Wide Band Low Noise Amplifier
180MHz ~ 660MHz

RoHS Compliant

Features

- Gain: 26dB Typical
- Noise Figure: 0.6dB Typical
- P1dB Output Power: +23dBm
- Supply Voltage: +5V

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test &Measurement

Electrical Specifications, TA = +25°C, Vcc = +5V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	180		400	400		660	MHz
Gain	25	27		23	24		dB
Gain Flatness		±0.6	±1.0		±1.0	±1.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±0.6	±1.0		±0.8	±1.0	dB
Noise Figure		0.6	0.8		0.6	0.8	dB
Input VSWR		1.6			1.5		: 1
Output VSWR		1.8			1.7		: 1
Output Power for 1 dB Compression (P1dB)	20	23		20	23		dBm
Saturated Output Power (Psat)		25			25		dBm
Output Third Order Intercept (IP3)		37			36		dBm
Supply Current (Vcc=+5V)		115	150		115	150	mA
Isolation S12		-32			-31		dB
Weight	0.71						ounces
Impedance	50						Ohms
Input / Output Connectors	SMA - Female						
Finish	Gold Plated						
Material	Aluminum						
Package Seal	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+6V
RF Input Power	+18 dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect +5V biasing
Power OFF Procedure	
Step 1	Turn off +5V 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		-55℃~+125℃
Thermal Shock		1 Hour@ -45℃ → 1 Hour @ +85℃ (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
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)

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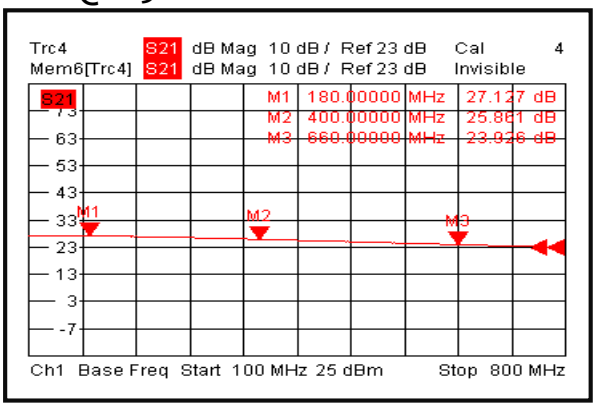
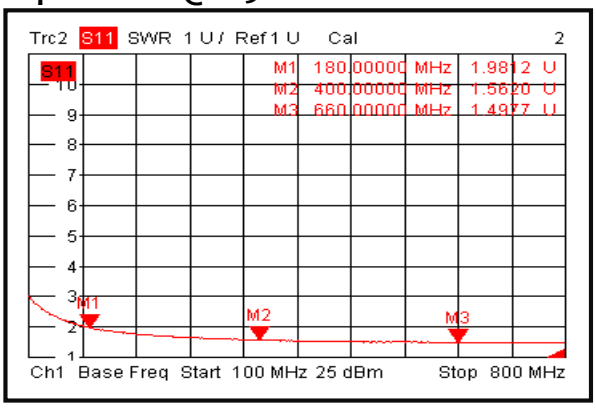
Typical Performance Plots

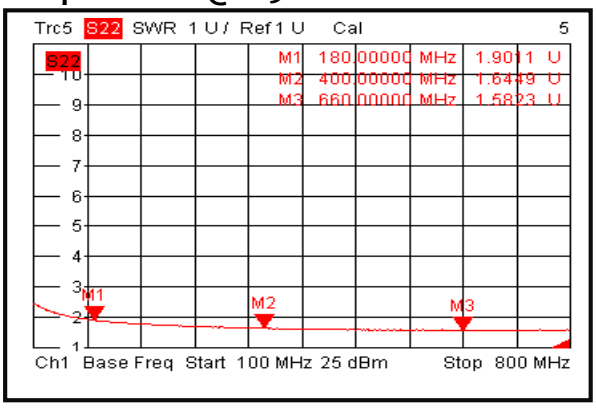
Gain @+25℃



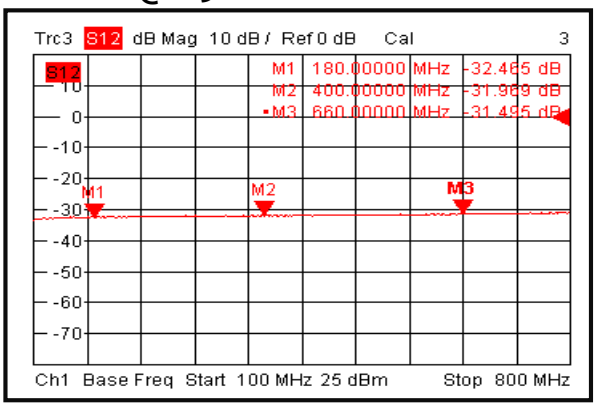
Input VSWR @+25℃



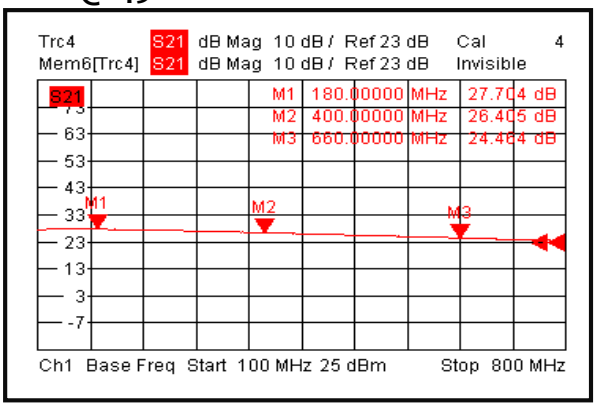
Output VSWR @+25℃



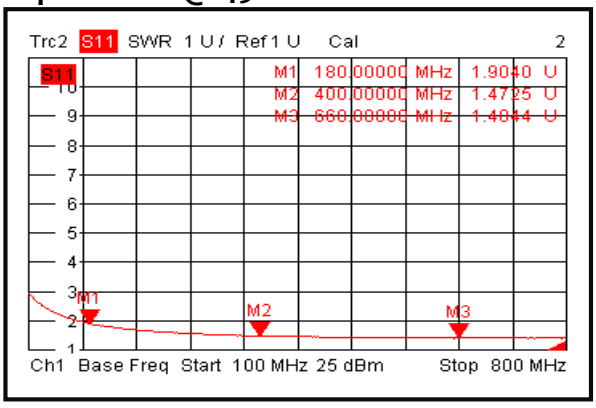
Isolation @+25℃



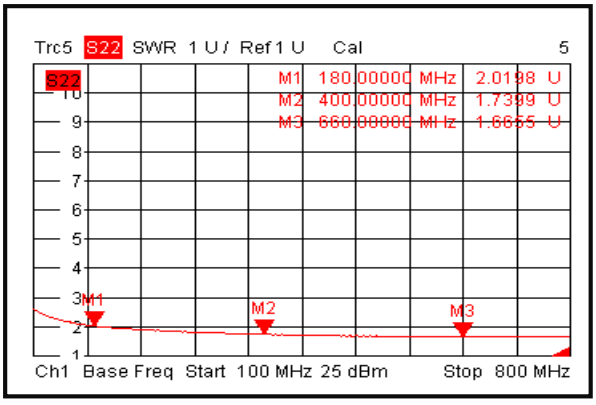
Gain @-45℃



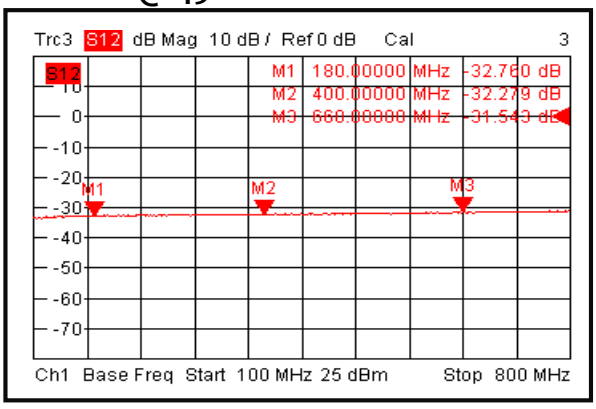
Input VSWR @-45℃



Output VSWR @-45℃



Isolation @-45℃



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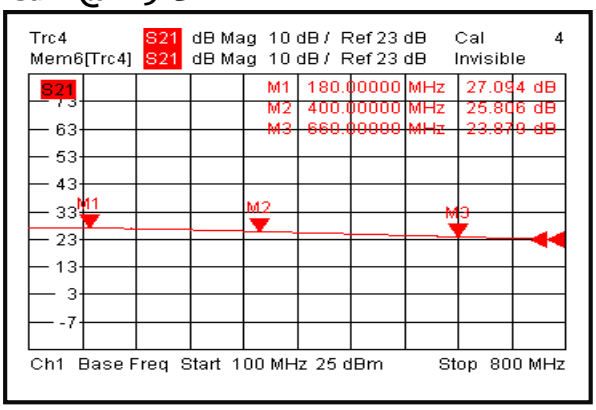
RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

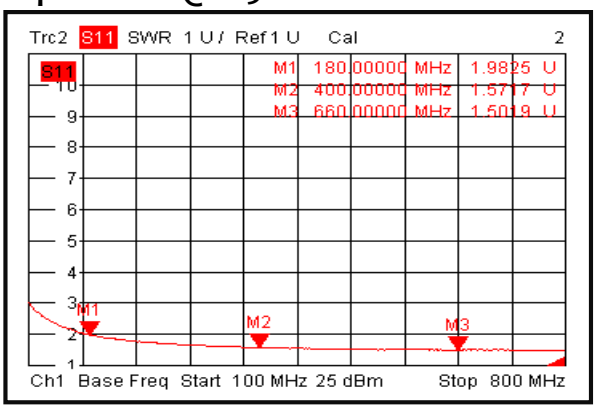
R18M66MSA

Wide Band Low Noise Amplifier 180MHz~660MHz

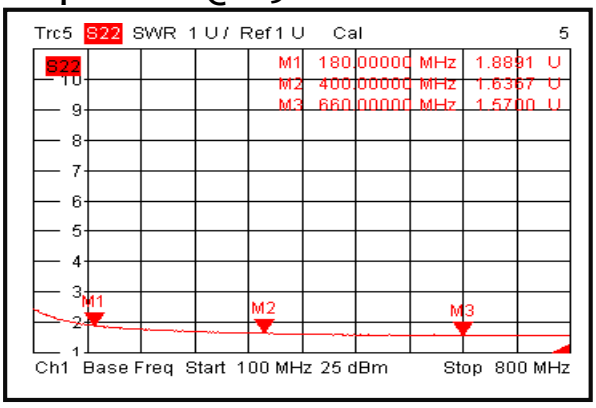
Gain @+85℃



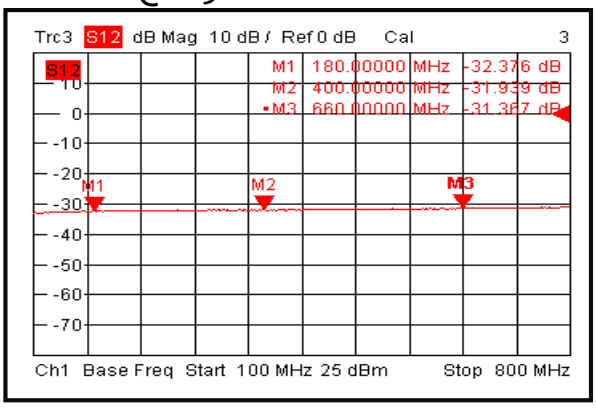
Input VSWR @+85℃



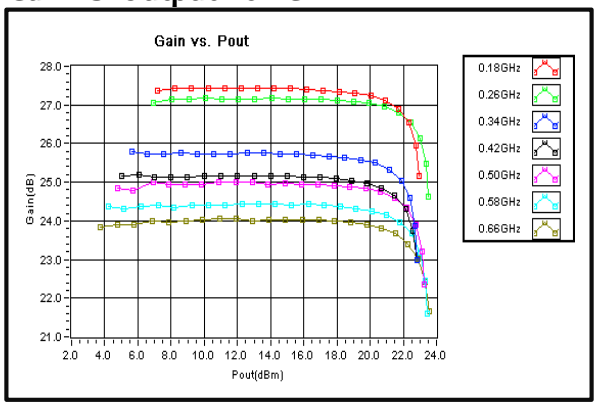
Output VSWR @+85℃



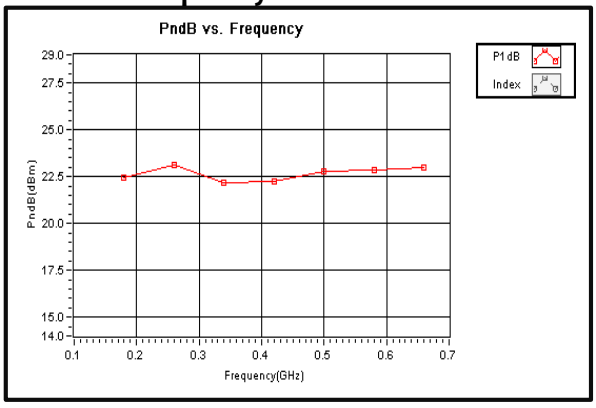
Isolation @+85℃



Gain vs. Output Power

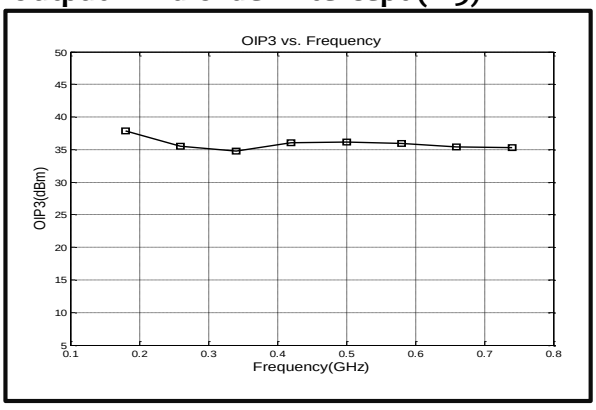


P1dB vs. Frequency

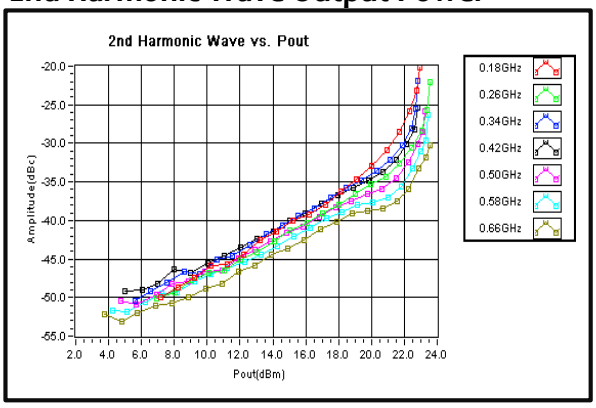


Noise Figure

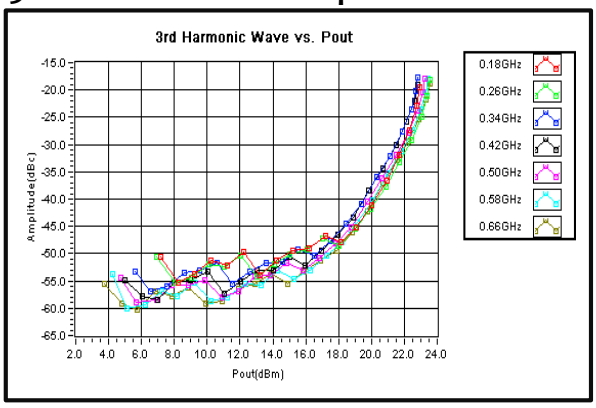
Output Third Order Intercept (IP3)



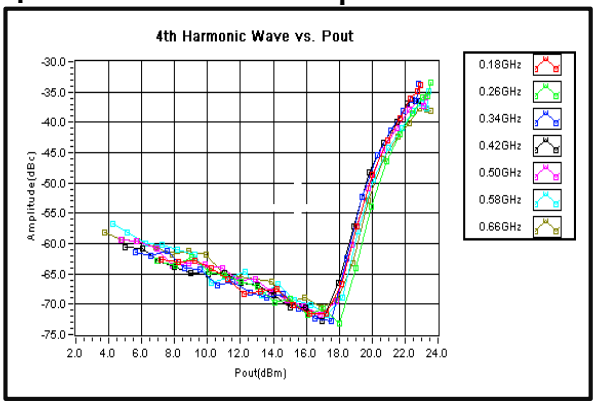
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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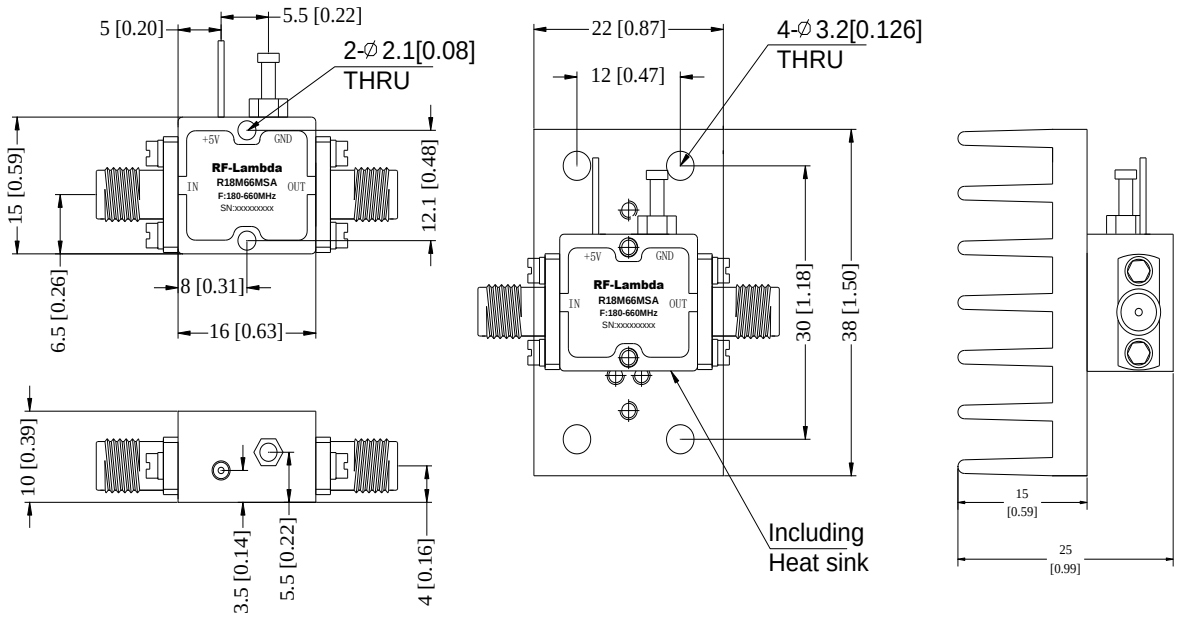
Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	ECCN	Description
R18M66MSA	EAR99	180-660MHz Low Noise Amplifier

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