

Solid State Personal Communication Power Amplifier 2.11-2.17GHz, 49dB Gain, SMA Female to N Female, 30Watts

- **Solid-state Linearized design**
- **Small and lightweight**
- **Suitable for single & multi FA W-CDMA**
- **50 ohm input/output impedance**
- **High reliability and ruggedness**
- **Built-in Control & Monitoring Circuits**
- **Built-in High Dynamic range ALC circuit**
- **Built-in Output Isolator**



Order Examples: RAMP-2.11-2.17-49d-Sf-Nf-30W-e7

Description: (Amplifier, 2.11-2.17GHz, 49dB Gain, SMA Female to N Female Connectors, 30Watts)

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

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	2110		2170	MHz
Small Signal Gain	SSG	49	50	51	dB
Gain Flatness	ΔG		±0.75	±1.0	dB
Gain Flatness @ 45 dBm, PIN = 0 dBm (ALC ON)	ΔGALC			±0.75	dB
Gain variation over operating temperature range	ΔGTEMP			±0.75	dB
Input Power Dynamic Range	PIN	-25		-5	dBm
Input/Output Return Loss	S11/S22			-14	dB
Power Output W-CDMA per 3 GPP standard	PWCDMA	30			Watt
ALC Dynamic Range @ 45 dBm	ΔALC	12			dB
ACLR @ POUT = 45 dBm (ALC ON) 1-Tone W-CDMA, 64 DPCH BW = 3.84 MHz, PIN = 0 dBm Spectrum Analyzer Settings: Res BW = 30 KHz, Video BW = 100 Hz	Δ=5MHz			-48	dBc
	Δ=10MHz			-53	
ACLR @ POUT = 42 dBm (ALC ON) 2-Tone W-CDMA, 64 DPCH BW = 3.84 MHz, Δ = 5 MHz, PIN = 0 dBm Spectrum Analyzer Settings: Res BW = 30 KHz, Video BW = 100 Hz	Δ=5MHz			-48	dBc
	Δ=10MHz			-53	
IMD @ POUT = 42 dBm Ave. (ALC ON) 2-Tones, 39 dBm/tone, Pin = 0 dBm Avg. Δ = 25 KHz – 3 MHz	IMD			-46	dBc
Harmonics @ 16 Watt 1 FA W-CDMA	H			-45	dBc
Spurious Signals @ 16 Watts	Spur			-36	dBm
Noise Figure @ Max Gain	NF		7	10	dB
Operating Voltage	VDD	26	28	30	Volt
Supply Current @ 16 W 1 F W-CDMA	IDD		10		Amp

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MECHANICAL SPECIFICATIONS

Parameter	Value	Unit
Dimensions	9.1" x 7.7" x 1.1"	Max
Weight	5.0lb.	Max
RF Connectors Input / Output	SMA F / Type-N female	
DC and Alarms / Interface	D-sub Hybrid 3-Pin Male, D-sub 9-Pin Male	
Cooling	External Heatsink + Forced air	

ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	Tc	-25		+75	°C
Storage Temperature	Tstg	-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 500.4)	SH / VI		Airborne		

PROTECTIONS

Over Power Shutdown	+49 dBm	Min
Load VSWR @ 16 W	∞:1 VSWR, all phases & magnitude	Nom
Thermal Overload	85°C shutdown	Max

INTERFACE CONNECTOR, D-Sub, 9-Pin

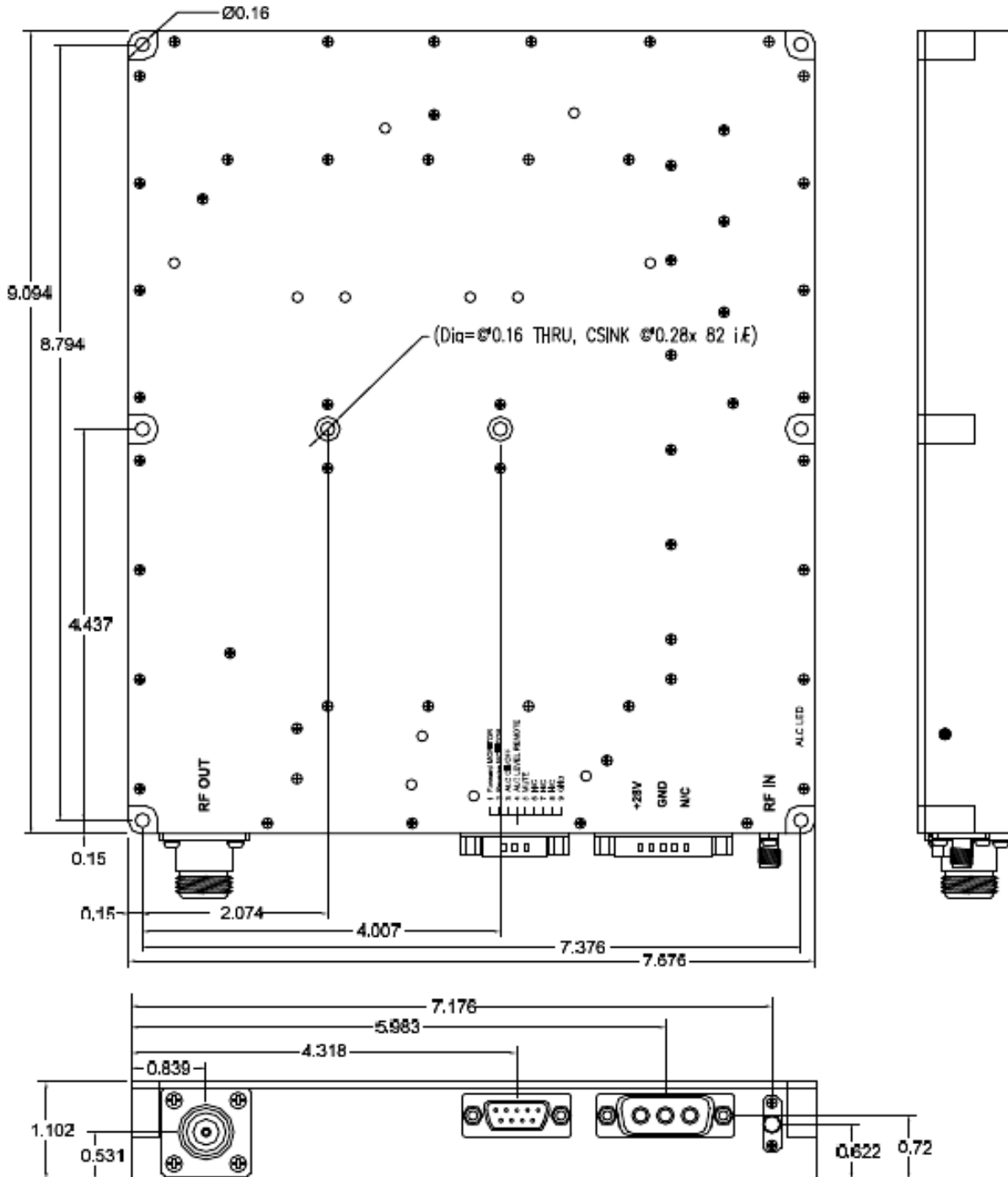
Pin#	Description	Specifications
1	Forward Power Monitor	Continuous Analog voltage relative to forward power via RMS detector FWDM: 27 – 47 dBm @ 1.4 – 5 V, 180 mV/dB (Typical)
2	Reverse Power Monitor	Continuous Analog voltage relative to reflected power via RMS detector REVM: 19 – 40 dBm @ 0.5 – 5 V Open load, 120 mV/dB (typical)
3	ALC ON/OFF	ALC ON = TTL "Low" - Pull Down Resistor 10KOhm ALC OFF = TTL "High"
		Continuous adjustable range via analog input levels
		Setting Point (ASP): 33 – 45 dBm @ 0 – 5 V (250 mV/dB typical)
4	ALC Level	Error Range (AER): ±1.5 dB
		Input Impedance: > 50 KOhm
		Response Time (ART): 100 mS/dB
5	Mute	Amplifier Enable: TTL "Low" - Pull Down Resistor 10KOhm Amplifier Disable: TTL "High"
6	N/C	Reserved
7	N/C	Reserved
8	N/C	Reserved
9	GND	Ground

DC CONNECTOR, D-Sub, 3-Pin Hybrid

Pin#	Description	Specifications
A1	VDD	+28 ±2.0 VDC
A2	GND	Ground
A3	N/C	Spare

LED	LED Indicator	Output Power level indicator referenced to ALC setting (Independent of ALC ON or OFF)
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TYPICAL PERORMANCE PLOTS

