

M/A-COM 3V GSM/GPRS RF Power Amplifier 880 - 915 MHz

Features

- High gain, 3-stage amplifier
- 50 ohm input and output
- Low external part count
- 3 volt supply
- Miniature FQFP-N 5-mm plastic package

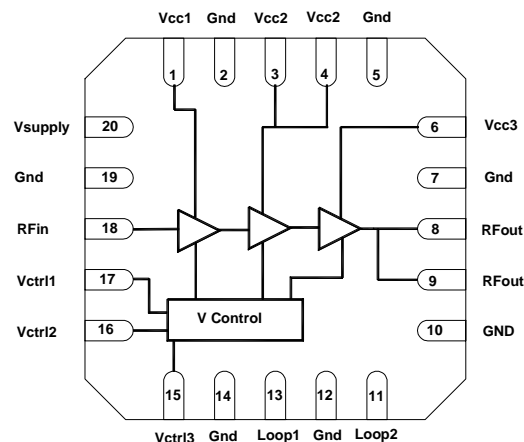
Description

M/A-COM's MAAPSS0004 power amplifier IC is internally matched to 50 ohms at both the input and output and requires no external matching components, making it as easy to design in as a module, yet smaller for easier handling and reduced board space. Analog signals control output power and power-off for active and standby modes.

M/A-COM designed the MAAPSS0004 to function along side the MAAPSS0005 in multi-band GSM./DCS phones with 3-volt supplies. GPRS capability is fully supported.

M/A-COM fabricates the MAAPSS0004 using its proprietary *iHBT*[™] InGaP/GaAs HBT power amplifier process, which provides high reliability, efficiency, linearity, and consistent performance at low cost.

Functional Block Diagram



Ordering Information

Part Number	Package
MAAPSS0004	FQFP-N 5.0 mm Plastic Package
MAAPSS0004TR	Forward Tape and Reel ¹
MAAPSS0004RTR	Reverse Tape and Reel ¹

1. If specific reel size is required, consult factory for part number assignment.

Electrical Specifications: $T_C = +35^\circ\text{C}$, $V_{CC} = +3.5\text{V}$, $P_{IN} = +5\text{ dBm}$

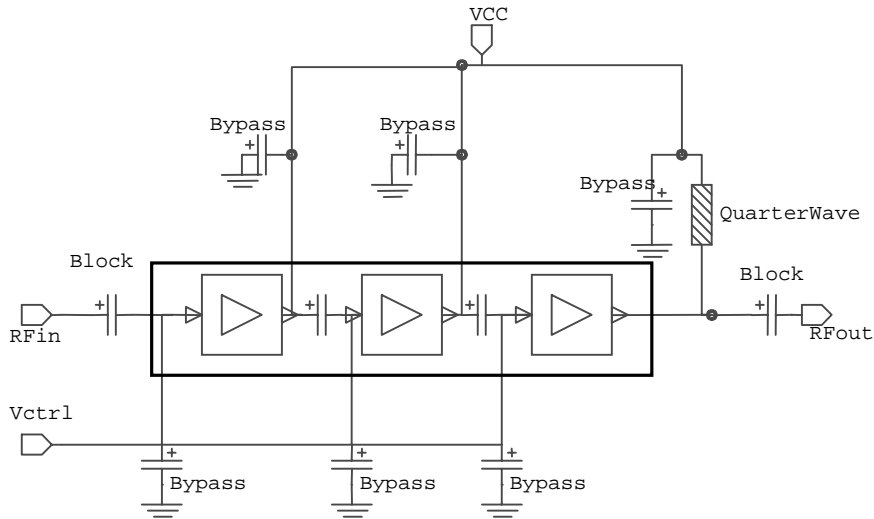
Parameter	Test Conditions	Units	Min.	Typ.	Max.
RF Frequency		MHz	880		915
Input Impedance		Ω		50	
Output Impedance		Ω		50	
Control Voltage Ranger		V	0.2		2.7
Input V_{SWR}					3.5:1
Output power, nominal conditions		dBm	+34.7		
Output power, extreme conditions	$V_{CC} = 3.2\text{V}$, $T_C = +85^\circ\text{C}$, $P_{IN} = +3\text{ dBm}$	dBm	+34.0		
Power added efficiency	$P_{OUT} = +34.7\text{ dBm}$	%	50		
Isolation	$V_{CTRL} = +0.2\text{V}$, $P_{IN} = +8\text{ dBm}$	dB			38
Harmonics	$n * f_0$	dBc			-35
Duty cycle	$P_{OUT} = +3.7\text{ dBm}$	%		50	100
Noise Power	925 MHz < f < 935 MHz, RBW = 100 kHz	dBm			-73
Stability	+3.0 V < V_{CC} < +5.5 V, $P_{OUT} < +34.7\text{ dBm}$, VSWR < 6:1, -25 °C < T_C < +85 °C, RBW = 3 MHz max hold			All spurs < -36dBm	
Ruggedness	+3.0 V < V_{CC} < +5.5 V, $P_{OUT} < +34.7\text{ dBm}$, VSWR < 10:1			No permanent damage	
Off current	$V_{CTRL} = +0.2\text{ V}$	μA			20
Control current	$V_{CTRL} = +2.7\text{ V}$	mA			5

Specifications subject to change without notice.

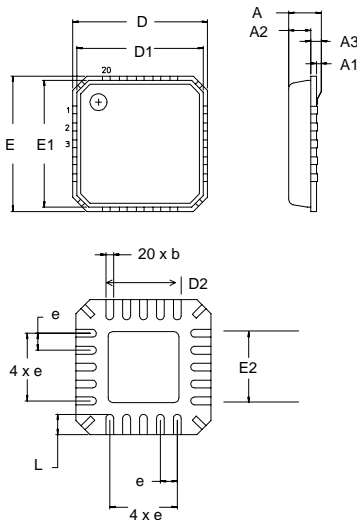
- North America: Tel. (800) 366-2266, Fax (800) 618-8883
- Asia/Pacific: Tel. +81-44-844-8296, Fax +81-44-844-8298
- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

Visit www.macom.com for additional data sheets and product information.

Sample Board Schematic



5 mm FQFP-N - 20¹



1. See JEDEC MO-220A VHHC for additional dimensional and tolerance information

5 mm FQFP-N - 20

Dim.	Measurement (mm)		
	Min.	Nom.	Max.
A	0.80	0.90	1.00
A1	0	0.02	0.05
A2	0	0.65	1.00
A3		0.25 ref.	
b	0.23	0.30	0.38
D		5.00 basic	
D1		4.75 basic	
D2	1.25	2.70	3.25
e		0.65 basic	
E		5.00 basic	
E1		4.75 basic	
E2	1.25	2.70	3.25
L	0.35	0.55	0.75

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