Ultra Wide Band Low Noise Amplifier
0.01GHz ~ 50GHz

Features

- Gain: 16dB Typical
- Noise Figure: 4.5dB Typical
- P1dB Output Power: +11dBm Typical
- Supply Voltage: +4V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25 ℃, Vcc = +4V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.01		30	31		50	GHz
Gain		16			15.5		dB
Gain Flatness		±2			±1		dB
Gain Variation Over Temperature (-45 ~ +85)		-			-		dB
Noise Figure		5.5			4.5		dB
Input VSWR		1.5			1.5		:1
Output VSWR		1.5			1.5		:1
Input Return Loss		20			15		dB
Output Return Loss		22			20		dB
Output 1dB Compression Point (P1dB)		11			7		dBm
Output Third Order Intercept (IP3)		22			22		dBm
Supply Current (Vcc=+4V)		65			65		mA
Isolation S12		60			60		dB
Weight	20						g
Impedance	50						Ohms
Input /Output Connector	2.4mm-Female						
Finishing	Gold Plated						
Material	Aluminum / Copper						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+4.2V
RF Input Power	+20dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect +4V biasing
Power OFF Procedure	
Step 1	Turn off +4V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45℃~+85℃
Storage Temperature		-50℃~+125℃
Thermal Shock		1 Hour@ -45℃ → 1 Hour @ +85℃ (5 Cycles)
Electrical & Temperature Burn In		Temperature +85℃ for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)
Random Vibration	MIL-STD-202	Test Method 214A. Test Condition I. Test Condition Letter C. Duration 15 minutes

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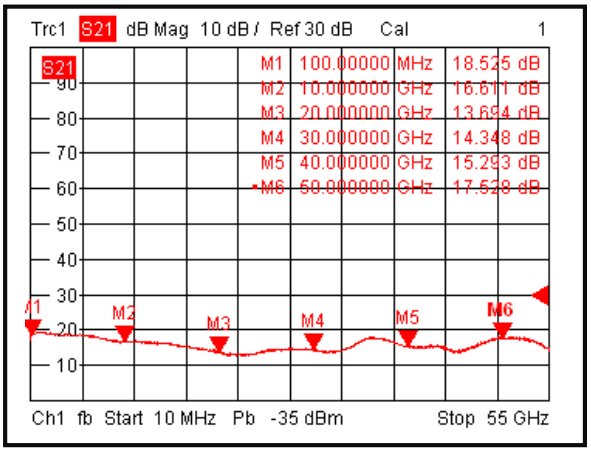
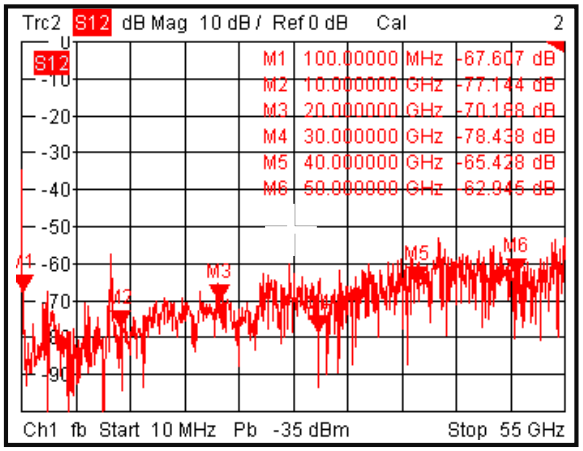
Typical Performance Plots

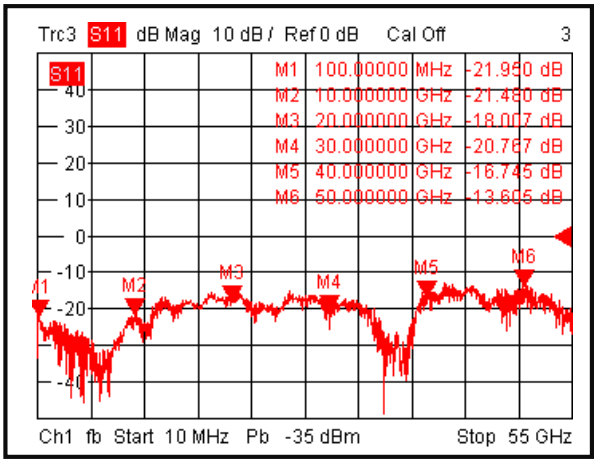
Gain vs. Frequency



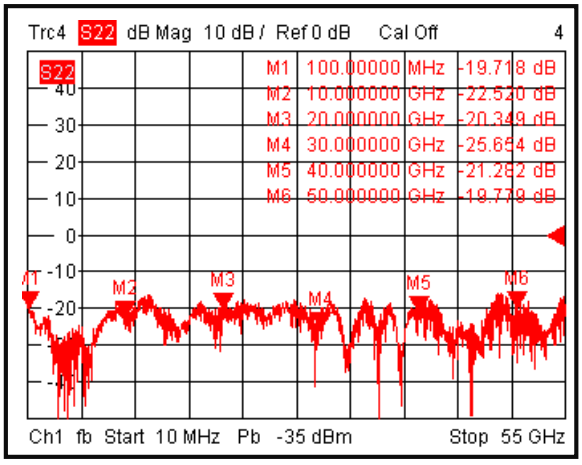
Isolation



Input Return Loss



Output Return Loss



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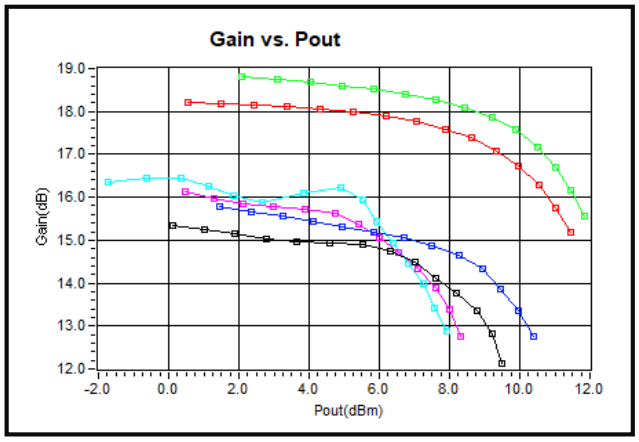
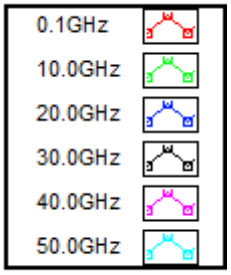
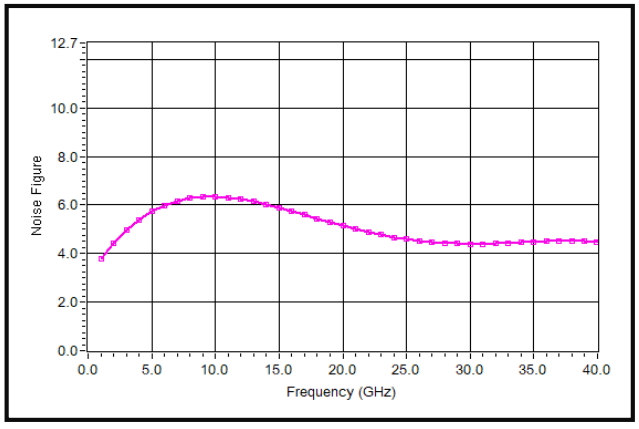
Gain vs. Pout



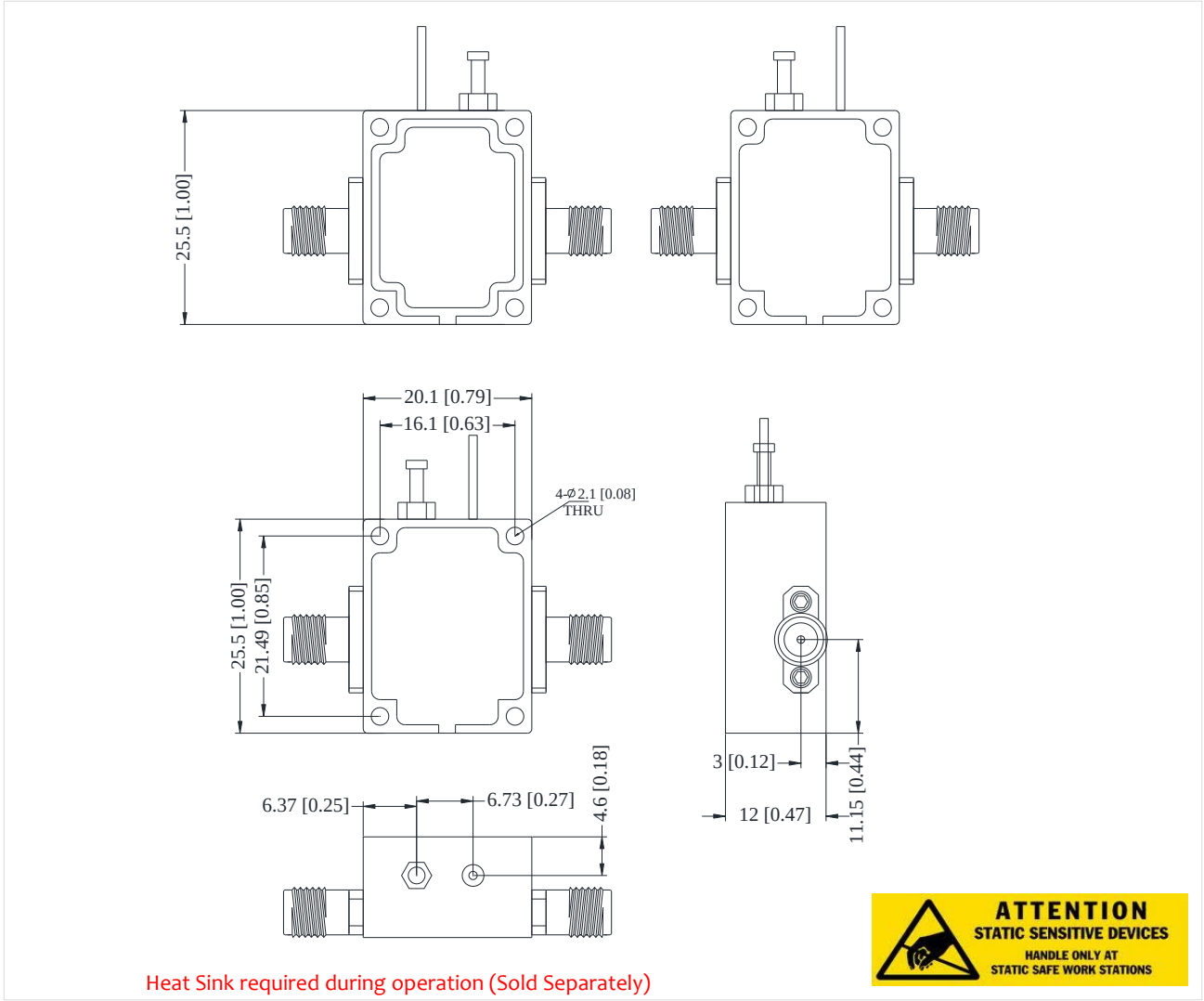


Noise Figure



Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	ECCN	Description
R00M50GSM	EAR99	0.01-50GHz Ultra Wide Band Low Noise Amplifier

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