

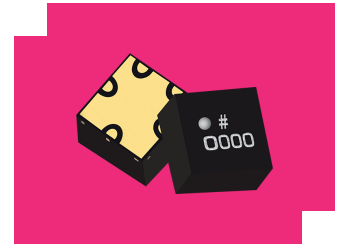
ATN00-0070CSP2

Chip Scale Package MMIC DC - 70 GHz 0dB Attenuator

DEVICE OVERVIEW

General Description

The ATN00-0070CSP2 is a surface mount GaAs MMIC 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 ATN00-0070CSP2 features a typical 0.3 dB attenuation with 1 dB attenuation flatness and 25 dB return loss across the DC-70 GHz bandwidth. The CSP allows for extreme miniaturization of SMT footprint while providing die-level performance. GaAs MMIC technology provides consistent unit-to-unit performance in a small, low-cost form factor. A 50-ohm match is maintained over the entire operating frequency range.



[Download s-parameters here](#)

Features

- 2.5 x 2.5 mm chip scale package
- 0.3 dB attenuation
- 1 dB attenuation flatness
- 25 dB return loss
- 1 W RF Power Handling
- 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 |
|----------------|--|---------|---------------|-------------------|-----------------------|
| ATN00-0070CSP2 | Chip Scale Package MMIC DC - 70 GHz 0dB Attenuator | CSP2 | REACH RoHS | Released | EAR99 |

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Revision History

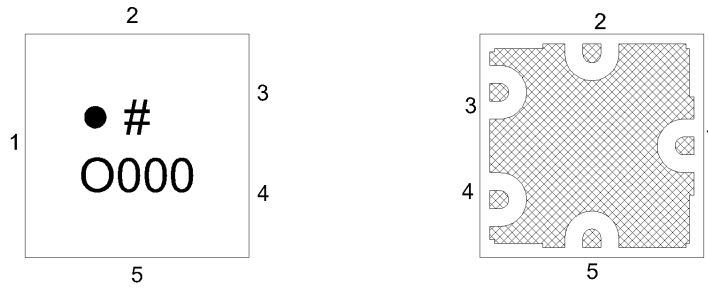
| Revision Code | Revision Date | Comment |
|---------------|---------------|-----------------|
| - | 2026-01-06 | Initial Release |

ATN00-0070CSP2


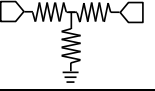
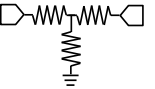
Chip Scale Package MMIC DC - 70 GHz 0dB
Attenuator

Port Configuration and Functions

Port Diagram



Port Functions

| Port | Function | Description | DC Equivalent Circuit |
|---------------|------------------|---|---|
| Ground Paddle | Ground | CSP package ground path is provided through the ground paddle. |  |
| Pin 1 | Non-connect (NC) | Pin 1 is not connected internally and can be tied to RF ground. | - |
| Pin 2 | Input/Output | Pin 2 and Pin 5 are DC connected to each other and ground through a T-network of resistors. |  |
| Pin 3 | Non-connect (NC) | Pin 3 is not connected internally and can be tied to RF ground. | - |
| Pin 4 | Non-connect (NC) | Pin 4 is not connected internally and can be tied to RF ground. | - |
| Pin 5 | Input/Output | Pin 2 and Pin 5 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 |
| DC Current | 650 | mA |

Package Information

| Parameter | Details | Rating |
|----------------------------|--------------------|----------------|
| ESD | 250 to < 500 Volts | HBM Class 1A |
| Dimensions | - | 2.50 x 2.50 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 attenuator in a CSP2 package with a sine wave input applied to port 1.

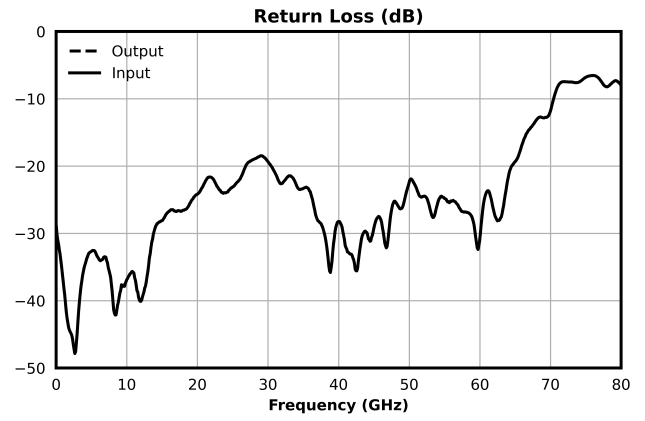
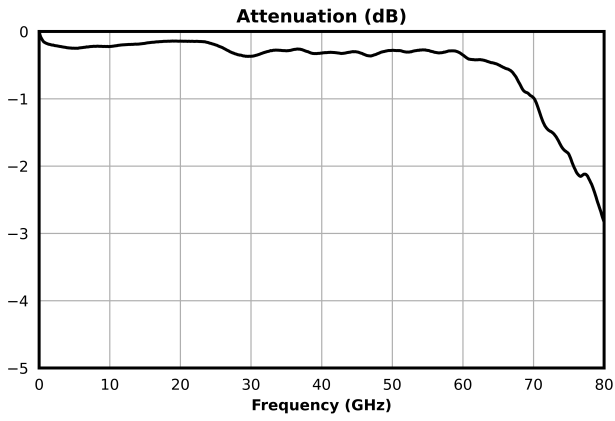
| Parameter | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|-----------------------------------|------------------------------|-------------------------|-------------------------|-----|-----|-----|------|
| Attenuation | Configuration A, Temp = 25°C | 0 | 70 | - | 0.3 | - | dB |
| Return Loss | Configuration A, Temp = 25°C | 0 | 70 | - | 25 | - | dB |
| Attenuation Flatness ¹ | Configuration A, Temp = 25°C | 0 | 70 | - | 1.0 | - | dB |

^[1] Attenuation Flatness = Max(Insertion Loss) - Min(Insertion Loss)

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Typical Performance Plot



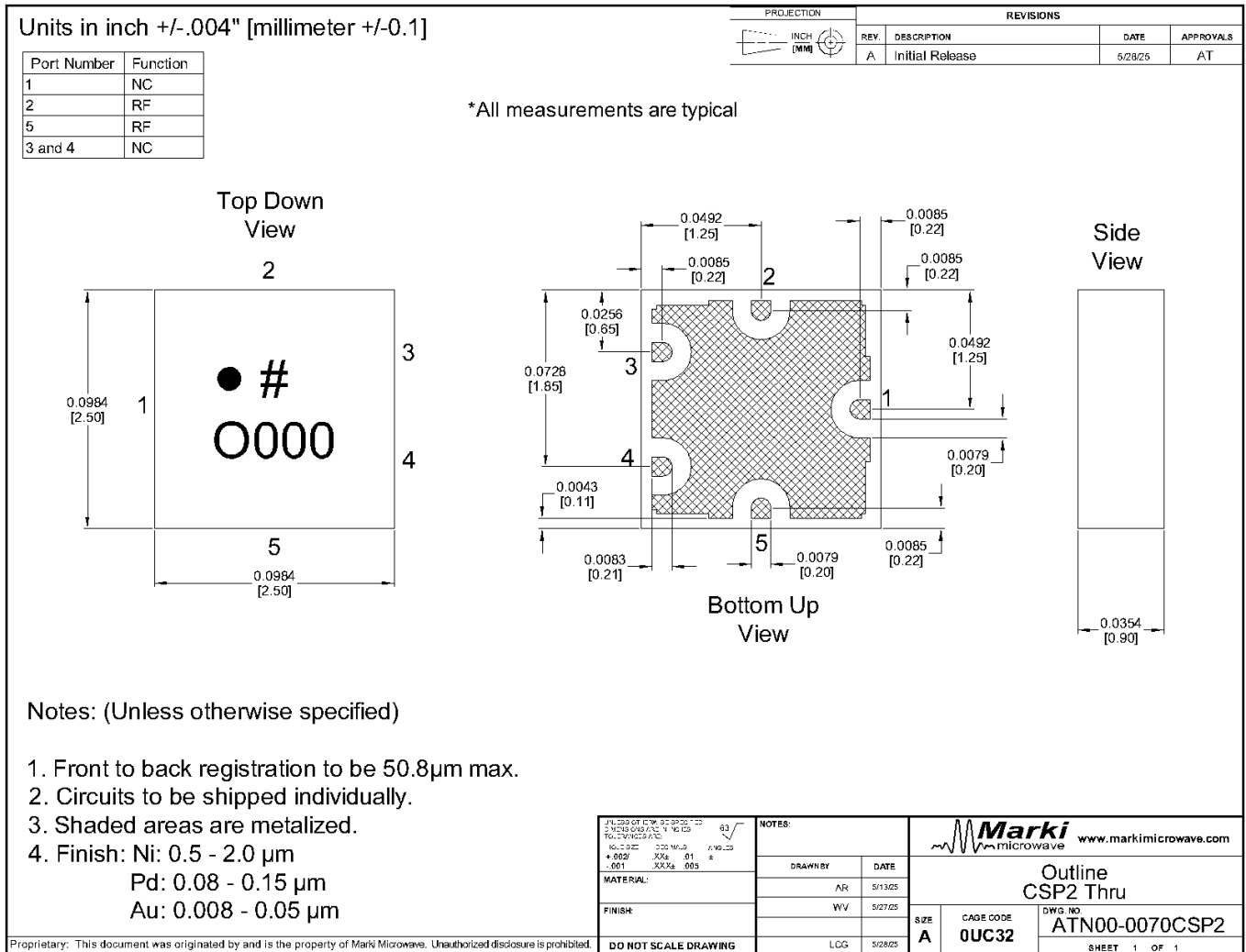
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Mechanical Data

Outline Drawing

Download : [Outline 2D Drawing](#)



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