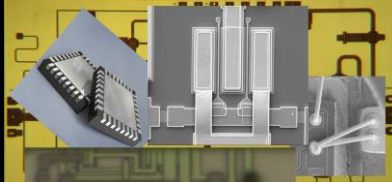


TMC654D

DC-55 GHz Distributed Low Noise Amplifier



mmTRON
Unleashing the
mmWave Frontier

Product Features

- RF frequency: DC to 55 GHz
- Linear Gain: 9 dB
- Noise Figure: 3.5 dB
- Die Size: X=1.65 mm, Y=1 mm, Z=0.05mm
- DC Power: 5 VDC, 60 mA

Application

- Point-to-Point Radios and VSATs
- Test instrumentation
- Fiber Optics
- Military, EW and Space

Product Description

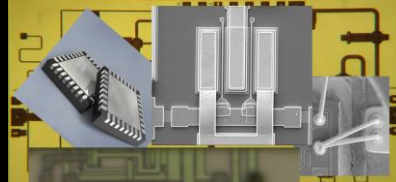
The TMC654D GaAs PHEMT Distributed amplifier is a broadband low noise device, designed for use in Radios, Test instrumentation, Military, EW and Space applications. The TMC654D is a 50 Ω matched design providing 3.5dB of noise figure, offers excellent return loss at low-end for optical instrumentation, interface to photodiodes, and eliminates the need for RF port matching. Both bond pad and backside metallization are Au-based that is compatible with ribbon and wedge bonding and high conductivity epoxy and eutectic die attach methods.

Electrical Performance : Vdd = 5 V, Vgg = -0.3 V, TA = 25 °C, F = 50 GHz

	min	Typ	Max	Units
Frequency	DC		55	GHz
Gain		9		dB
P1dB		12		dBm
Psat		13		dBm
Noise Figure		3.5		dB
OIP3		20		dBm
Bias Voltage		5		V
Bias Current		60		mA

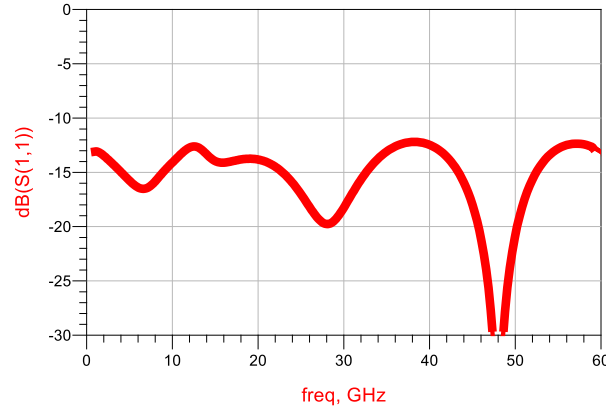
TMC654D

DC-55 GHz Distributed Low Noise Amplifier

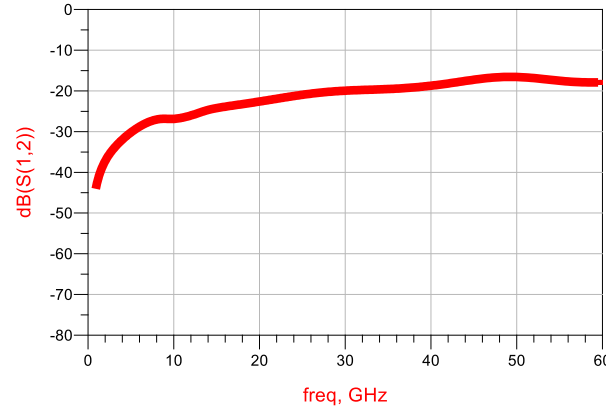


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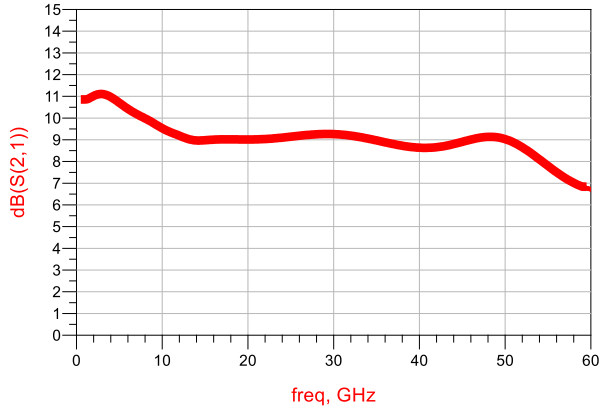
TMC654 Input Return Loss



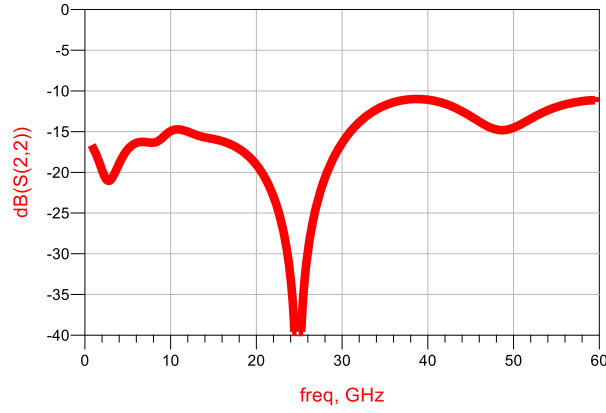
TMC654 Reverse Isolation



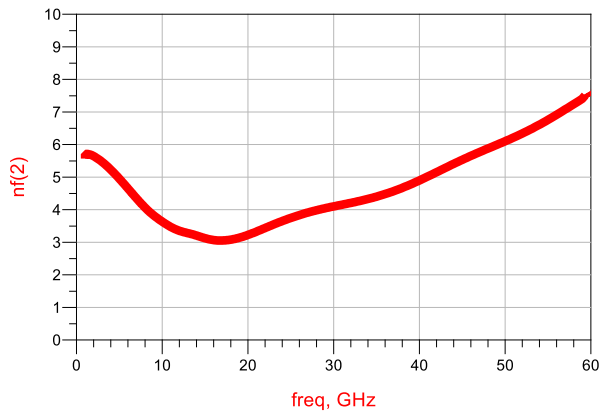
TMC654 Gain



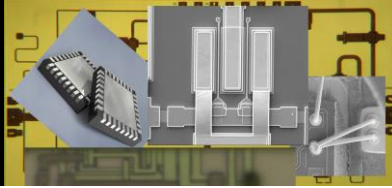
TMC654 Output Return Loss



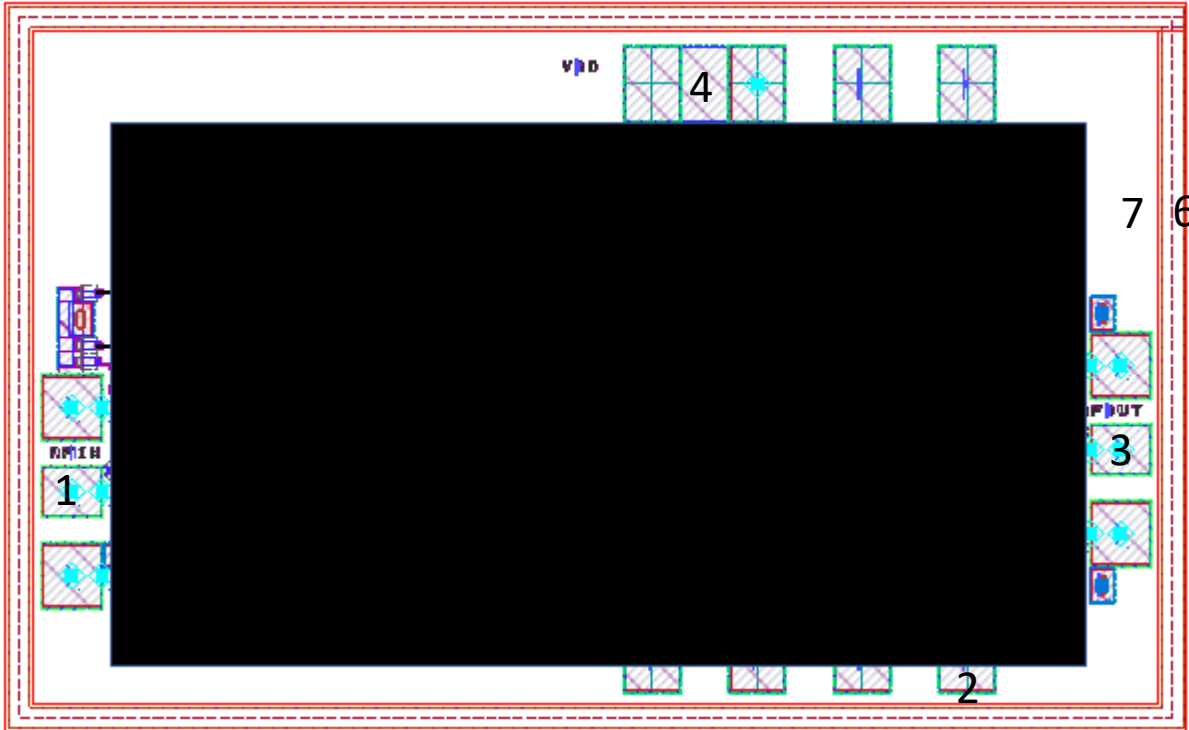
TMC654 Noise Figure



TMC654D DC-55 GHz Distributed Low Noise Amplifier



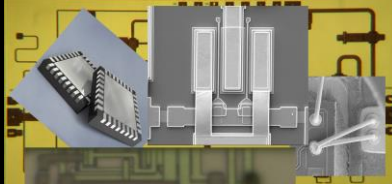
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Pad #	Function
1	RF INPUT
2	VGG BIAS
3	RF OUTPUT
4	VDD

1. The low frequency operation can be extended to kHz range by adjusting the bypass capacitances connected to Pads # 4-7.
2. DXF and detailed assembly drawings are available on request.

TMC654D DC-55 GHz Distributed Low Noise Amplifier



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