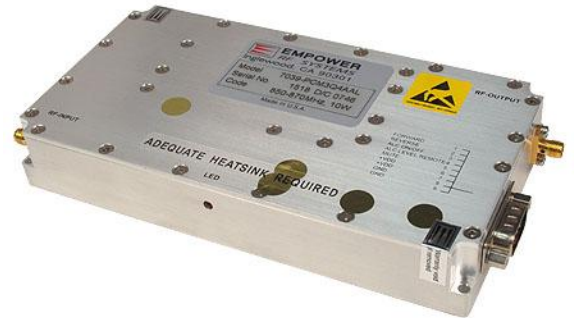


# Solid State Personal Communication Power Amplifier

**7075 – PCM3Q3SLS**
**805 - 870MHz / 120Watts CW**

The PCM3Q3SLS (SKU # 7075) 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.



- 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 @ +28VDC, 25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	805		870	MHz
Output Power CW	P <sub>SAT</sub>	120			Watt
Input Power Range with ALC ON	P <sub>IN</sub>	-11		-5	dBm
Gain Flatness @ Pin=-20dBm	ΔG		±0.5	±0.75	dB
Input/Output Return Loss	S11/S22		-20	-14	dB
Small Signal Gain @ Pin=-20dBm	G	57	59	61	dB
Third Order Intercept Point 2-Tones, Pout = 12W Avg., 500KHz spacing	IP3	+62	+66		dBm
Harmonics @ Pout=12W, CW	H			-45	dBc
Spurious Signals @ Pout=12W, CW	Spur		-70	-60	dBc
Noise Figure @ Pin=-20dBm	NF		7	10	dB
Operating Voltage	VDD	26	28	30	Volt
Quiescent Current	IDQ		2		Amp
Supply Current @ Pout = 50W, CW(ALC ON)	IDD		7	10	Amp
Supply Current @ Pout = 12W 2tone	IDD2		4		Amp

## ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T <sub>c</sub>	0		+75	°C
Storage Temperature	T <sub>stg</sub>	-40		+85	°C
Relative humidity w/o condensation	RH	95			%
Altitude	ALT	10,000	30,000		Feet
Shock & Vibration	SH / VI		Airborne		

## MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	6.4 x 3.4 x 1.0	Inch	Max
Weight	1.4	lb.	Max
RF Connectors In/Out	SMA female		
DC / Function Connector	D-sub, 9 Pins		
Cooling	External Heatsink		

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**PROTECTIONS**

Input Overdrive	+10dBm	Max
Load VSWR @ nominal output power	Infinite @ all load phase & amplitude	Nom
Thermal Overload	85°C shutdown	Max

**INTERFACE CONNECTOR**
**D-Sub, 9-Pin**

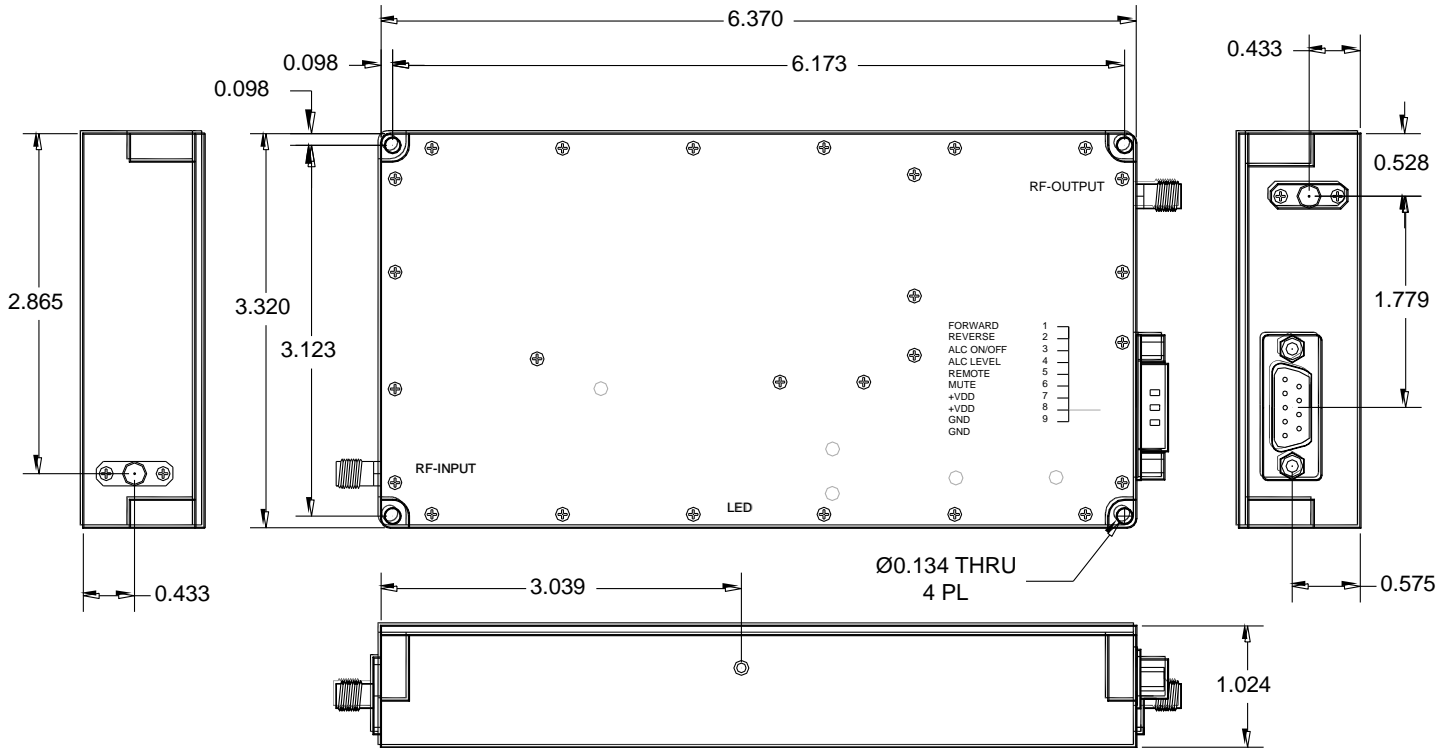
Pin #	Description	Specifications
1	Forward Power Monitor	Continuous Analog voltage relative to forward power via RMS detector FWD: 17 - 47dBm @ 0 - 5V (100mV/dB)
2	Reverse Power Monitor	Continuous Analog voltage relative to reflected power via RMS detector REVM: 14 - 44dBm @ 0 - 5V (100mV/dB)
3	ALC ON/OFF	ALC ON = TTL "Low" ALC OFF = TTL "High"
4	ALC Level	Continuous adjustable range via analog input levels Input Power Range: -11dBm to -5dBm Setting Point (ASP): 33 - 47dBm @ 0 - 5V (250mV/dB) Error Range (AER): ±1.5dB Response Time (ART): 100mS/dB
5	Mute	Enable: TTL "Low" Disable: TTL "High"
6	+VDD	+28 ± 2VDC
7	+VDD	+28 ± 2VDC
8	GND	Ground
9	GND	Ground
<b>LED</b>	LED Indicator	Output Power level indicator referenced to ALC setting

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**OUTLINE DRAWING**



# Solid State Personal Communication Power Amplifier

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**PERFORMANCE PLOTS**

