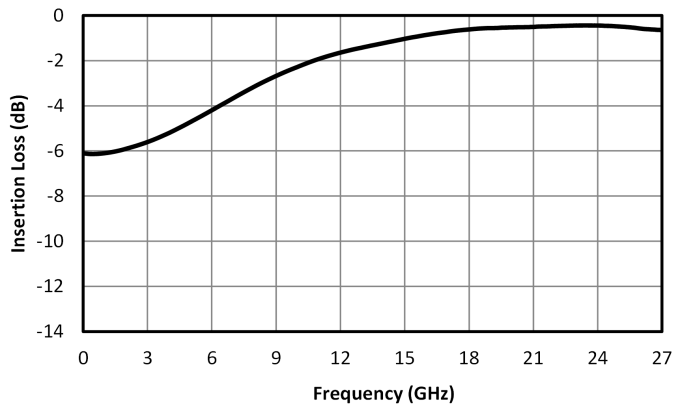
### Electrical Specifications

Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

| Parameter                      | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max  | Unit |
|--------------------------------|-----------------|-------------------------|-------------------------|-----|-----|------|------|
| Insertion Loss                 | -               | 0.01                    | 0.01                    | -   | 6   | -    | dB   |
| Insertion Loss                 | -               | 10.5                    | 10.5                    | -   | 2   | -    | dB   |
| Insertion Loss                 | -               | 26                      | 26                      | -   | 0.6 | -    | dB   |
| Return Loss                    | -               | 0                       | 26.5                    | -   | 15  | -    | dB   |
| Risetime/Falltime <sub>1</sub> | -               | 0                       | 26.5                    | -   | 15  | -    | ps   |
| Total Input Power              | -               | 0                       | 26.5                    | -   | -   | 0.25 | W    |
| VSWR (Input)                   | -               | 0                       | 26.5                    | -   | 1.4 | -    | -    |
| VSWR (Output)                  | -               | 0                       | 26.5                    | -   | 1.2 | -    | -    |
| Output Return Loss             | -               | 0                       | 26.5                    | -   | 20  | -    | dB   |

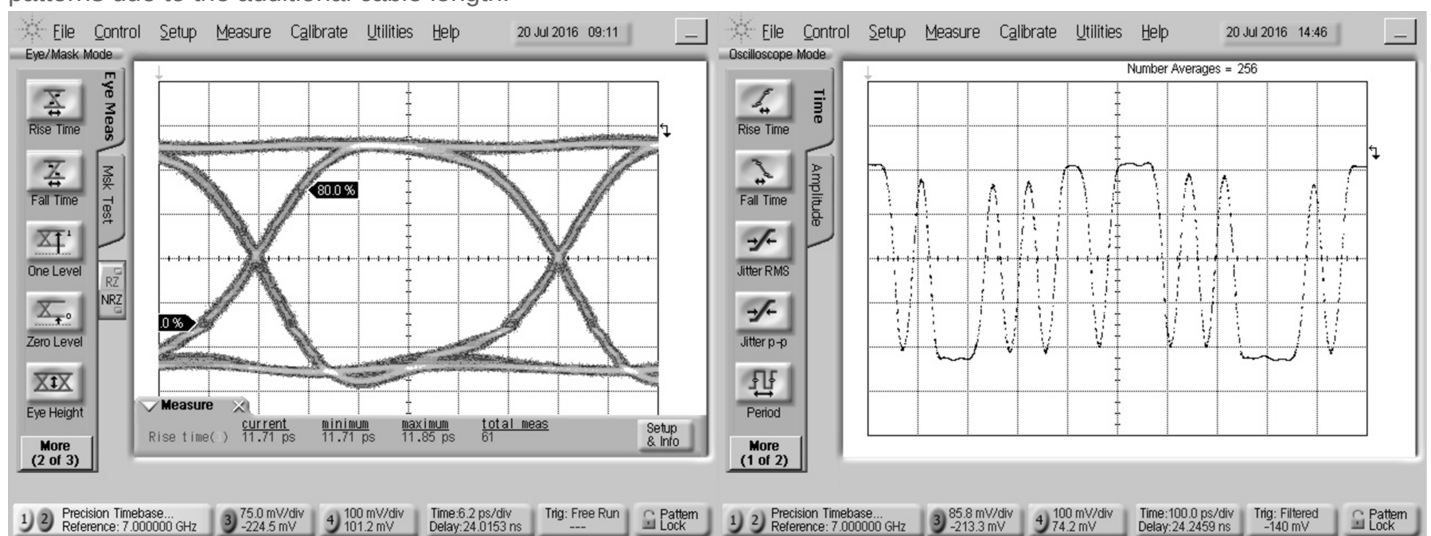
<sup>[1]</sup> Specified as 20%/80%.

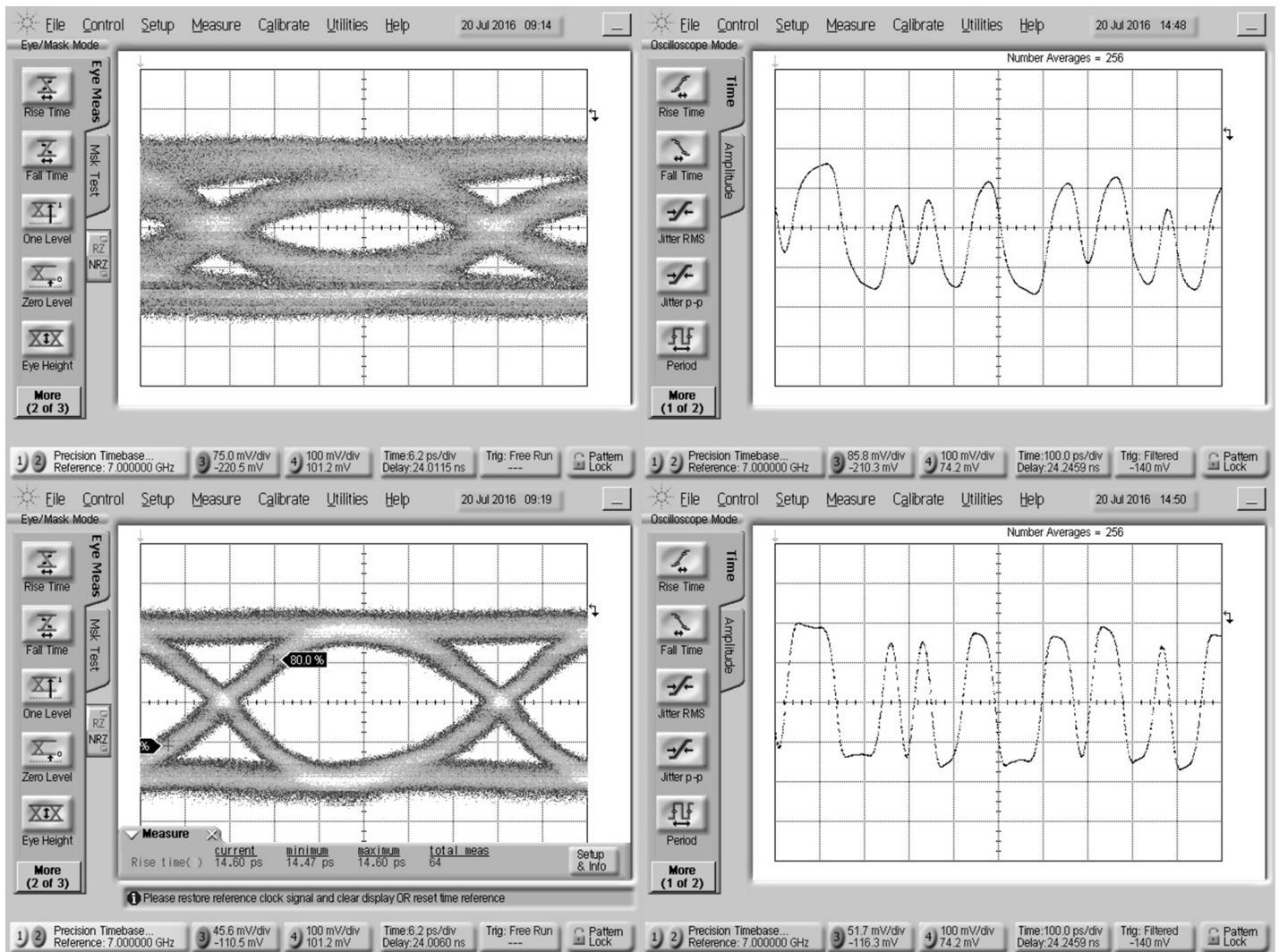
## Typical Performance Plots



## Time Domain Performance Plots

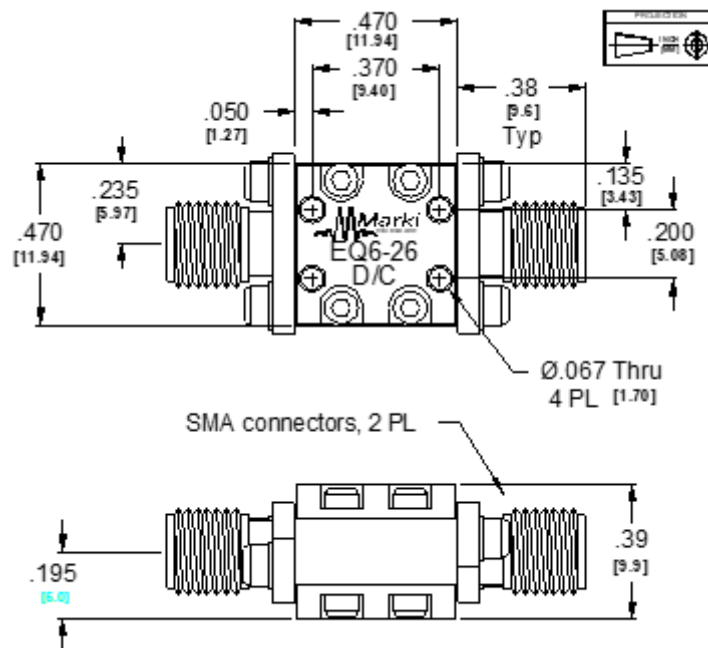
Oscilloscope measurements of the EQ6-26 with a 28 Gb/s PRBS pattern. Bit pattern is measured with a  $2^7-1$  PRBS input. Eye diagrams are taken with a  $2^{31}-1$  PRBS input. The "Input Data Pattern" figure is uncorrelated with the other patterns due to the additional cable length.





**Mechanical Data**

**Outline Drawing**



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