



**Product Features**

- 2400 ~ 2500MHz (ISM band)
- 200W CW Peak Power @ 50V
- 57% Drain Efficiency @ 50V
- Excellent Ruggedness
- Excellent Thermal Stability

**Applications**

- Industrial Heating and Drying
- Scientific
- Medical
- Plasma Lighting



**Description**

The RNP24200-20 is designed for Industrial, Scientific, Medical (ISM) and Plasma Lighting applications at 2450MHz. This Amplifier is suitable for use in CW, pulse and linear applications. This high efficiency rugged device is targeted to replace Industrial magnetrons and other vacuum tubes currently powering industrial heating, drying, plasma lighting and medical systems.

**Electrical Specifications @  $V_{GS} = -3.5V$ ,  $V_{DS} = 50V$ ,  $T = 25^{\circ}C$ , 50Ω System**

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	2400	-	2500	fo
Operating Bandwidth	MHz	-	100	-	OBW
CW Output Power	dBm	53	-	-	Po
Power Gain	dB	53	-	-	Gp
Gain Flatness	dB	-	-	±0.5	Gf
Input Return Loss	dB	-	-	-10	S11
Operating Voltage	V	V <sub>DC1</sub> : 5.6±1%			-
		V <sub>DC2</sub> : 50 ±1%			
Current Consumption	5.6V	-	0.4	0.5	IDD
	50V		-	-	
Efficiency @ 53dBm	%	57	-	-	Eff

\* Custom design available

**Environmental Characteristics**

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	°C	0	-	60	Ta
Storage Temperature	°C	-40	-	100	Tstg
Relative humidity w/o condensation	%	-	-	95	RH

**Mechanical Specifications**

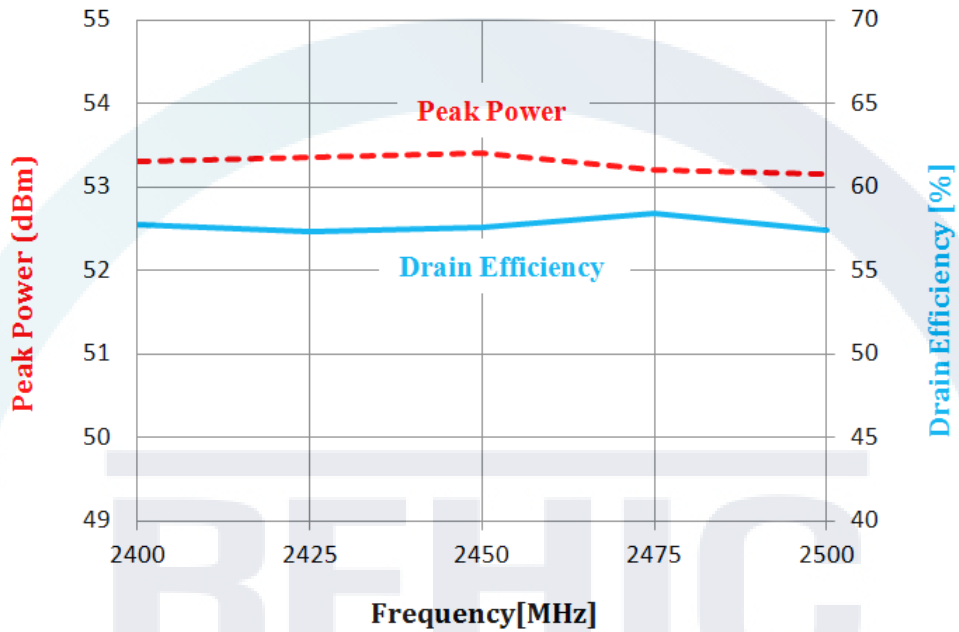
PARAMETER	UNIT	VALUE
Dimensions (L x W x H)	mm	160 x 65 x 32
Weight	Kg	1.4
RF Input Connector	-	SMA (Female)
RF Output Connector	-	N-type (Female)
I/O Connector	-	7W2 Combo Connector
Cooling	-	External Heat-sink & Airflow



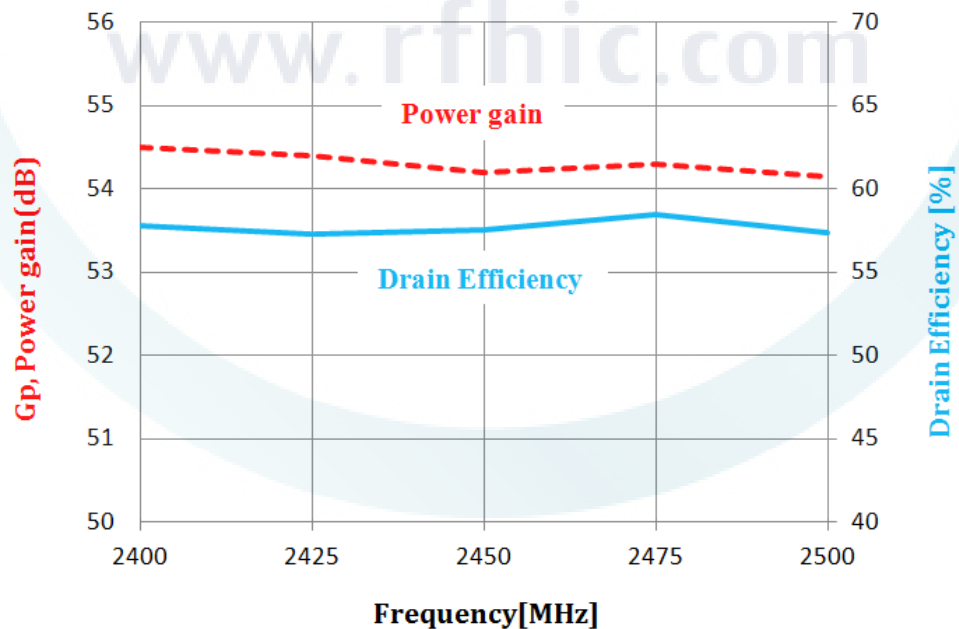
**Typical CW Performance Charts**

\* Bias condition (VGS=-3.5V, VDS=50V, Tc=25°C)

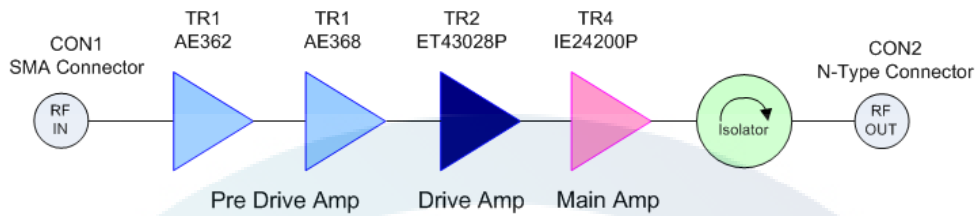
**Peak Power, Drain Efficiency vs. Frequency**



**Power Gain, Drain Efficiency vs. Frequency**

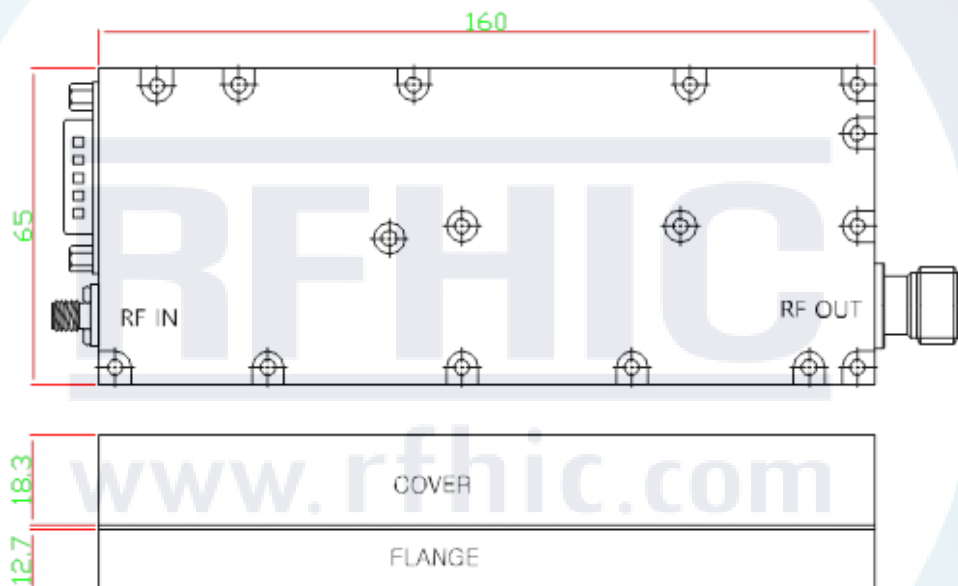


**Block Diagram**



**Outline Drawing**

\* Unit: mm | Tolerance: ±0.2



**Note**

Connector positions and module mount holes may be subjected change.

**Interface Connector**

**Pin-Control (7W2 Combo Connector)**

Pin No	Description
A1	Vdd (+50V)
A2	Ground
1	+5.6V
2	Forward power detecting
3	Reverse power detecting
4	Temperature monitor
5	Ground

**Revision History**

Part Number	Release Date	Version	Description	Data Sheet Status
RNP24200-20	June, 2017	1.0	Initial release of datasheet	Preliminary
RNP24200-20	June, 2017	1.1	Current Consumption of +5.6V & DC Connector changed	Preliminary



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