Fox Delta

Amateur Radio Projects & Kits

FD-RFPA

Technical Details & Assembly Note: 0-30MHZ 80W RF Linear Amplifier using MRF455

Schematic of this project & PCB are based on an article in ARRL Handbook 1983 detailing MRF454 Linear amplifier by K7ES.

In my Project & PCB, the only change I have made is using a DIP 723 in place of G package, which was not available to me at that time. Please refer to original article for more details on this project.

Project Details:

MRF455 are ideal RF Transistors for amateur radio power amplification. You may use MRF454 in this circuit without any change.

I used MRF455 operating in Class AB. Bias generated by active circuit using a 723 regulator giving good line voltage regulation & capability to adjust the bias voltage. A Transistor is used as thermal sensor to protect MRFs from over heating & self-destruction.

Transistors are soldered at the bottom of the PCB and flanges tightly mounted on a suitable heat sink.

Transformers & Chokes:

Two Transformers are required to be fabricated for this PA.

The output transformer T3 is wound on a binocular type Ferrite Core type BN-61-002 large enough to handle power levels in excess of 150Watts.

The input Transformer T1 is a similar binocular type core: BN-61-202

The Collector choke T2 is wound on stacked (2 pieces) FT-82-61 core with 6 turns of No.18 wire, bifilar.

RF Chokes:

L1 & L2 are RF chokes wound on a FT-50-61 core with 7 turns of No.20 enameled wire.

L3 & L4 are supply decoupling RF Chokes wound on FT-50-61 cores with 2 or 3 turns of No.18 wire. Keep symmetrical winding on both chokes.

Parts List for Partial Kit:

Quantity	Part Name /ID
2	MRF 455 Transistors
1	BN-61-002 Amidon Core (T3)
1	BN-61-202 Amidon Core (T1)
4	FT-50-61 Amidon Core (L1,2,3,4)
2	FT-82-61 Amidon Core (T2)
1	PTH PCB (Free of cost with this kit)

Please Visit: http://www.foxdelta.com for more information & schematic of this project.