

Solid State Personal Communication Power Amplifier

7009 - PCM3Q4AAM - AGC

800 - 1000MHz / 10Watts

The PCM3Q4AAM (SKU # 7009) is suitable for Ultra linear GSM repeater applications in the Cellular frequency range. Also suitable for CDMA and TDMA applications, this amplifier utilizes linear GaAsFET power devices that provide high gain, wide dynamic range, and excellent group delay and phase linearity. Exceptional performance, long term reliability, and high efficiency are achieved by employing advanced broadband RF matching networks, built in Sequence-Regulator, EMI/RFI filters, machined housings, and qualified components. Empower RF's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.

- Solid-state Class A linear design
- Built in AGC function
- Small and lightweight
- Suitable for GSM, TDMA and Multi-Carrier CDMA Application
- 50 Ohm Input/Output impedance
- High reliability and ruggedness



ELECTRICAL SPECIFICATIONS @ VDD=+13VDC, T=25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	800		1000	MHz
Power Output CW	P _{SAT}	10	12		Watt
Power Output @ 1dB G.C.P	P _{1dB}	8	10		Watt
Gain @ P1dB G.C.P, minimum attenuation	G _{1dB}	46			dB
Gain Adjustment Range via External Voltage	GA	20	25		dB
Small Signal Gain Flatness	ΔG		±0.5	±0.75	dB
Input/Output VSWR	S11/S22		1.2:1	1.5:1	-
Noise Figure @ max gain	NF		7	10	dB
Third Order Intercept Point 2-Tones, P _{out} =1W Avg., Δ=100KHz	IP3	+50	+52		dBm
Harmonics @ 1dB G.C.P	H			-30	dBc
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	VDD	12	13	15	Volt
Current Consumption	I _D		2.5	3.0	Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions (L x W x D)	5.7 x 2.7 x 1.0	Inch	Max
Weight	1.0	lb.	Max
RF Connectors In/Out	SMA female		
DC Connectors	Feed Thru		
Cooling	External Heatsink		

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T _c	0		+50	°C
Storage Temperature	T _{stg}	-40		+85	°C
Relative humidity w/o condensation	RH	95			%
Altitude	ALT	10,000	30,000		Feet
Shock & Vibration	SH / VI		Airborne		

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PROTECTIONS

Input Overdrive	0dBm	Max
Load VSWR	∞ @ all load phase & amplitude for duration of 1 minute 3:1 @ all load phase & amplitude continuous	Nom
Thermal Overload	85°C shutdown	Max

INTERFACE CONNECTOR

D-Sub, 9-Pin

Pin #	Description	Specifications
1	Forward Power	Continuous Analog voltage relative to forward power via Peak detector Minimum power: 0VDC Maximum power: 5VDC
2	Reverse Power	Continuous Analog voltage relative to reflected power via Peak detector Minimum power: 0VDC Maximum power: 5VDC
3	ALC On/OFF	ALC ON = TTL "Low" ALC OFF = TTL "High"
4	ALC Level	Continuous 27 - 40dBm adjustable range via 0 - 5VDC Analog levels Maximum Gain: 5VDC Minimum Gain: 0VDC
5	Mute	Enable: TTL "Low" Disable: TTL "High"
6	+VDD	+13 ± 1VDC
7	+VDD	+13 ± 1VDC
8	GND	Ground
9	GND	Ground
LED	LED Indicator	Output Power level indicator referenced to ALC setting

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OUTLINE DRAWING

