

## Solid State Personal Communication Power Amplifier

**7091– PCM3R3SCO**
**869 – 894 MHz / 16 Watts CDMA**

### PRELIMINARY INFORMATION

The PCM3R3SCO (SKU 7091) is suitable for single and Multi-Channel CDMA base station and repeaters applications in the Cellular frequency range. Also suitable for GSM and TDMA applications, this amplifier utilizes linear LDMOS power devices that provide excellent linearity and low distortions, high gain, and wide dynamic range. Exceptional performance, long term reliability, and high efficiency are achieved by employing advanced matching networks and combining techniques, EMI/RFI filters, machined housing, 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 Multi-Carrier CDMA, GSM, and TDMA Applications
- Built-in control monitoring & protection circuits
- 50 ohm input/output impedance
- Built in Output Isolator
- High reliability and ruggedness
- High efficiency

PRELIMINARY

### ELECTRICAL SPECIFICATIONS @ +28 VDC, 25°C, 50 Ω System, PAR 8 dB @ CCDF 0.01%

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	869		894	MHz
Small Signal Gain	G <sub>SS</sub>	49	50	51	dB
Gain Flatness	ΔG			±0.75	dB
Input/Output Return Loss	S <sub>11</sub> / S <sub>22</sub>			-20	dB
Power Output CDMA per IS-95 standard	P <sub>CDMA</sub>	16			Watt
ACPR @ P <sub>OUT</sub> = 42 dBm 10FA CDMA, 9-Channels, IS-95 BW = 1.23 MHz Settings: RBW =30 KHz, VBW=100 Hz	Δ = 750 KHz			-29	dBc
	Δ = 1.98 MHz			-44	
Harmonics @ 16 Watt 1FA CDMA, 2 <sup>ND</sup> / 3 <sup>RD</sup>	H			-40 / -60	dBc
Spurious Signals @ 16 Watts	Spur			-70	dBc
Operating Voltage	V <sub>DD</sub>	27	28	29	Volt
Supply Current @ P <sub>OUT</sub> = 16 W 10FA CDMA	I <sub>DD</sub>		2.8	3.0	Amp

### MECHANICAL SPECIFICATIONS

Parameter	Value	Unit
Dimensions – Metric (Inch)	170 x 110 x 28 mm (6.7" x 4.4" x 1.1")	Max
Weight	TBD	Max
RF Connectors Input / Output	SMA Female	
DC and Alarms / Interface	3 Pin Dsub Hybrid Male, 9 Pin Dsub Male	
Cooling	External Heatsink + Forced air	

### ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T <sub>c</sub>	-30		+85	°C
Storage Temperature	T <sub>stg</sub>	-40		+85	°C
Relative humidity (non-condensing)	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT	10,000		30,000	Feet
Shock / Vibration (MIL-STD-810F Method 516.5)	SH / VI		Airborne		

### PROTECTIONS

Load VSWR @ 16 W	∞:1 VSWR	Nom
Thermal Overload	95°C shutdown	Max

## Solid State Personal Communication Power Amplifier

**7091-PCM3R3SCO**
**869 – 894 MHz / 16 Watts CDMA**

### INTERFACE CONNECTORS

#### D-sub, 9-Pin - Control

Pin #	Description	Specifications
1	GND	Ground
2	Over Power Alarm	TTL "High": 44 dBm $\pm$ 0.5 dB
3	VSWR Alarm	TTL "High": Open
4	Temperature Monitor	Analog: (10 mV/ $^{\circ}$ C x Temp) + 500 mV
5	Over Temp Alarm	TTL: 95/ $^{\circ}$ C shutdown, auto-restart @ 85/ $^{\circ}$ C
6	Shutdown	Amplifier Enable: TTL "Low" Amplifier Disable: TTL "High" or Open - Pull-up Resistor
7	GND	Ground
8	Forward Power Monitor	Analog: +4 V @ 42.0 dBm, 0.1 V/dB
9	N/C	Reserved

#### D-sub, 3-Pin - DC

Pin #	Description	Specifications
A1	VDD	+28 V <sub>DC</sub> $\pm$ 1 V
A2	GND	Ground
A3	N/C	Spare

### OUTLINE DRAWING

