	TECHNICAL BULLETIN	
High Power Amplifier 2110 – 2170 MHz	**E14627-01-05**	**Rev.B**

Features

- Temperature compensated
- Forward / Reverse output power detection
- Under / Over voltage protection
- Over current/temperature protection
- TX ON / OFF TTL command

Applications

- Telecom Infrastructure
- Test Equipment
- Jamming

Performances

2110÷2170 MHz POWER AMPLIFIER

Parameter	Units	Min	Typ	Max	Remarks
Frequency range	MHz	2110		2170	Full performances
Supply Voltage	V	26	28	30	
Supply Curr.@80W RF out	A		6.5	8	
Quiescent Current (Bias off)	A			0.2	
Quiescent Current (Bias on)	A			1.2	
Operation Mode					Continuous Wave (CW)
Pout @3dBcp	W	95	110		
Small Signal Gain	dB	40	42		
Efficiency	%	40	44		@ Nominal Pout
Port Impedance	Ω		50		
Return Loss	dB	15			
2nd Harmonic level	dBc	-45			
Spurious	dBc	-60			
Tx (on-off/off-on) delay	msec			1	
Inhibit (on-off/off-on) delay	msec			1	
Operating Temp. range	°C	0		+50	
Storage Temp. range	°C	-20		+85	
Humidity	%			95	
Shut off temperature	°C	+80			
RF input connector					Sma F
RF ouput connector					Sma F
Power supply/data connector					13W3 D-sub male 20A
Suggested cooling					External heatsink, with forced air
Dimensions					See outline

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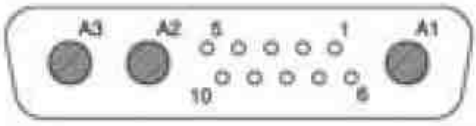
PINs connection and Signal name

- **A1 –** ***Not Connected***
- **A2 – GND**
- **A3 – +28V_DC**
- **01 –** ***Not Connected***
- **02 – GND**
- **03 – ALARM**
- **04 – REFL_DET**
- **05 – FWD_DET**
- **06 –** ***Not Connected***
- **07 – INHIBIT**
- **08 – PTT (TX)**
- **09 –** ***Not Connected***
- **10 – RET-LOSS_DET**



13W3

PINs function

- Power Supply for **+28V_DC** and **GND (A3/A2)**
- output TTL of **ALARM** to indicate the alarm condition (active high)
- input TTL of enabling to transmission **PTT** (Push to Talk) (TTL level with internal pull-up)
  The signal is active low so:
  - when PTT is in GND the amplifier in on,
  - when PTT is at +5V, or when it is left open the amplifier is off.
- input TTL of **INHIBIT** for amplifier's On/Off and alarms reset (TTL level with internal pull-up)
  The signal is active low, so:
  - when INHIBIT is at GND the amplifier is off,
  - when INHIBIT is at +5V or when it is left open the amplifier is powered.

  The transition from GND to +5V entails the RESTART of the amplifier putting it out from the alarm condition.
  Note: when inputs INHIBIT and PTT are activated at the same time INHIBIT function takes priority on PTT.
- analog output of **FWD_DET , REFL_DET, RET-LOSS_DET** RF power sensing
  FWD_DET, REFL_DET: this two are analog, 1:1 buffered signals, directly proportional at the RF out signal. Typical level for the FWD_DET signal, cover a range from 0,13V (noise floor) to 2,7V with seventy dB RF dynamic range.
  RET-LOSS_DET: this analog, 1:1 bufferd signal, is inversely proportional at Return Loss (dB) caused by the load at the RF output port. It may differ slightly from frequency to frequency.
  This signal may be used to protect fast power amplifier to RF cable break or disconnection.
  Typical table :

RF_Out Ret_Loss (dB)	RET_LOSS_DET (V)
0	2,50
-5	2,34
-10	2,18
-15	1,92
-20	1,76
-25	1,60

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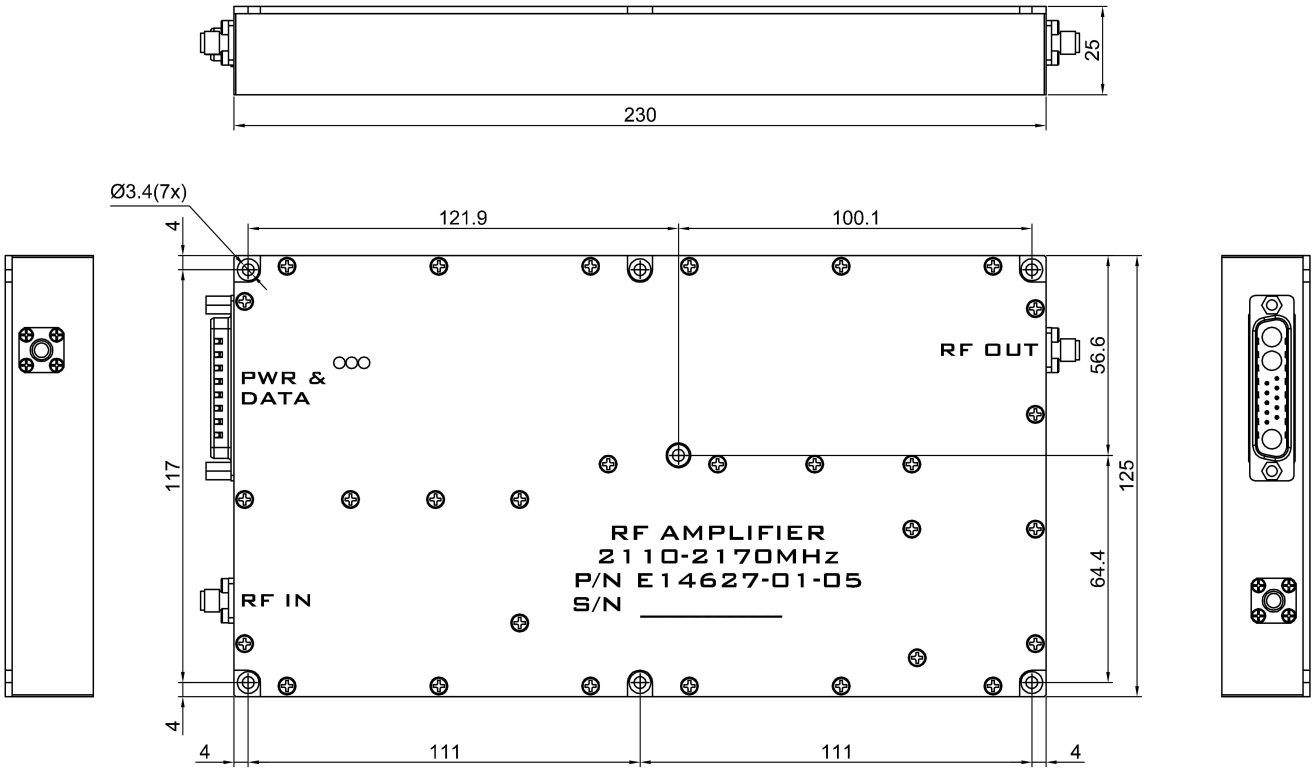
OUTLINE DRAWING



Dimensions in mm

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