

TF50-110M

GaAs MMIC DC to 110GHz 50Ω Termination

DEVICE OVERVIEW

General Description

The TF50-110M is a well-matched, mmWave 50Ω termination in our connectorized M-package enabling operation from DC to 110 GHz. Passive GaAs MMIC technology allows for production of smaller constructions that replace larger form factor circuit board constructions. Tight fabrication tolerances result in less unit-to-unit variation than traditional terminations. The termination is suitable for use with our family of mmWave components. The T50-110M is available with both Male and Female connector options available as a 1.0mm connectorized module.



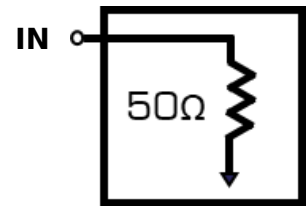
Features

- Broadband 50Ω termination from DC to 110 GHz
- Return loss: typical 20 dB over the entire band

Applications

- 5G
- Automotive Radar
- Test Equipment
- Broadband Loading
- Precision Characterization

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification
TF50-110M	GaAs MMIC DC to 110GHz 50Ω Termination	M	<u>Standard</u>	REACH RoHS	Released	EAR99
<u>TM50-110M</u>	GaAs MMIC DC to 110GHz 50Ω Termination	M	<u>Standard</u>	REACH RoHS	Released	EAR99

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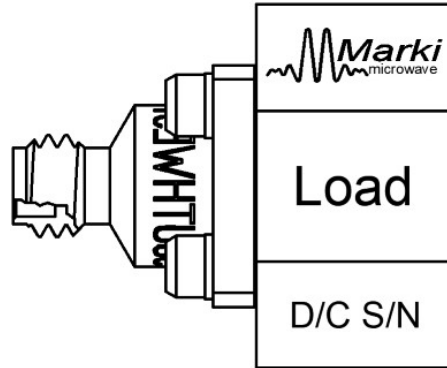
Revision History

Revision Code	Revision Date	Comment
-	2023-06-01	Datasheet Initial Release



Port Configuration and Functions

Port Diagram

A top down view of the TF50-110M M-package outline drawing is shown below.



Port Functions

Port	Function	Connector Type	Description	Equivalent Circuit for Package
Pad	Ground	-	M package ground provided through metal housing and outer coax conductor.	GND 
Port 1	Input	1.0F	Port 1 is DC connected to ground through a broadband 50Ω resistor.	Port 1 

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
DC Current, at any Port	54	mA
Maximum Operating Temperature	100	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-55	°C
Minimum Storage Temperature	-65	°C
Power Handling	1	W

Package Information

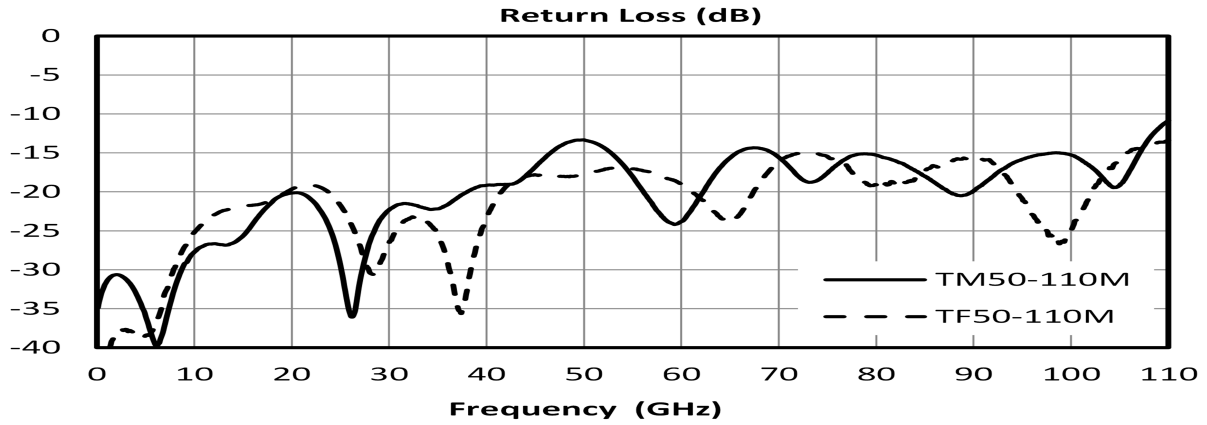
Parameter	Details	Rating
ESD	250 to < 500 Volts	HBM Class 1A
Dimensions	-	17.45 x 14.30 mm

Electrical Specifications

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

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Impedance	-	0	110	-	50	-	Ω
Return Loss	-	0	110	10	20	-	dB

Typical Performance Plots

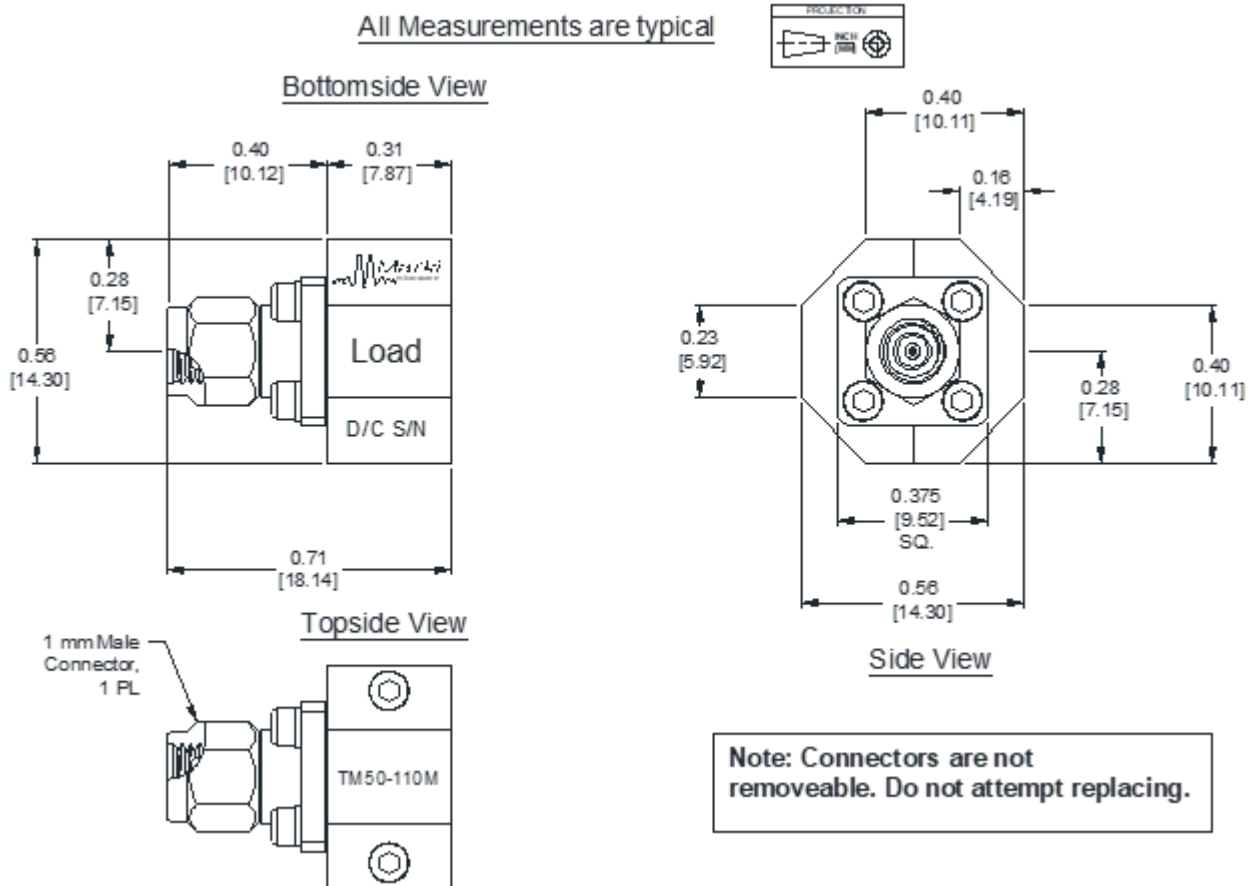


Mechanical Data

Outline Drawing

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

All Measurements are typical



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