

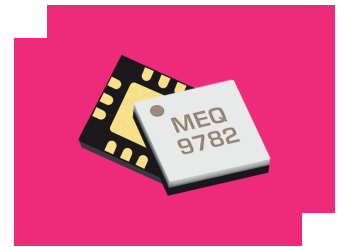
MEQ14-14ASM

Passive GaAs MMIC 14 GHz Equalizer

DEVICE OVERVIEW

General Description

The MEQ14-14ASM passive MMIC equalizer QFN is an ideal solution for compensating for low pass filtering effects in RF/microwave and high speed digital systems. It provides positive slope from DC to 14GHz with DC attenuation 14dB. The unique design offers superior return loss to competitors. GaAs MMIC technology provides consistent unit-to-unit performance in a small, low cost form factor.



[Download s-parameters here](#)

Features

- Other DC attenuation options of 3, 6, 10dB available
- Typical Insertion Loss 1.3 dB at 14GHz
- VSWR < 1.12:1 Over Entire Band

Applications

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

Functional Block Diagram



Part Ordering Options

| Part Number | Description | Package | Packing Size | Green Status | Product Lifecycle | Export Classification |
|----------------|--|---------|--------------|--------------|-------------------|-----------------------|
| MEQ14-14ASM | Passive GaAs MMIC 14 GHz Equalizer | QFN | - | REACH RoHS | Released | EAR99 |
| EVAL-MEQ14-14A | Evaluation Board, Passive GaAs MMIC 14 GHz Equalizer | EVAL | - | REACH RoHS | Released | EAR99 |
| MEQ14-14ASM-TR | Tape and Reel, Passive GaAs MMIC 14 GHz Equalizer | QFN | 7" | REACH RoHS | Released | EAR99 |

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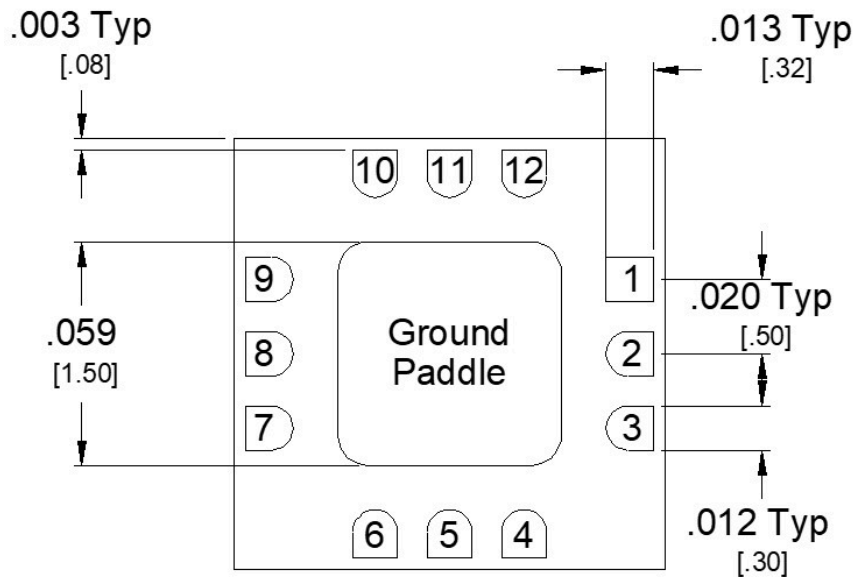
Revision History

| Revision Code | Revision Date | Comment |
|---------------|---------------|-----------------|
| - | 2024-07-26 | Initial Release |


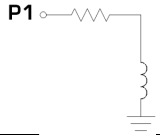
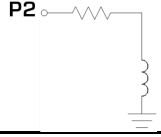
Port Configuration and Functions

Port Diagram

A bottom-up view of the MEQ14-14ASM package outline drawing is shown below. The MEQ equalizers are symmetrical allowing Port 1 or Port 2 to be used as the input.



Port Functions

| Port | Function | Description | DC Equivalent Circuit |
|-------|--------------|--|---|
| GND | Ground | SM package ground path is provided through the ground paddle. | Pad  |
| Pin 1 | Input/Output | Pin 1 is DC connected to ground through a resistor. DC block is required if voltage present. | P1  |
| Pin 9 | Input/Output | Pin 9 is DC connected to ground through a resistor. DC block is required if voltage present. | P2  |

Specifications

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 | Unit |
|-------------------------------|----------------|------|
| Maximum Operating Temperature | 100 | °C |
| Maximum Storage Temperature | 125 | °C |
| Minimum Operating Temperature | -55 | °C |
| Minimum Storage Temperature | -65 | °C |
| Port 1 DC Current | 40 | mA |
| Port 2 DC Current | 40 | mA |
| Power Handling, at any Port | 30 | dBm |

Package Information

| Parameter | Details | Rating |
|----------------------------|--------------------|--------------|
| ESD | 250 to < 500 Volts | HBM Class 1A |
| Dimensions | - | 3 x 3 mm |
| Moisture Sensitivity Level | - | MSL 1 |

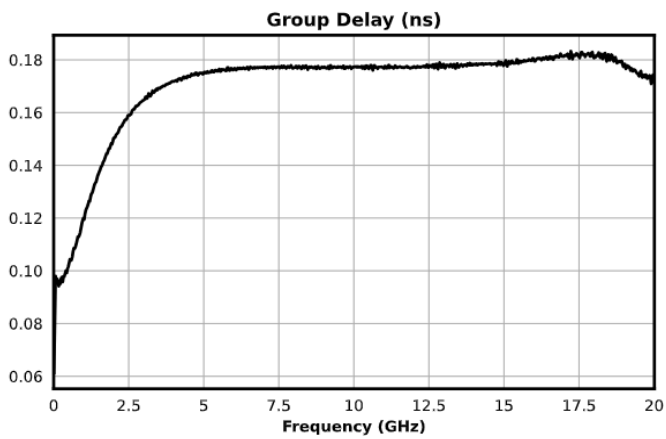
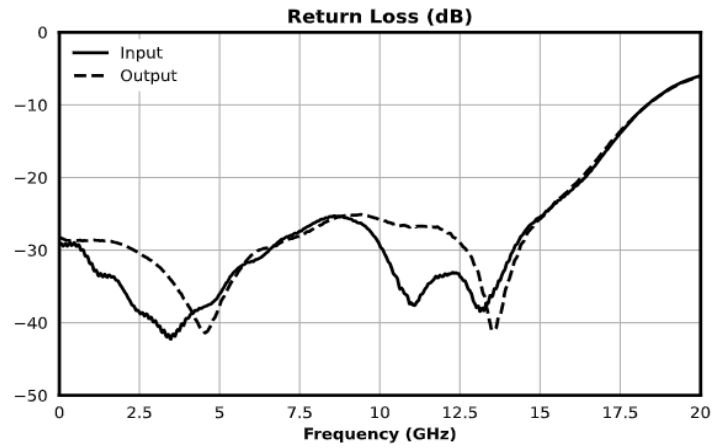
Electrical Specifications

The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the equalizer in a SM package with a sine wave input applied to pin 1. Min and Max limits are guaranteed at TA=+25°C.

| Parameter | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|----------------------|-----------------|-------------------------|-------------------------|-----|-----|-----|------|
| Insertion Loss | Freq=14GHz | 14 | 14 | - | 1.3 | - | dB |
| Insertion Loss at DC | Freq=0GHz | 0 | 0 | - | 14 | - | dB |
| Return Loss | Freq=0GHz | 0 | 14 | - | 29 | - | dB |

Equalizer is symmetrical. Reverse measurement is equivalent to forward measurement. All measurements taken in eval board without de-embedding.

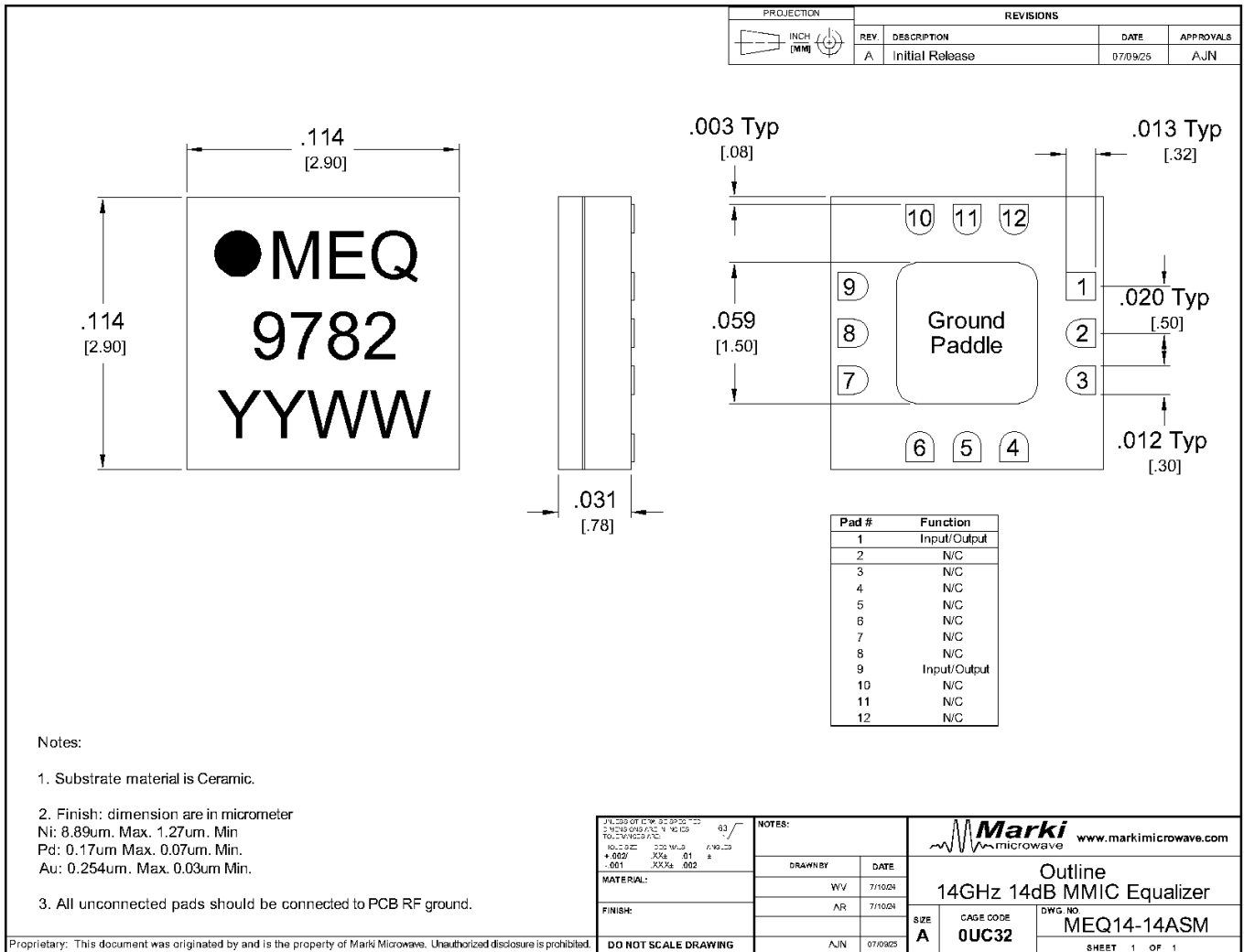
Typical Performance Plots



Mechanical Data

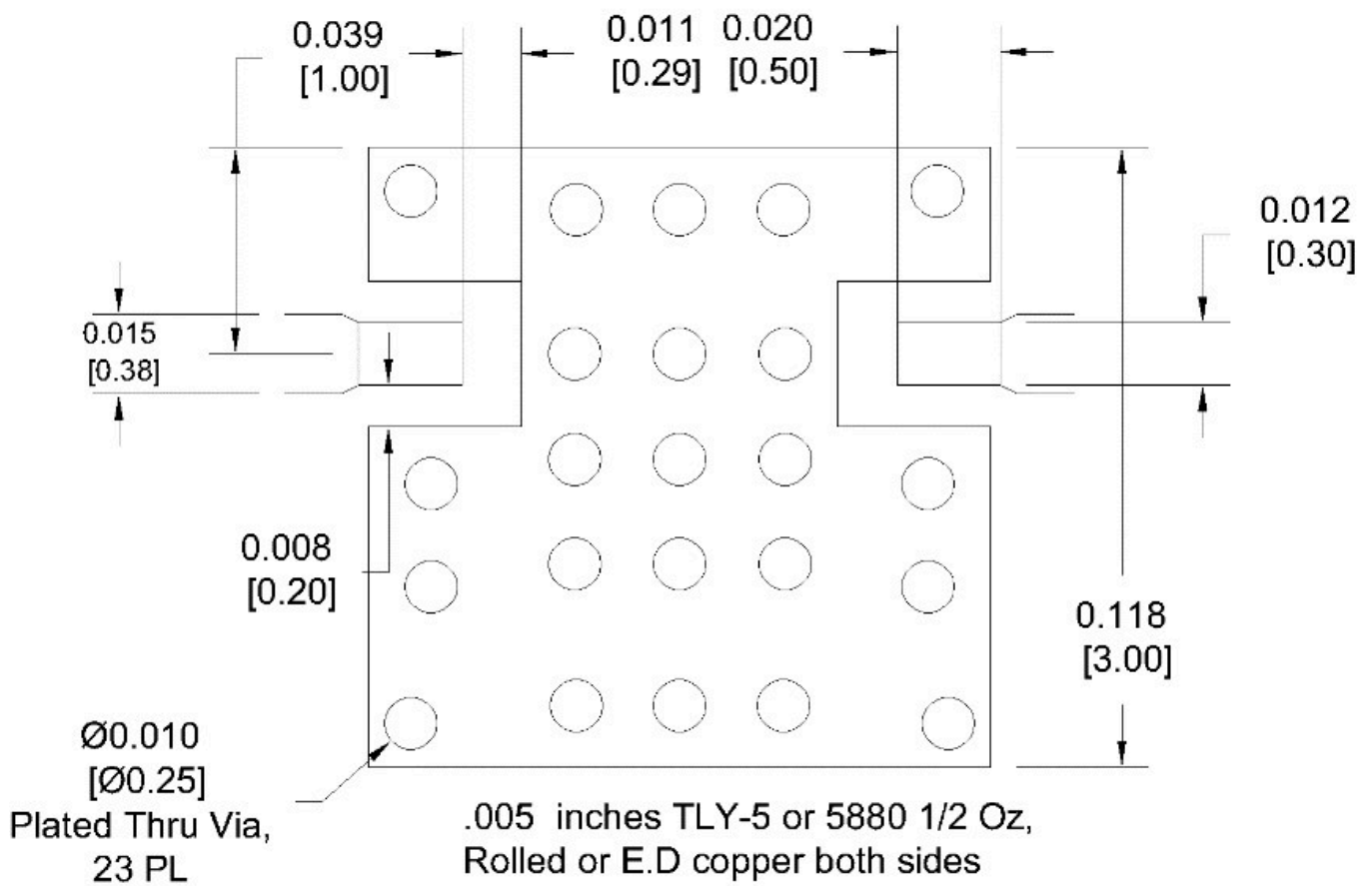
Outline Drawing

Download : [Outline 2D Drawing](#) | [Outline 3D Drawing](#) | [Outline 3D STP](#)

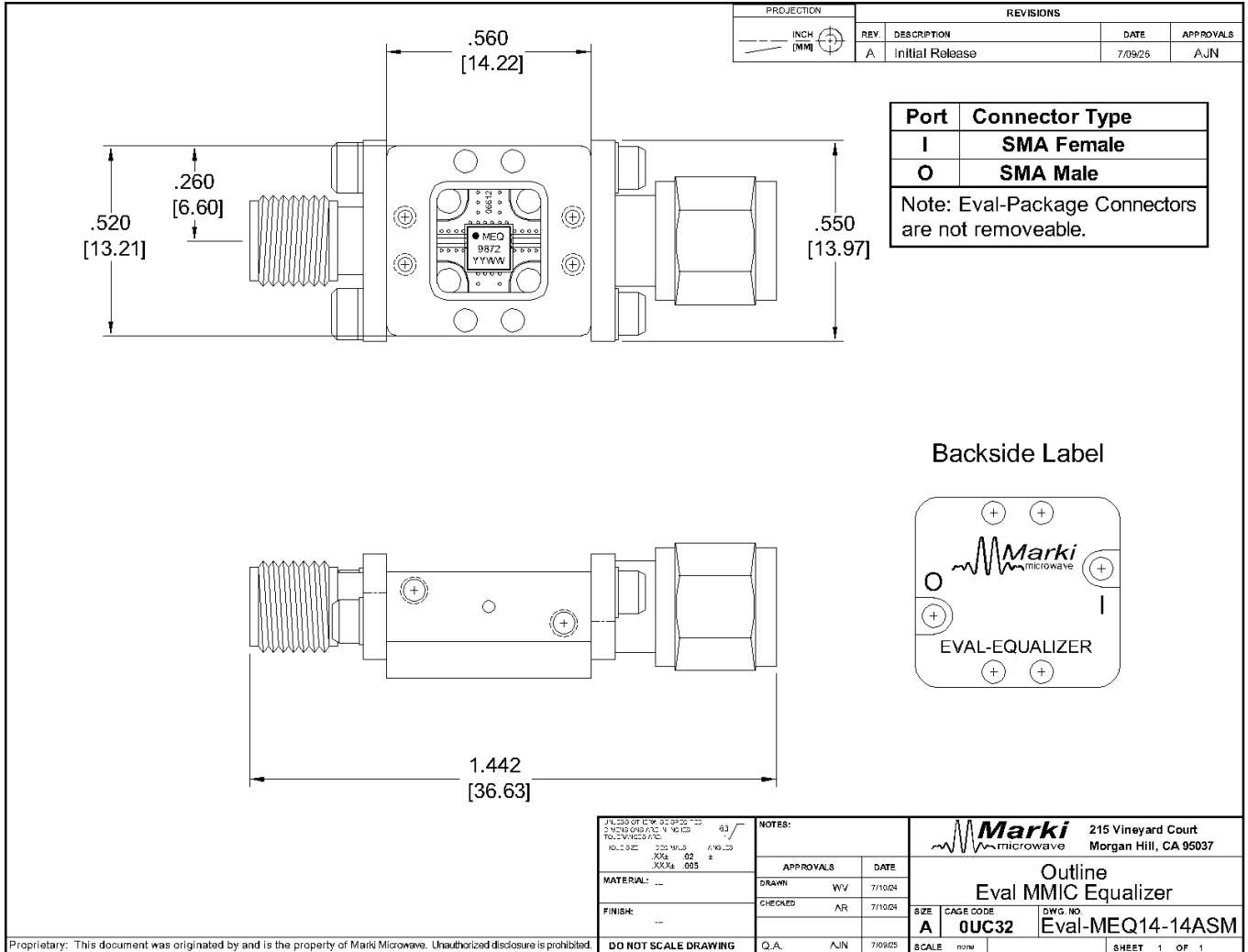


Footprint Image

Download : [Footprint Drawing](#)



Evaluation Board - Outline Drawing



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