

Solid State Personal Communication Power Amplifier

7021 - PCM3Q4AHM
800 - 1000MHz / 50Watts

The PCM3Q4AHM (SKU # 7021) is suitable for broadband Cellular Range linear repeater, base station and counter communication applications. Also suitable for GSM, CDMA and TDMA applications, this amplifier utilizes linear LDMOS 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 matching networks and combining techniques, EMI/RFI filters, machined housings, and qualified components. Empower RF's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.



- Solid-state high efficiency linear design
- Small form factor and lightweight
- Suitable for all modulation standards
- 50 Ohm Input/Output impedance
- High reliability and ruggedness
- Built-in control and monitoring functions
- Built-in Output Circulator for added reliability

ELECTRICAL SPECIFICATIONS @ +28VDC, 25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	800		1000	MHz
Power Output CW	P _{SAT}	50	80		Watt
Output Power @ 1dB G.C.P	P _{1dB}	50	-		Watt
Power Gain @ 1dB G.C.P	G _{1dB}	46			dB
Input Power for Rated Pout	P _{IN}		0		dBm
Small Signal Gain Flatness	ΔG		±0.75	±1.0	dB
Input/Output Return Loss	S11/S22			-14	dB
Third Order Intercept Point 2-Tones, Pout = +37dBm/Tone, Δ = 100KHz	IP3		+57		dBm
Harmonics @ rated P1dB G.C.P.	H			-45	dBc
Noise Figure	NF			10	dB
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	VDC	26	28	30	Volt
Supply Current @ rated output	I _D			8.0	Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	6.4 x 3.4 x 1.1	Inch	Max
Weight without HS	1.0	lb.	Max
RF Connectors In/Out	SMA female		
DC and Alarms / Interface	D-sub, 9 Pins		
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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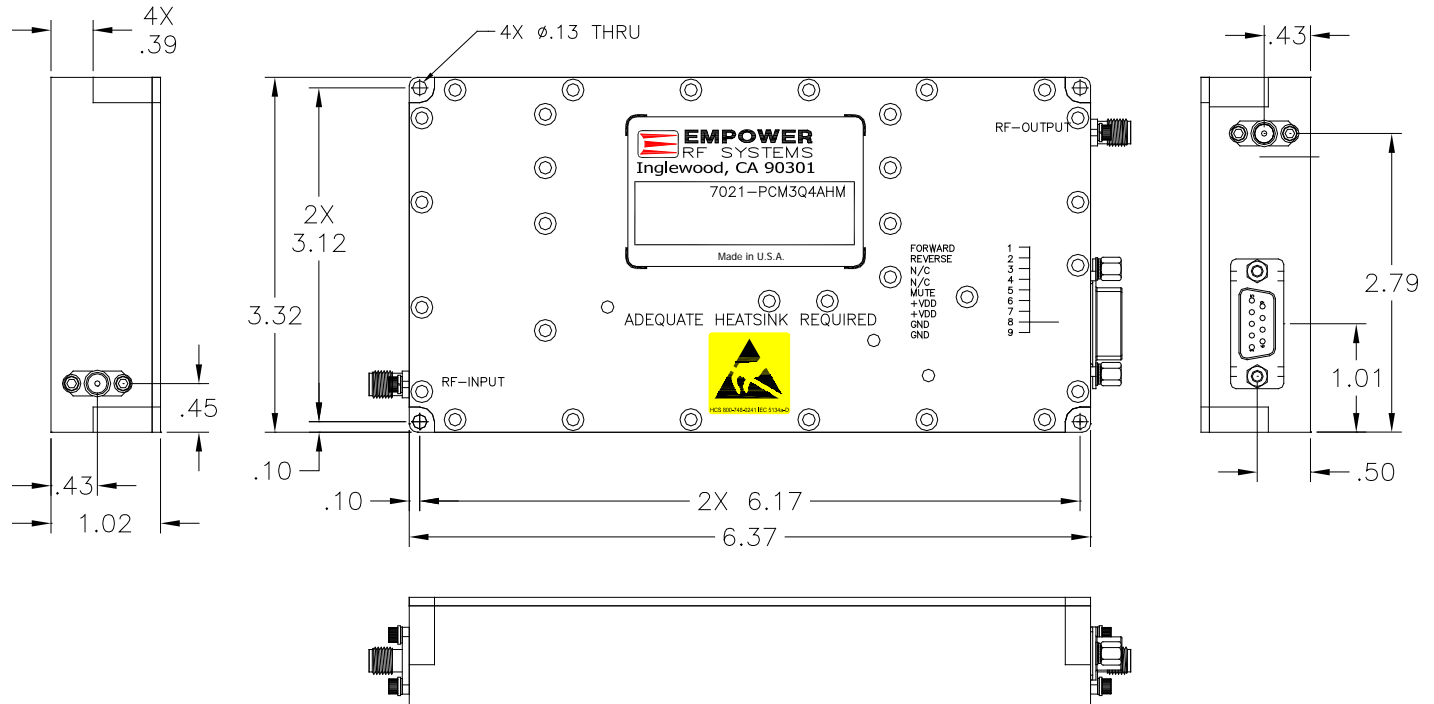
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PROTECTIONS

Input Overdrive	+3dBm	Max
Load VSWR @ 50W	∞ @ all load phase & amplitude for duration of 1 minute 3:1 @ all load phase & amplitude continuous	Nom
Thermal Overload	85°C shutdown	Max

For ultra high linearity, band specific Cellular applications select from SKU # 7039, 7040, 7041

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 (10dB minimum Directivity)
3	ALC ON/OFF	N/C
4	ALC Level	N/C
5	Mute	Enable: TTL "Low" Disable: TTL "High"
6, 7	+VDD	+28VDC ± 2VDC
8, 9	GND	Ground

OUTLINE DRAWING


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TYPICAL PERFORMANCE PLOTS

