

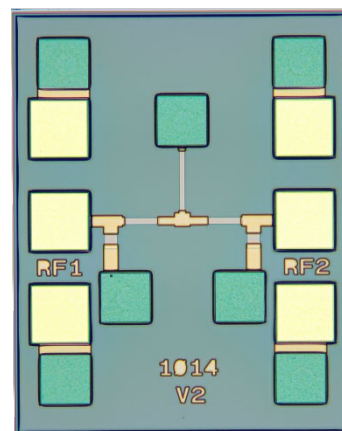


## Features

- Ultra broadband single channel attenuator
- Frequency Range: DC-50 / 60 / 65GHz
- Attenuation 0, 1, 2...10,15, 20, 30dB value
- Power Handling: 27dBm
- 50Ω Input and Output Impedance
- Return Loss: 10dB
- Chip Size: 0.566 x 0.706 x 0.1mm
- RoHS & REACH Compliant

## Typical Applications

- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics



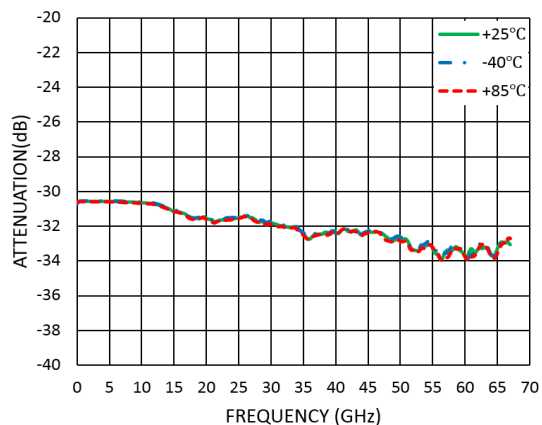
## Electrical Specifications

TA = +25°C

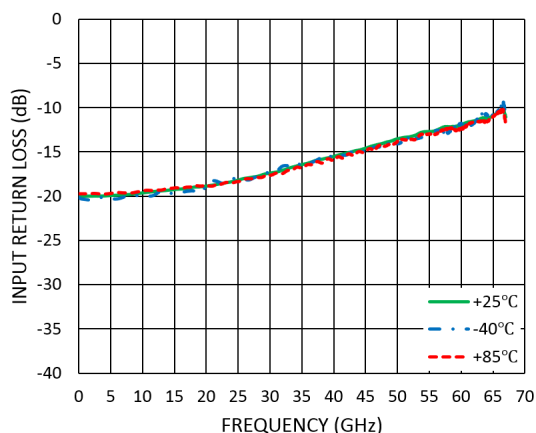
Part Number	Type	Frequency (GHz)	Attenuation (dB)	Power Handling (dBm)	Attenuation Flatness (dB)	Return Loss (dB)
MFA1001	Fixed Attenuator	DC-50	0	27	±0.3	15
MFA1002	Fixed Attenuator	DC-65	1	27	±0.5	10
MFA1003	Fixed Attenuator	DC-60	2	27	±0.3	10
MFA1004	Fixed Attenuator	DC-60	3	27	±0.3	10
MFA1005	Fixed Attenuator	DC-65	4	27	±0.3	10
MFA1006	Fixed Attenuator	DC-65	5	27	±0.3	15
MFA1007	Fixed Attenuator	DC-50	6	27	±0.3	15
MFA1008	Fixed Attenuator	DC-50	7	27	±0.5	15
MFA1009	Fixed Attenuator	DC-50	8	27	±0.5	15
MFA1010	Fixed Attenuator	DC-60	9	27	±0.5	15
MFA1011	Fixed Attenuator	DC-65	10	27	±1.0	18
MFA1012	Fixed Attenuator	DC-65	15	27	±1.0	18
MFA1013	Fixed Attenuator	DC-65	20	27	±0.4	12
MFA1014	Fixed Attenuator	DC-65	30	27	±1.5	10



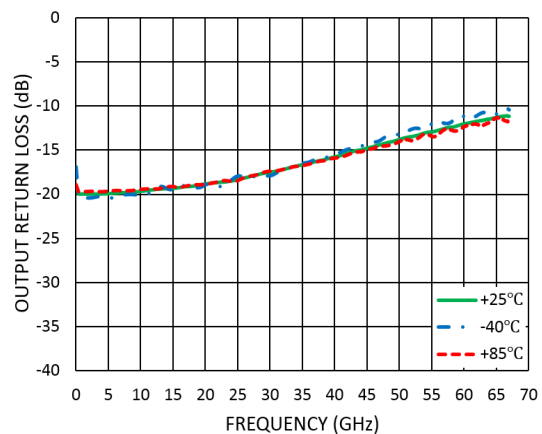
### Attenuation vs. Frequency



### Input Return Loss vs. Frequency

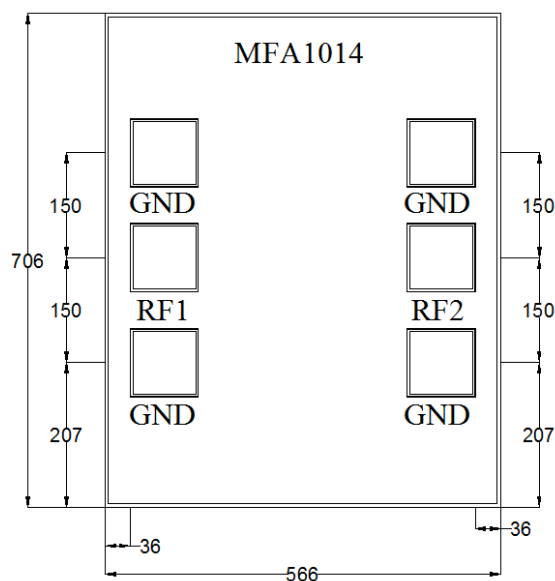


### Output Return Loss vs. Frequency



### Outline Drawing:

All Dimensions in  $\mu\text{m}$



No	Function	Description
1	RF 1	RF Signal Input. This pad is ac-coupled and matched to 50 $\Omega$ .
2	RF 2	RF Signal Output. This pad is ac-coupled and matched to 50 $\Omega$ .
3	Die Bottom	Die bottom must be connected to RF/ DC ground.

### Notes:

1. Die thickness: 100 $\mu\text{m}$
2. Typical bond pad is 90\*90  $\mu\text{m}^2$
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. No connection required for unlabeled bond pads

### Maximum Ratings:

1. Maximum input power: +30dBm
2. Operating temperature: -55°C to +120°C
3. Storage temperature: -65°C to +150°C

Miller MMIC Inc. All rights reserved

Miller MMIC, Inc. holds exclusive rights to the information presented in its Data Sheet and any accompanying materials. As a premier supplier of cutting-edge RF solutions, Miller MMIC has made this information easily accessible to its clients.

Although Miller MMIC believes the information provided in its Data Sheet to be trustworthy, the company does not offer any guarantees as to its accuracy. Therefore, Miller MMIC bears no responsibility for the use of this information. It is worth mentioning that the information within the Data Sheet may be altered without prior notification.

Customers are encouraged to obtain and verify the most recent and pertinent information before placing any orders for Miller MMIC products. The information in the Data Sheet does not confer, either explicitly or implicitly, any rights or licenses with regards to patents or other forms of intellectual property to any third party.

The information provided in the Data Sheet, or its utilization, does not bestow any patent rights, licenses, or other forms of intellectual property rights to any individual or entity, whether in regards to the information itself or anything described by such information. Furthermore, Miller MMIC products are not intended for use as critical components in applications where failure could result in severe injury or death, such as medical or life-saving equipment, or life-sustaining applications, or in any situation where failure could cause serious personal injury or death.