

EQ3-40 Equalizer (40 Gb/s)

DEVICE OVERVIEW

General Description

The EQ3-40 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 40 GHz with a DC attenuation value of 3 dB and a 50-ohm match maintained over the entire operating range.

[Download s-parameters here](#)



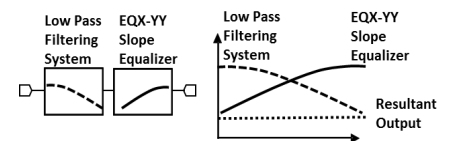
Features

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

Applications

- Digital Communications
- Signal Integrity

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Packing Size	Green Status	Product Lifecycle	Export Classification
EQ3-40	Equalizer (40 Gb/s)	-	-	Non-RoHS	Released	EAR99

Table Of Contents

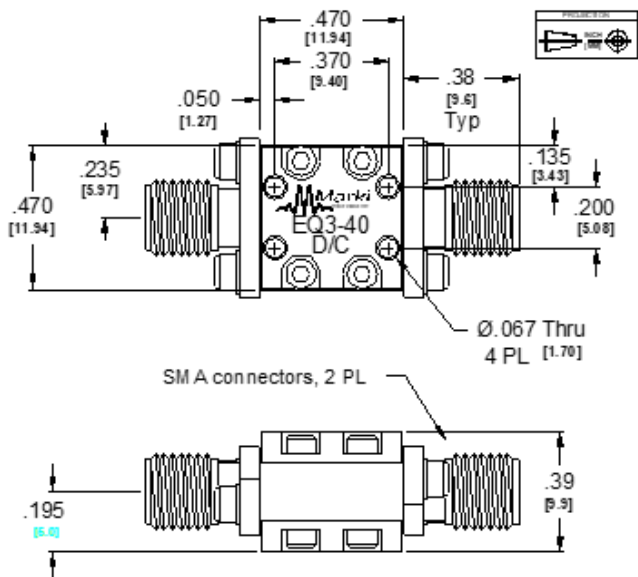
■ Device Overview	■ Revision History
General Description	
Features	■ Specifications
Applications	Package Information
Functional Block Diagram	Electrical Specifications
	Typical Performance
■ Port Configuration and Functions	Time Domain Performance Plots
Port Diagram	■ Mechanical Data
Port Functions	Outline Drawing

Revision History

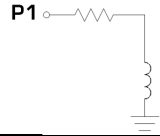
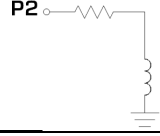
Revision Code	Revision Date	Comment
-	2023-05-18	Datasheet Initial Release

Port Configuration and Functions

Port Diagram



Port Functions

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

Specifications

Package Information

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

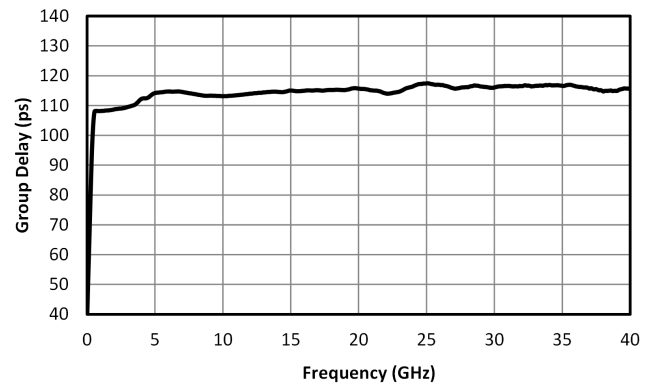
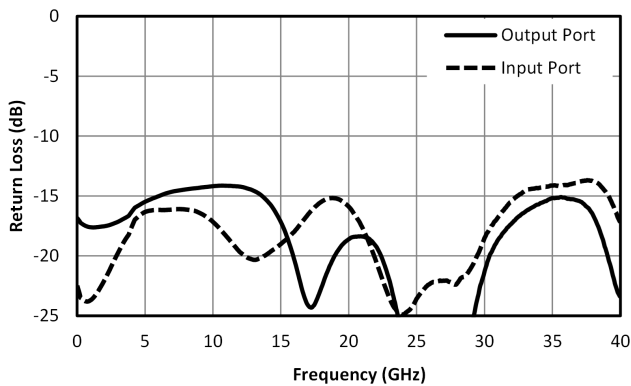
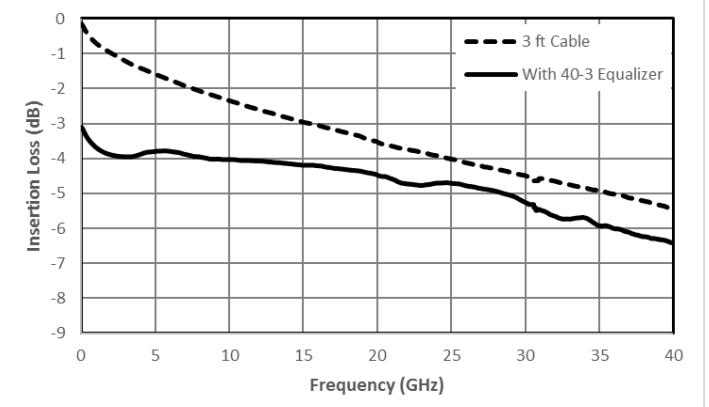
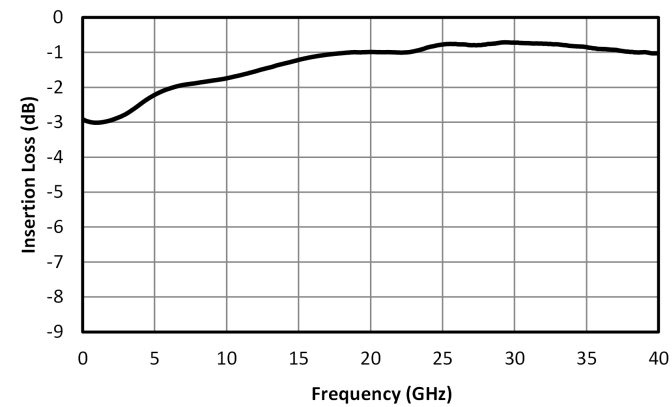
Electrical Specifications

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	-	3	-	dB
Insertion Loss	-	15	15	-	1.2	-	dB
Insertion Loss	-	40	40	-	1	-	dB
Return Loss	-	0	40	-	15	-	dB
Risetime/Falltime ₁	-	0	40	-	11	-	ps
VSWR (Output)	-	0	40	-	1.3	-	-
Output Return Loss	-	0	39	-	15	-	dB
Total Input Power	-	0	40	-	-	0.25	W
VSWR (Input)	-	0	40	-	1.3	-	-
Weight	-	0	40	-	9	-	g

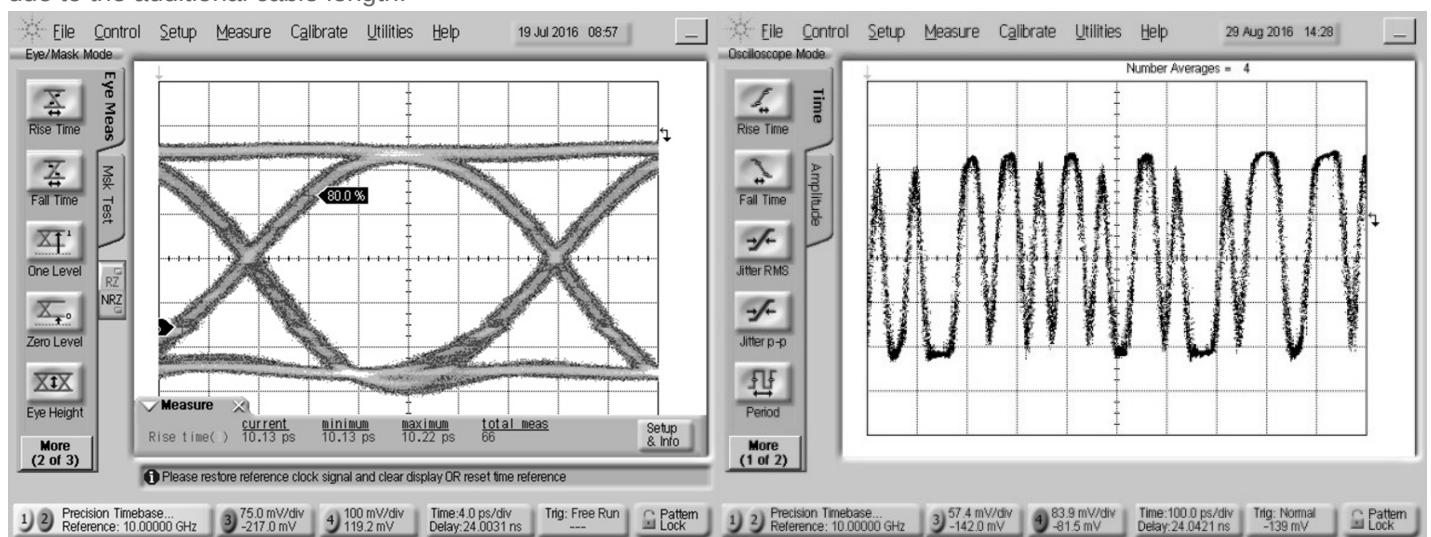
^[1] Specified as 20%/80%. Amplitude- and phase-matched pairs available; contact factory.

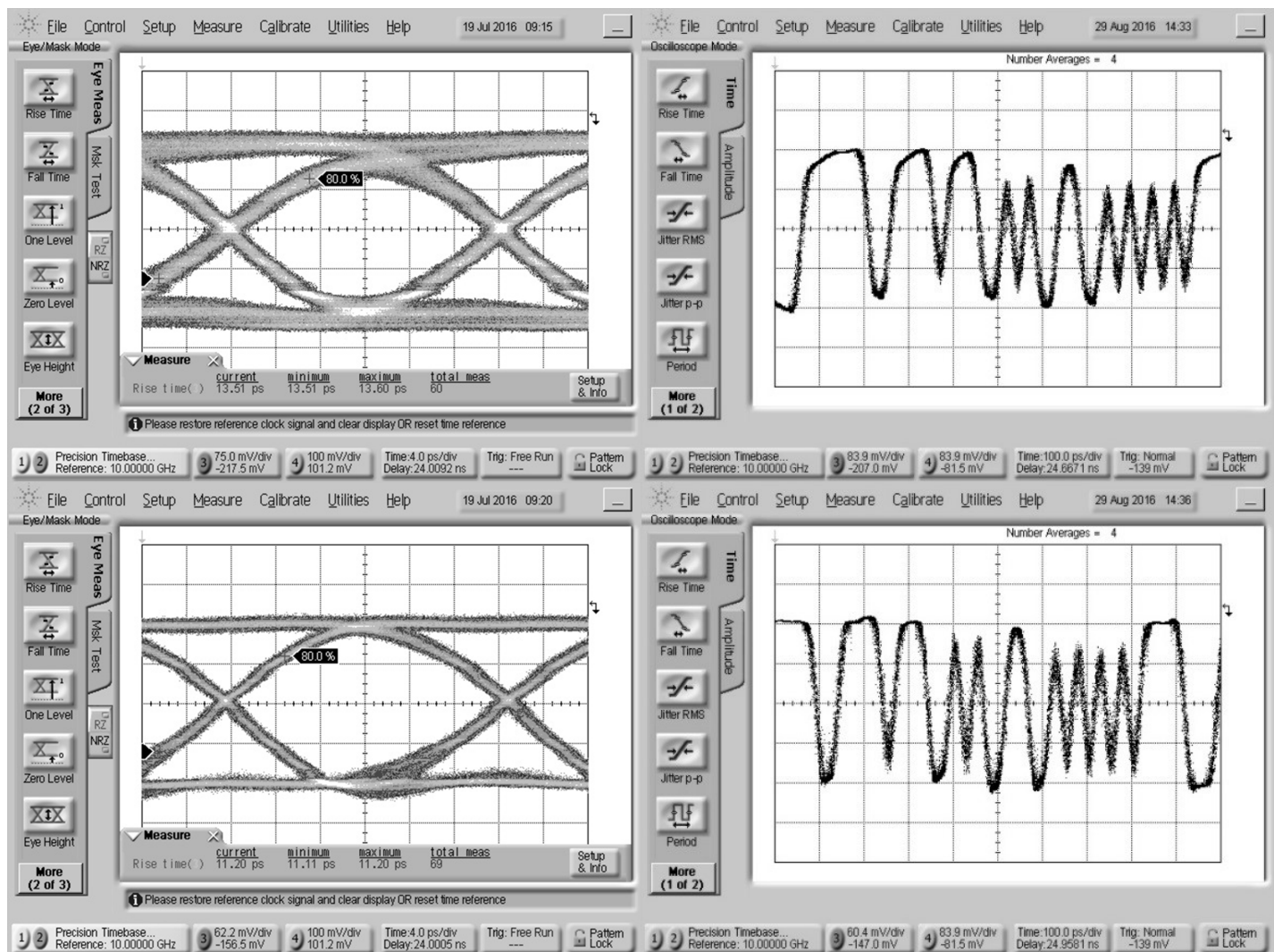
Typical Performance



Time Domain Performance Plots

Oscilloscope measurements of the EQ3-40 with a 40 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. Input data pattern figure is uncorrelated with the other patterns due to the additional cable length.





Outline Drawing



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