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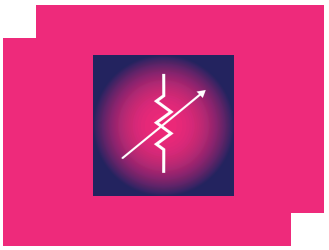
ATN07-0070CSP1

Chip Scale Package MMIC 70 GHz 7dB Attenuator

DEVICE OVERVIEW

General Description

The ATN07-0070CSP1 is a surface mount GaAs MMIC 7dB attenuator in a chip scale package (CSP). This attenuator is an ideal solution for attenuating a signal and can be used in a wide range of applications. The CSP allows for extreme miniaturization of SMT footprint while providing die-like performance. GaAs MMIC technology provides consistent unit-to-unit performance in a small, low-cost form factor. Compensates for high frequency board losses with a positive gain slope. A 50-ohm match is maintained over the entire operating frequency range.



Features

- Small 1.5 x 1.5 mm package size
- 7 dB attenuation from DC to 70 GHz
- ? dB typical return loss over operating band
- ? W RF Power Handling
- Low SWaP
- This product embodies Marki Microwave's U.S. Pat. 11,869,858.

Applications

- 5G
- Test Equipment
- Precision Characterization
- Airborne Applications
- Amplitude Matching
- High Channel Count Systems

Functional Block Diagram

Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
ATN07-0070CSP1	Chip Scale Package MMIC 70 GHz 7dB Attenuator	CSP1	REACH RoHS	Pre-release	EAR99

ATN07-0070CSP1

Chip Scale Package MMIC 70 GHz 7dB Attenuator

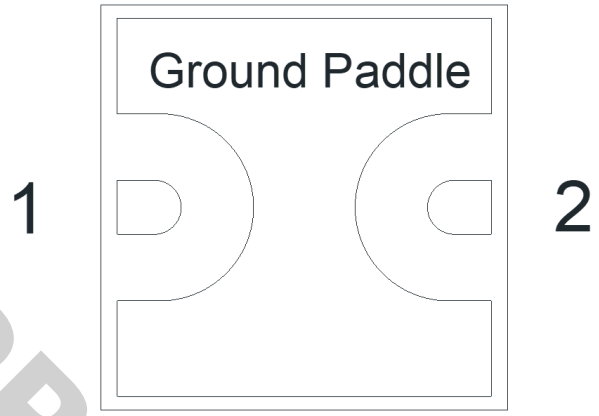
Table Of Contents

Revision History

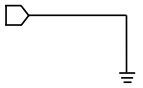
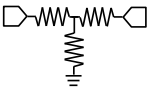
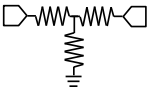
Revision Code	Revision Date	Comment
G1	2024-12-11	Pre-Release

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Description	Equivalent Circuit for Package
Ground Paddle	Ground	CSP package ground path is provided through the ground paddle.	
Pin 1	Input/Output	Pin 1 and Pin 2 are DC connected to each other and ground through a T-network of resistors.	
Pin 2	Input/Output	Pin 1 and Pin 2 are DC connected to each other and ground through a T-network of resistors.	

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
RF Power Handling	1	W

Package Information

Parameter	Details	Rating
ESD	250 to < 500 Volts	HBM Class 1A
Dimensions	-	1.5 x 1.5 mm
Moisture Sensitivity Level	-	MSL 3

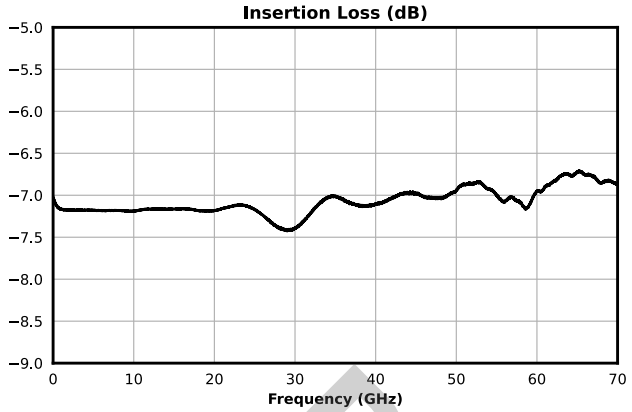
Electrical Specifications

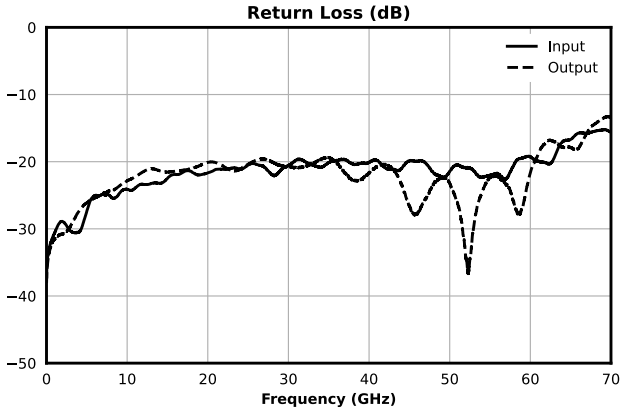
The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the attenuator in a CSP1 package with a sine wave input applied to port 1.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Attenuation	-	0	30	-	2.85	-	dB
Attenuation	-	30	70	-	2	-	dB
Impedance	-	0	70	-	50	-	Ω
Return Loss	-	40	70	-	15	-	dB
Return Loss	-	0	40	13	20	-	dB

Typical Performance Plots

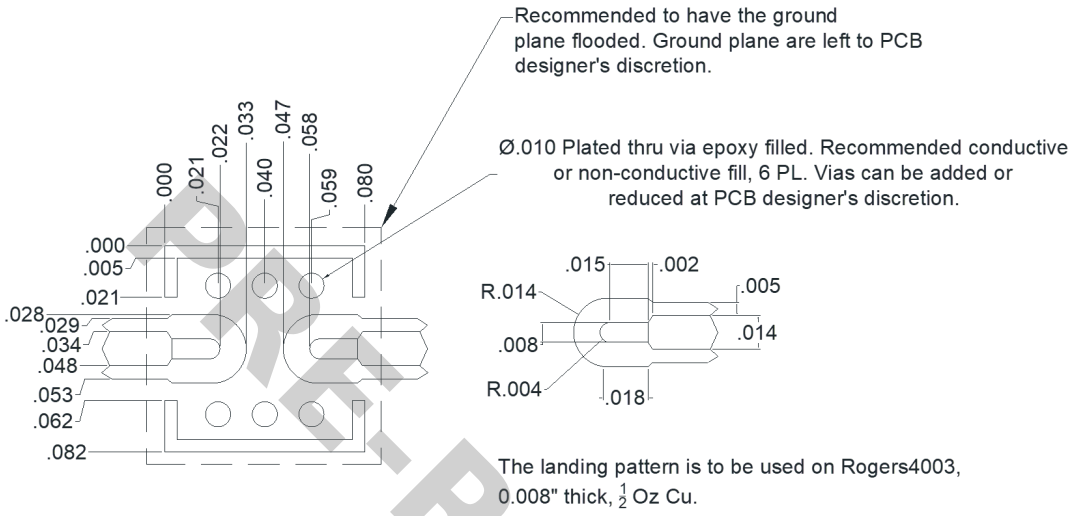
Electrical performance data is de-embedded to the CSP package ports.





Footprint Image

Download : Footprint Drawing



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