

# MEQ6-26CSP1

## Chip Scale Package MMIC 26 GHz Equalizer

### DEVICE OVERVIEW

#### General Description

The MEQ6-26CSP1 is a passive surface mount GaAs MMIC equalizer in a chip scale package (CSP). This equalizer is ideal for compensating for low pass filtering effects in RF/microwave and high-speed digital systems. The MEQ6-26CSP1 provides positive slope from DC to 26GHz with a DC attenuation of 6dB. The CSP allows for extreme miniaturization of the SMT footprint while providing die-like performance. GaAs MMIC technology provides consistent unit-to-unit performance in a small, low-cost form factor.



[Download s-parameters here](#)

#### Features

- Small 1.5 x 1.5 mm package size
- 2W Power Handling
- DC attenuation of 6dB
- Typical Insertion Loss 0.3 dB at 26GHz
- VSWR < 1.5 Over Operating Band
- Low SWaP

#### Applications

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

#### Functional Block Diagram



#### Part Ordering Options

| Part Number                 | Description                                                | Package | Packing Size | Green Status | Product Lifecycle | Export Classification |
|-----------------------------|------------------------------------------------------------|---------|--------------|--------------|-------------------|-----------------------|
| <a href="#">EVB-MEQ6-26</a> | Evaluation Board, Chip Scale Package MMIC 26 GHz Equalizer | -       | -            | RoHS         | Released          | EAR99                 |
| MEQ6-26CSP1                 | Chip Scale Package MMIC 26 GHz Equalizer                   | CSP1    | -            | RoHS         | Released          | EAR99                 |

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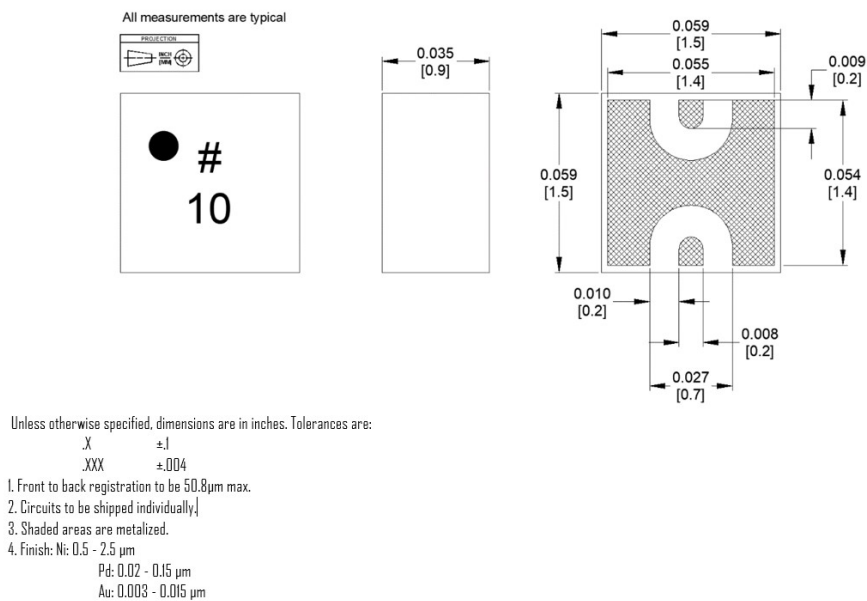
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**Revision History**

| Revision Code | Revision Date | Comment                     |
|---------------|---------------|-----------------------------|
| -             | 2022-04-01    | Datasheet Initial Release   |
| A             | 2023-02-01    | Package Description Updated |

### Port Configuration and Functions

#### Port Diagram



#### Port Functions

| Port  | Function     | Description                                                                                  | Equivalent Circuit for Package                                                                   |
|-------|--------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| GND   | Ground       | SM package ground path is provided through the ground paddle.                                | <b>Pad</b>  |
| Pin 1 | Input/Output | Pin 1 is DC connected to ground through a resistor. DC block is required if voltage present. | <b>P1</b>   |
| Pin 2 | Output/Input | Pin 2 is DC connected to ground through a resistor. DC block is required if voltage present. | <b>P2</b>   |

**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   |
| Power Handling, at any Port   | 2              | W    |

**Package Information**

| Parameter  | Details | Rating       |
|------------|---------|--------------|
| Dimensions | -       | 1.5 x 1.5 mm |

#### Electrical Specifications

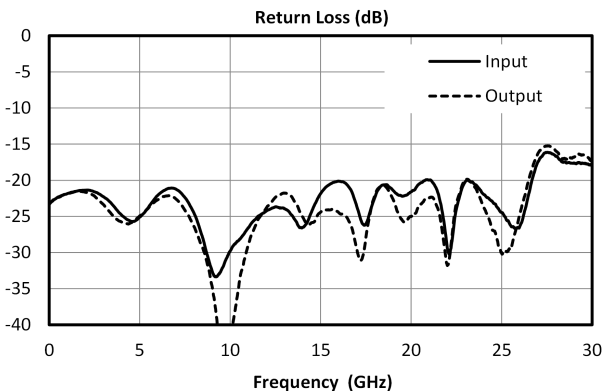
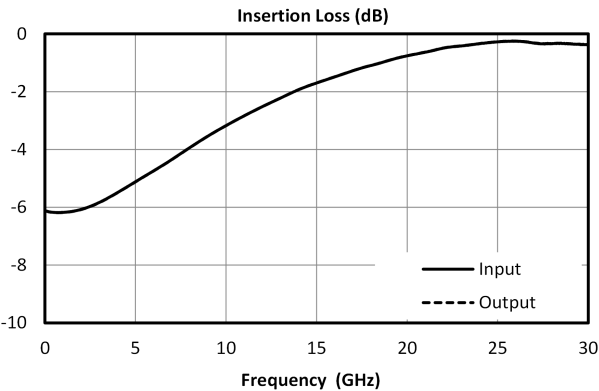
The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the equalizer in a SM package with a sine wave input applied to port 1.

| Parameter                   | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|-----------------------------|-----------------|-------------------------|-------------------------|-----|-----|-----|------|
| Insertion Loss <sub>1</sub> | -               | 0                       | 0                       | -   | 6   | -   | dB   |
| Insertion Loss <sub>2</sub> | -               | 26                      | 26                      | -   | 0.3 | -   | dB   |
| Return Loss <sup>3</sup>    | -               | 0                       | 26                      | -   | 23  | -   | dB   |
| Impedance <sup>4</sup>      | -               | 0                       | 26                      | -   | 50  | -   | Ω    |

[1][2][3][4] Equalizer is symmetrical. Reverse measurement is equivalent to forward measurement. All measurements taken in eval and de-embedded to the CSP1 pad interface.

**Typical Performance Plots**

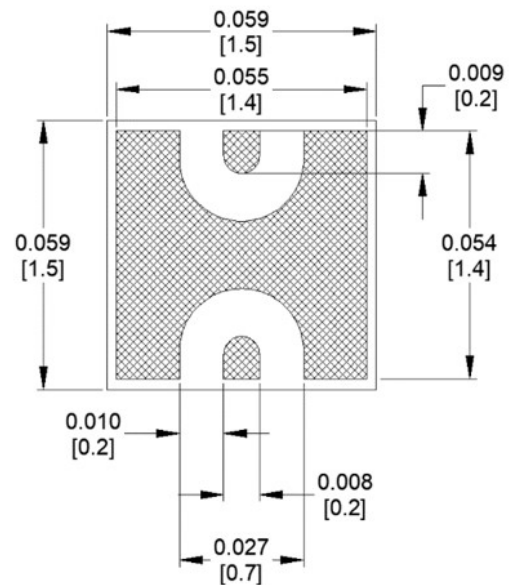
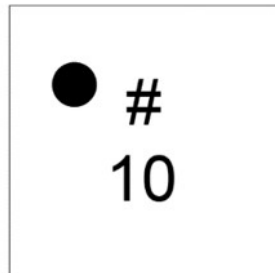
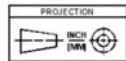
Electrical Performance Plots are de-embedded to the CSP package ports.



## Mechanical Data

### Outline Drawing

All measurements are typical



Unless otherwise specified, dimensions are in inches. Tolerances are:

.X ±.1

.XXX ±.004

1. Front to back registration to be 50.8µm max.

2. Circuits to be shipped individually.

3. Shaded areas are metalized.

4. Finish: Ni: 0.5 - 2.5 µm

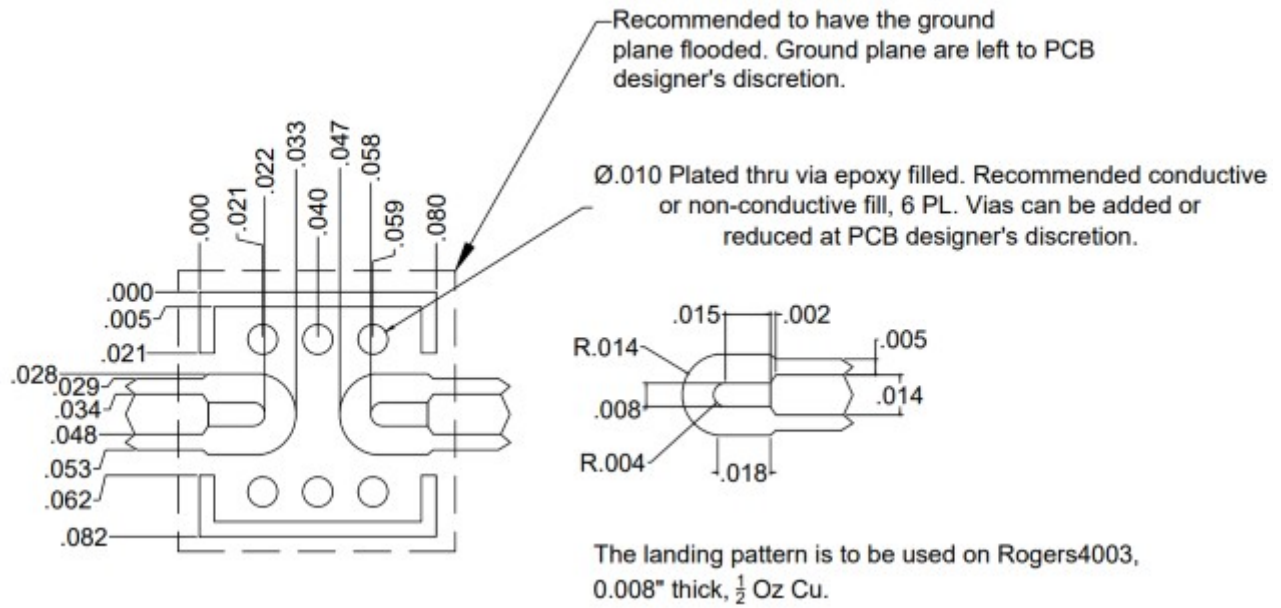
Pd: 0.02 - 0.15 µm

Au: 0.003 - 0.015 µm

## MEQ6-26CSP1

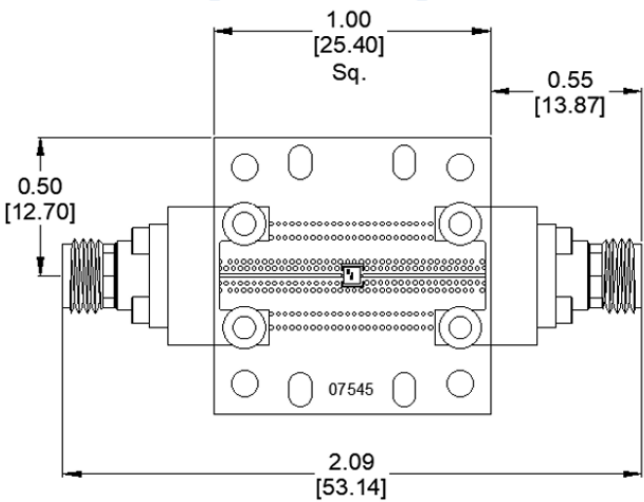
Chip Scale Package MMIC 26 GHz Equalizer

### Footprint Image



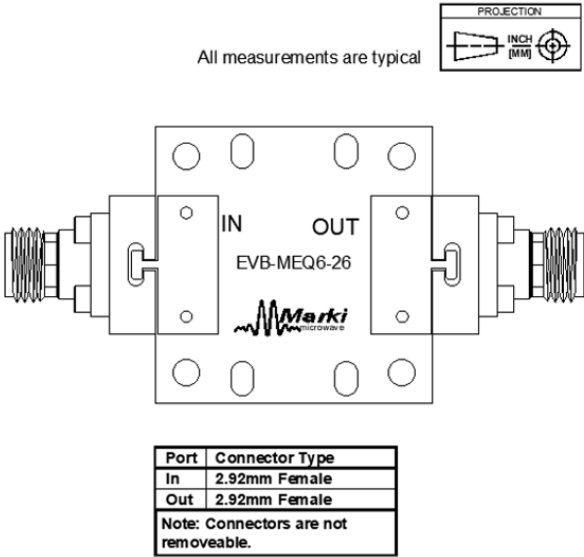
# MEQ6-26CSP1

## Chip Scale Package MMIC 26 GHz Equalizer



Unless otherwise specified, dimensions are in inches. Tolerances are:

|      |       |
|------|-------|
| .XX  | ±.02  |
| .XXX | ±.005 |



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