Technology for transfer

Name/Title - **Solid State RF Amplifier (5 to 30 MHz), 500 Watt**

Technology Code - **EG001ATG**

Regular Technology Transfer fee (without Royalty) - **Rs. 1,25,104/-**

Advertisement of Solid State RF Amplifier Unit 5 – 30 MHz, 500 Watt

Solid State RF Amplifier Unit

5 – 30 MHz, 500 Watt

Solid state RF amplifiers are used in different areas of communication and industrial applications. The 500W RF amplifier uses rugged LDMOSFET which can withstand high VSWR (Voltage Standing Wave Ration) conditions. The amplifier circuit requires balun (balanced to un-balanced) transformers both at the input and output stages. These transformers are used to divide/combine RF power flowing into or coming from two 180 degree out of phase push-pull channels. Typically the input and output impedances of the LDMOS transistors is low and balun transformers are also used for transforming them to 50 ohm.

PROCESS

The necessary input and output impedance matching networks, splitter/combiner units and directional coupler have been designed. These amplifiers are general purpose and hence can be used for applications like communication, RF heating, Wireless charging, Plasma, particle accelerators etc. Similar amplifier units are installed in our institute and running round-the-clock satisfactorily for last five years. Indigenous design, low cost, low voltage, integrated safety feature and ease of operation are some of the notable features of this development.

Figure1. Solid State HF Amplifier

SALIENT FEATURE

The amplifier uses state of the art RF technology. The system is highly reliable for round the clock operation. The system is designed with a greater safety margin to achieve lower device temperature ensuring longer operational life. The amplifier is internally protected for over temperature during operation.

AVDANTAGES

The major advantage of these amplifiers are its design with greater safety margin to be used in high VSWR conditions. It is a major import substitute, with cost effectiveness.

AREAS OF APPLICATION

The amplifier can be used in different areas of communication, RF heating, Wireless charging, Plasma, particle accelerators, industrial applications etc in the HF range.

Specifications

- Frequency range: 5 – 30 MHz
- Typical Gain: 45 dB
- Gain Flatness: +/- 2 dB
- Rated Output Power: 500 W
- Input Power: 0-19 dBm (upto 5.6 Vpp) at 50 ohm
- Input RF connector: BNC
- Output RF connector: N type
- Input / Output Impedance: 50 ohm
- Interlocks: Over temperature included
- Power requirement: 40 Volt DC / 32 A
- Form Factor/ Dimensions: 19 inch rack mountable industrial cabinet 6U for main unit ,

VARIABLE ENERGY CYCLOTRON CENTRE, DEPARTMENT OF ATOMIC ENERGY
1/AF, BIDHANNAGAR, KOLKATA-700064

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