

**LEAD-FREE / RoHS-COMPLIANT**

**1 Device Overview**

**1.1 General Description**

The MEQ10-50AU passive MMIC 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 50 GHz with a DC attenuation value of 10dB and a 50-ohm match maintained over the entire operating range. GaAs MMIC technology provides consistent unit-to-unit performance in a small, low cost form factor. Contact the factory for connectorized versions of our other MEQ products.



Module

**1.2 Features**

- DC attenuation of 10dB
- Typical Insertion Loss 1.9 dB at 50GHz
- Return loss: typical 15 dB over the entire band
- S2P data: [MEQ10-50AU.s2p](#)

**1.3 Applications**

- RF Transceivers
- High-Speed Data
- Telecom
- Cable Loss Compensation
- Amplifier Compensation

**1.4 Functional Block Diagram**



**1.5 Part Ordering Options<sup>1</sup>**

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
MEQ10-50AU	Connectorized Module 2.4mm-F/M	U	RoHS	Active	EAR99

<sup>1</sup> Refer to our [website](#) for a list of definitions for terminology presented in this table.

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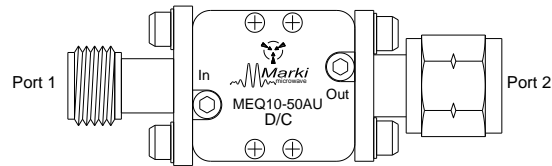
## Revision History

Revision Code	Revision Date	Comment
-	January 2019	Datasheet Initial Release

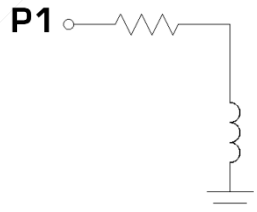
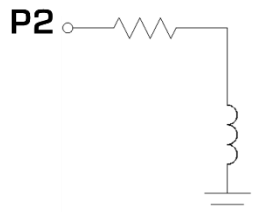
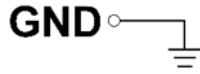
## 2 Port Configurations and Functions

### 2.1 Port Diagram

A top-down view of the MEQ10-50AU package outline drawing is shown below.



### 2.2 Port Functions

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

### 3 Specifications

#### 3.1 Absolute Maximum Ratings

The Absolute Maximum Ratings indicate limits beyond which damage may occur to the device. If these limits are exceeded, the device may be inoperable or have a reduced lifetime.

Parameter	Maximum Rating	Units
Port 1 DC Current	40	mA
Port 2 DC Current	40	mA
Power Handling, at any Port	+30	dBm
Operating Temperature	-55 to +100	°C
Storage Temperature	-65 to +125	°C

#### 3.2 Package Information

Parameter	Details	Rating
ESD	Human Body Model (HBM), per MIL-STD-750, Method 1020	1A
Weight	U package	11.5 g

#### 3.3 Electrical Specifications

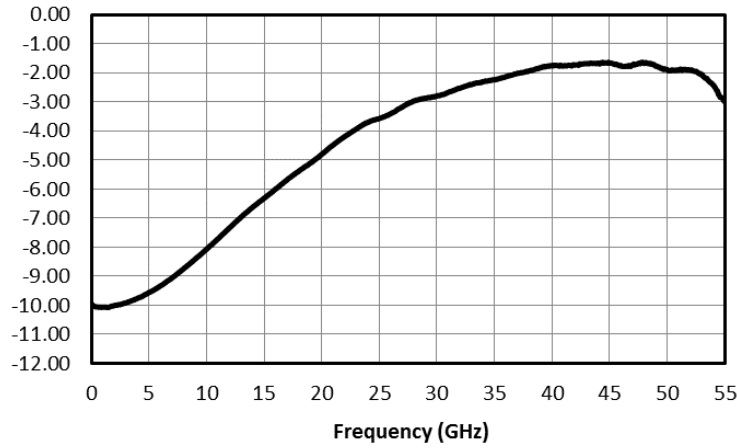
The electrical specifications apply at  $T_A=+25^{\circ}\text{C}$  in a  $50\Omega$  system. Typical data shown is for the equalizer in a U package with a sine wave input applied to port 1.

Min and Max limits are guaranteed at  $T_A=+25^{\circ}\text{C}$ .

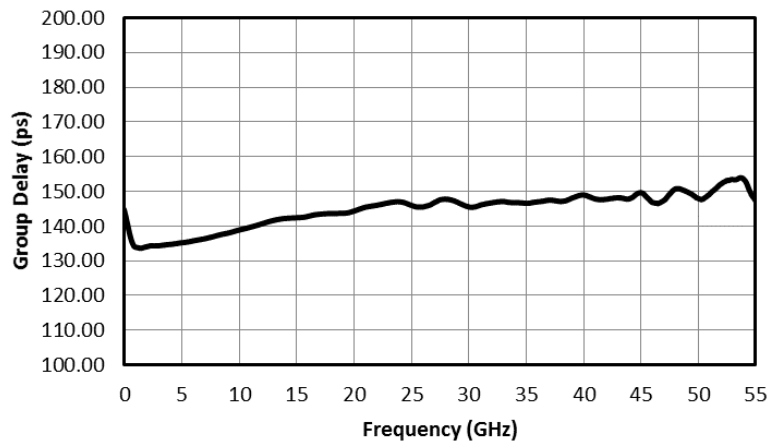
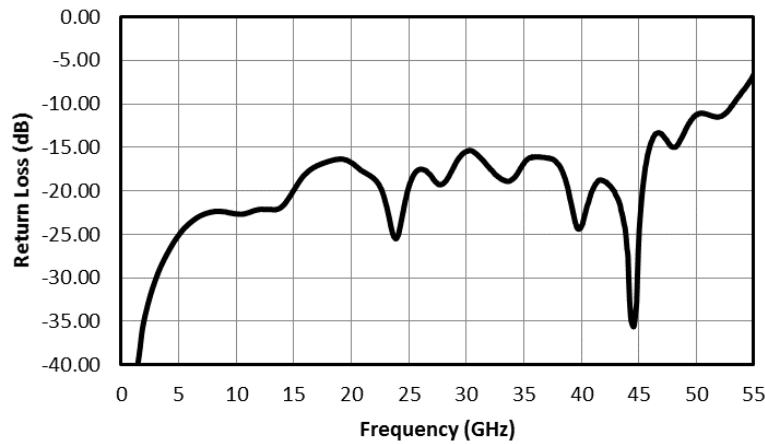
Parameter	Frequency (GHz)	Min	Typ.	Max
Insertion Loss (dB)	0.01		10	
	40		1.8	
	50		1.9	3
Return Loss (dB)	DC-40	10	15	
	40-50		12	
Impedance ( $\Omega$ )			50	

### 3.4 Typical Performance Plots

#### 3.4.1 Insertion Loss



#### 3.4.2 Return loss & Group delay



## 4 Mechanical Data

### 4.1 U Package Outline Drawing

Port	Connector Type
I	2.4mm Female
O	2.4mm Male

Note: U-Package Connectors are not removable.

