Solid State Personal Communication Power Amplifier

HD29214-1

896 – 941 MHz / 25Watts CW

- Solid-state linear design
- Small and lightweight
- Suitable for CW, GSM, ESMR, iDEN, TDMA & multi FA CDMA
- 50 ohm input/output impedance
- High reliability and ruggedness
- Built in Output Isolator
- Built in monitoring circuit

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

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	896		941	MHz
Output Power CW	P_{SAT}	40			Watt
Output Power @ 1 dB Gain Compression Point	P_{1dB}	25			Watt
Small Signal Gain	G_{ss}	44	46	48	dB
Gain Flatness (ALC On)	ΔG			±0.5	dB
Third Order Intercept Point 2–Tones, P_{OUT} = 5 W Avg., Δ = 500 KHz	IP3	+57			dBm
Input/Output Return Loss	S_{11} / S_{22}			-14	dB
Noise Figure	NF		7	10	dB
Harmonics @ P1 dB Gain Compression Point	H			-45	dBc
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	V_{DC}	26	28	30	Volt
Supply Current @ P_{OUT} = 25 W CW	I_{DD}		3.0		Amp
Supply Current @ P_{OUT} = 5 W with 2-tones	I_{DD}		2.0	2.5	Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	5.0 x 3.75 x 1.0	Inch	Max
Weight	1.0	lb.	Max
RF Connectors In/Out	SMA female		
DC Connectors	Dsub, 9 Pins, Male		
Cooling	External Heatsink		

332-C Dante Court
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ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	Tc	-10		+50	**°C**
Storage Temperature	Tstg	-40		+85	**°C**
Relative humidity (non-condensing)	RH			95	**%**

PROTECTIONS

Input Overdrive	+6 dBm	Max
Over Power Shutdown	45 dBm	Min
Load VSWR @ 25W output power	∞ @ all load phase & amplitude	Nom
Thermal Overload	85°C shutdown	Max

INTERFACE CONNECTORS
D-Sub, 9-Pin

Pin #	Description	Specifications
1	Forward Power Monitor	Continuous Analog voltage relative to forward power via RMS detector FWDM: 20 – 40 dBm @ 0 – 5 V (100 mV/dB) 30dBm output = V_{FWD} = 2.5 V_{DC}
2	Reverse Power Monitor	Continuous Analog voltage relative to reflected power via RMS detector REVM: 17 – 37 dBm @ 0 - 5V (100 mV/dB) 30dBm output = V_{REV} = 2.5 V_{DC}
3	ALC ON/OFF	ALC ON = TTL “Low” ALC OFF = TTL “High”
4	ALC Level	Continuous adjustable range via analog input levels Setting Point (ASP): 30 – 45 dBm @ 0 – 5 V (100 mV/dB) Error Range (AER): ±1.5 dB Response Time (ART): 100 mS/dB
5	Mute	Amplifier Enable: TTL “Low” or Open Amplifier Disable: TTL “High”
6	+VDD	+28 ± 2 V_{DC}
7	+VDD	+28 ± 2 V_{DC}
8	GND	Ground
9	GND	Ground

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

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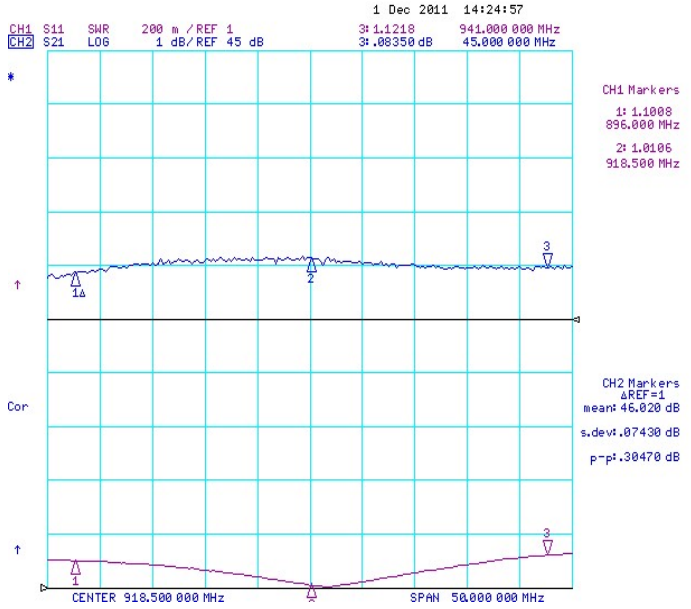
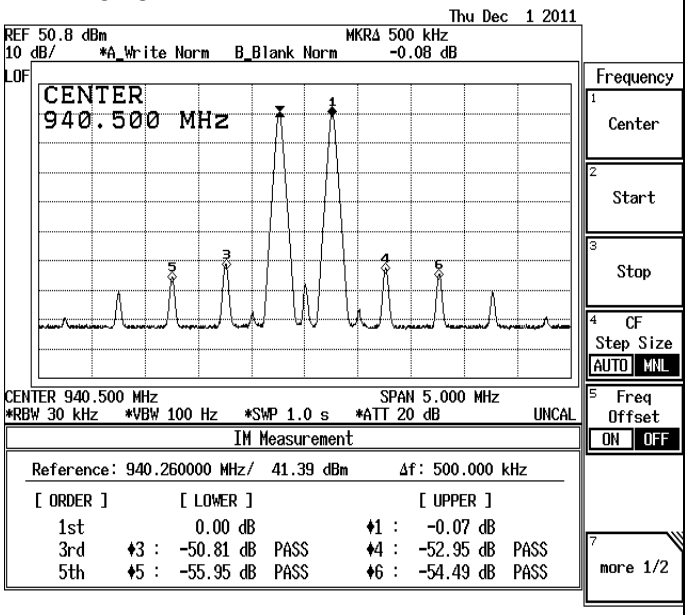
TYPICAL PERFORMANCE PLOTS

*** Gain & Gain Flatness**



*** 2 Tone IMD**



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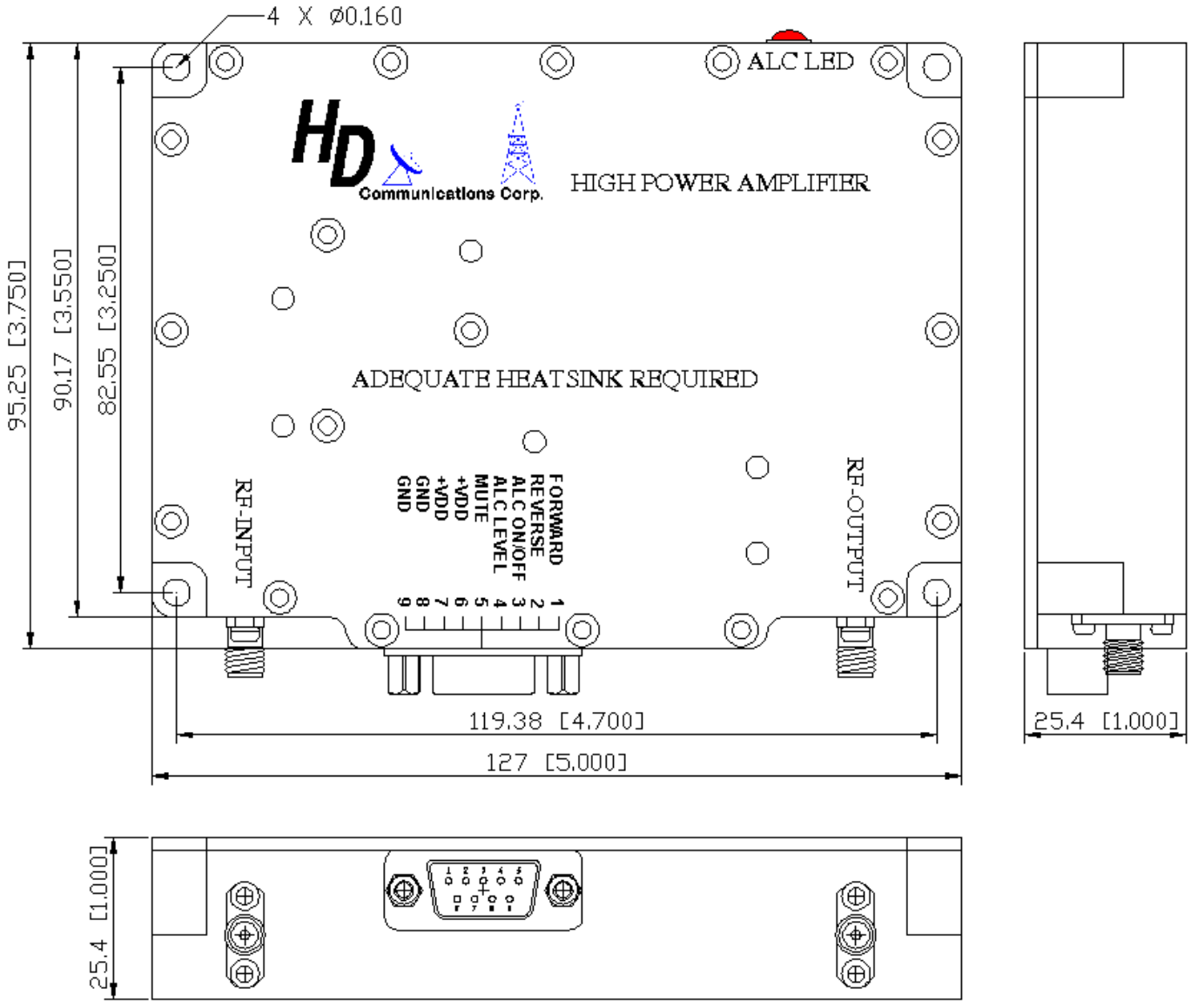
OUTLINE DRAWING



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