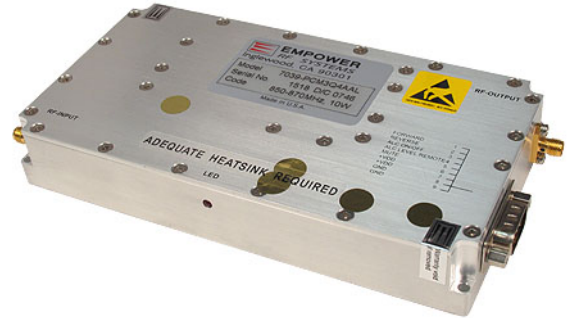


Solid State Personal Communication Power Amplifier

7039 - PCM3R3SAL
850 – 870 MHz / 10 Watts iDEN

The PCM3R3SAL (SKU 7039) is suitable for Ultra linear SMR and iDEN repeater and base station applications in the Cellular frequency range. Also suitable for CDMA, GSM 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 Pre-D linear design
- Small form factor and lightweight
- Suitable for SMR, iDEN and multi-FA applications.
- 50 ohm input/output impedance
- High reliability and ruggedness
- Built-in high dynamic range ALC circuit and control functions
- Built-in Output Circulator

ELECTRICAL SPECIFICATIONS @ +28V_{DC}, 25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	850		870	MHz
Output Power CW	P _{SAT}	50	80		Watt
Output Power @ 1dB Gain Compression	P _{1dB}		50		Watt
Power Output CDMA per IS-97	P _{CDMA}	10			Watt
Third Order Intermodulation 2-Tone @ 38dBm/Tone, 500kHz spacing	IM3			-48	dBc
Small Signal Gain	G	44	46	48	dB
Small Signal Gain Flatness	ΔG _{SS}		±0.5	±0.75	dB
Input/output Return Loss	S ₁₁ / S ₂₂			-14	dB
Harmonics @ P _{OUT} = 12W	H			-45	dBc
Noise Figure	NF		7	10	dB
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	V _{DD}	26	28	30	Volt
Current Consumption @ P _{OUT} = 50W CW	I _{DD}		7	10	Amp
Current Consumption @ P _{OUT} = 12W Composite	I _{DD}		4		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	6.4 x 3.4 x 1.0	Inch	Max
Weight	1.0	lb.	Max
RF Connectors Input / Output	Type-SMA, Female		
DC Interface Connector	D-sub 9-pin, Male		
Cooling	External Heatsink (not supplied)		

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 (non-condensing)	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT			30,000	Feet
Vibration / Shock MIL-STD-810F - Method 514.5/516.5 – Proc I	VI / SH		Airborne		

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TYPICAL PERFORMANCE PLOTS

