



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

ROOM20GSMC

Ultra Wide Band Low Noise Amplifier 0.01GHz ~ 26GHz

Features

- Gain: 15dB Typical
- Noise Figure: 4.0dB Typical
- P1dB Output Power: +29dBm Typical
- Supply Voltage: +10V & -5V



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C, Vcc = +10V, Vgg = -5V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.01		20	20		26	GHz
Gain	13	15			15		dB
Gain Flatness		±1.5			±1.5		dB
Gain Variation Over Temperature (-45°C~+85°C)		±1.0			±1.5		dB
Noise Figure		4.0			6.0		dB
Input VSWR		1.8			2.5		: 1
Output VSWR		1.8			2.0		: 1
Output 1dB Compression Point (P1dB)	25	29			24		dBm
Saturated Output Power (Psat)		30			26		dBm
Output Third Order Intercept (IP3)		40			35		dBm
Supply Current (Vcc=+10V, Vgg = -5V)		350			350		mA
Isolation S12		-30			-30		dB
Weight	/						Ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Finish	Gold Plated						
Material	Copper						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+12V
RF Input Power	+26dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect -5V biasing
Step 4	Connect +10V biasing
Power OFF Procedure	
Step 1	Turn off +10V biasing
Step 2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

Environmental Specifications and Test Standards

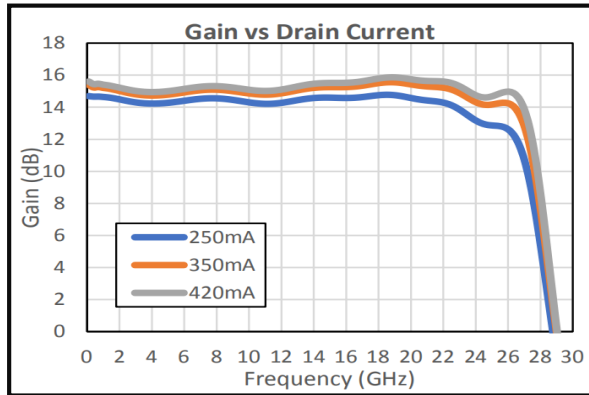
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 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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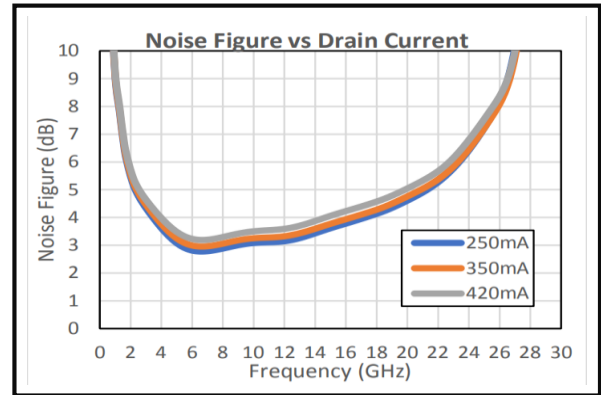


Typical Performance Plots

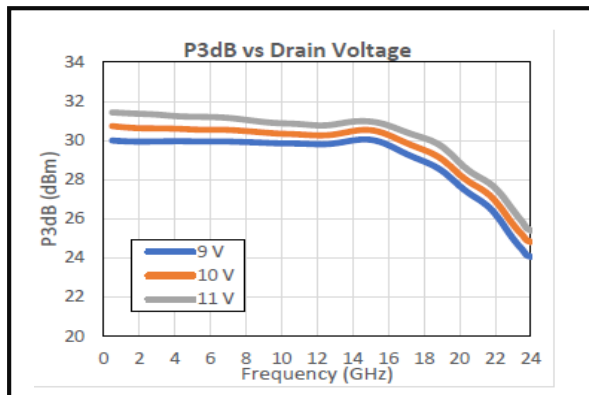
Gain vs. Temperature



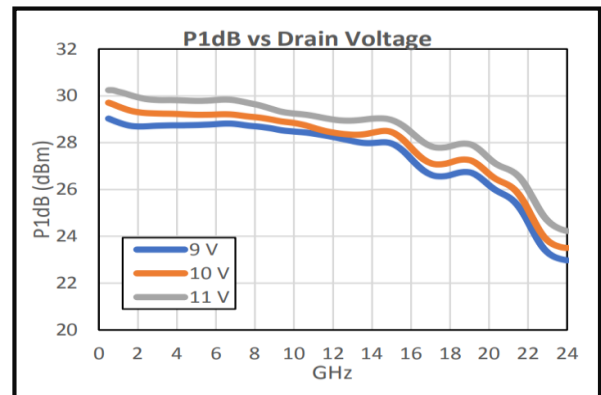
Noise Figure vs. Temperature



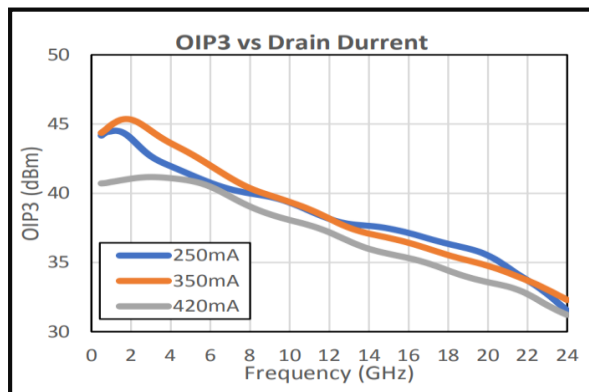
Output Power



P1dB vs. Frequency



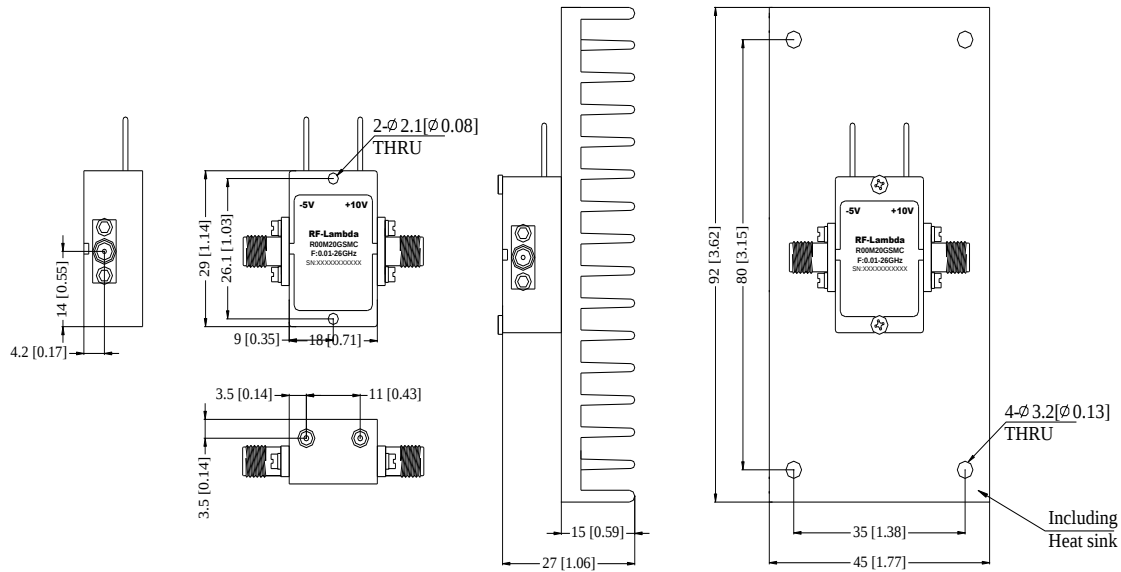
Output Third Order Intercept (IP₃)





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
Room2oGSMC	EAR99	0.01-26GHz Ultra Wide Band Low Noise Amplifier

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