

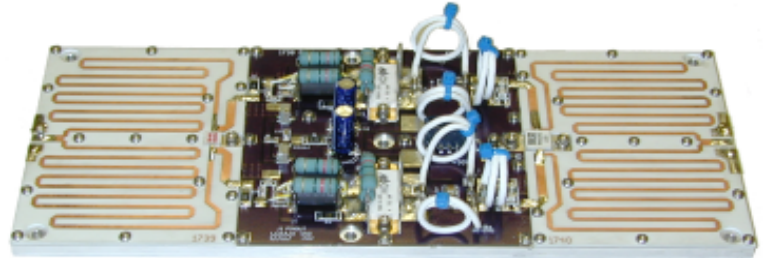


P750-FM-18

High Power RF Amplifiers and Accessories

750W FM Broadcast Amplifier

The **P750-FM-18** is an integrated amplifier building block which requires only power, input and output connections. This highly cost effective amplifier has been designed for FM radio transmitter integrators and gives a great deal of flexibility. A low loss Wilkinson input splitter and output combiner puts together two push-pull transistor pairs, guaranteeing good overall circuit performance at an attractive price.



- **No RF assembly or Circuit Tuning!**
- **750 Watts Min Output Power!**
- **18dB Typical Gain at 108MHz!**
- **Amp Disable!**
- **Priced below \$1 USD / Watt!**

Specifications

$T_{base} = 25^{\circ}C$, $V_{sup} = +50VDC$, $I_{dq} = 0.2A$

| Parameter | Min | Typ | Max | Units |
|--|-------------------------------------|-------|-------|-------|
| Fundamental Pout, CW | 750 | | | Watts |
| Frequency | 88 | | 108 | MHz |
| Power Gain | 16 | 18 | | dB |
| Power Input | 12 | 14 | 18 | Watts |
| Efficiency | 65 | 68 | | % |
| Drain Current | | 22 | | A |
| Input VSWR | | 1.3:1 | 1.5:1 | |
| Insertion Phase Variation <small>(unit to unit)</small> | | ±5 | | ° |
| Power Gain Variation <small>(unit to unit)</small> | | ±1 | | dB |
| F2 Second Harmonic | -40 | -50 | | dBc |
| F3 Second Harmonic | -20 | -24 | | dBc |
| Baseplate Operating Temp | -0 | | +60 | °C |
| Physical Dimensions | 10" x 4" x 1.5" / 25cm x 10cm x 4cm | | | |

Absolute Maximum Ratings

| Parameter | Value | Units |
|---|-------------|-------|
| Maximum Operating Voltage | +55.0 | V DC |
| Maximum Drain Current <small>Connector rated for 25A Maximum current</small> | 28 | A |
| Bias Current, per transistor <small>Factory set to 100mA per transistor</small> | 1 | A |
| Load Mismatch Survival <small>At all phase angles with the base plate held at 40C and Id current limited to 25A, 2 seconds maximum</small> | 5:1 | |
| Storage Temperature | -40 to +105 | °C |
| Maximum Operating Baseplate Temperature | +65 | °C |

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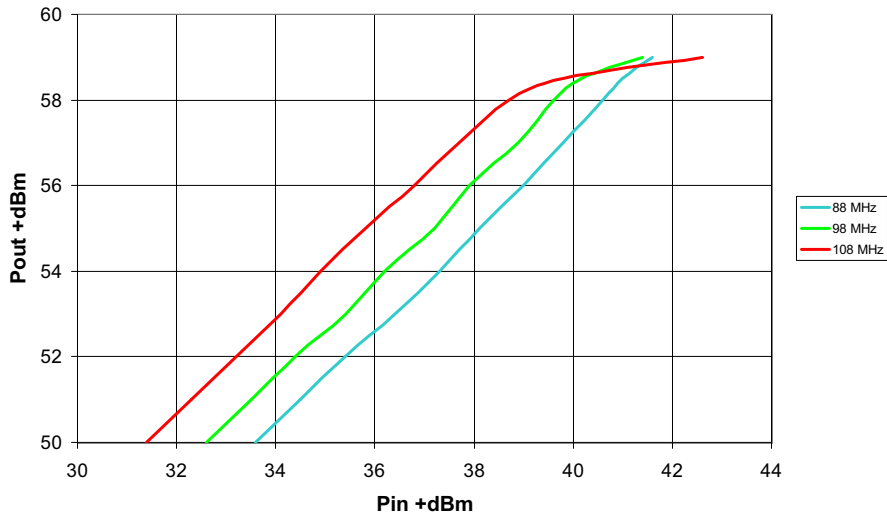


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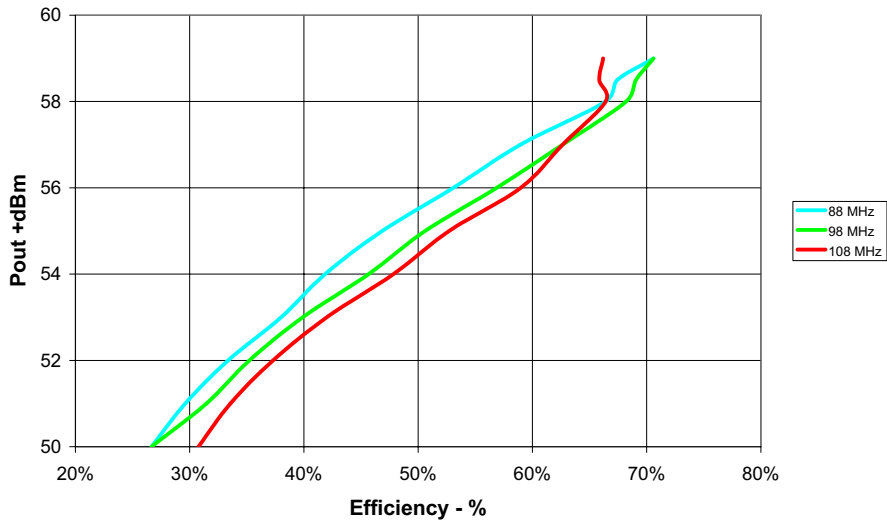
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Pin vs. Pout



Pout vs. Efficiency

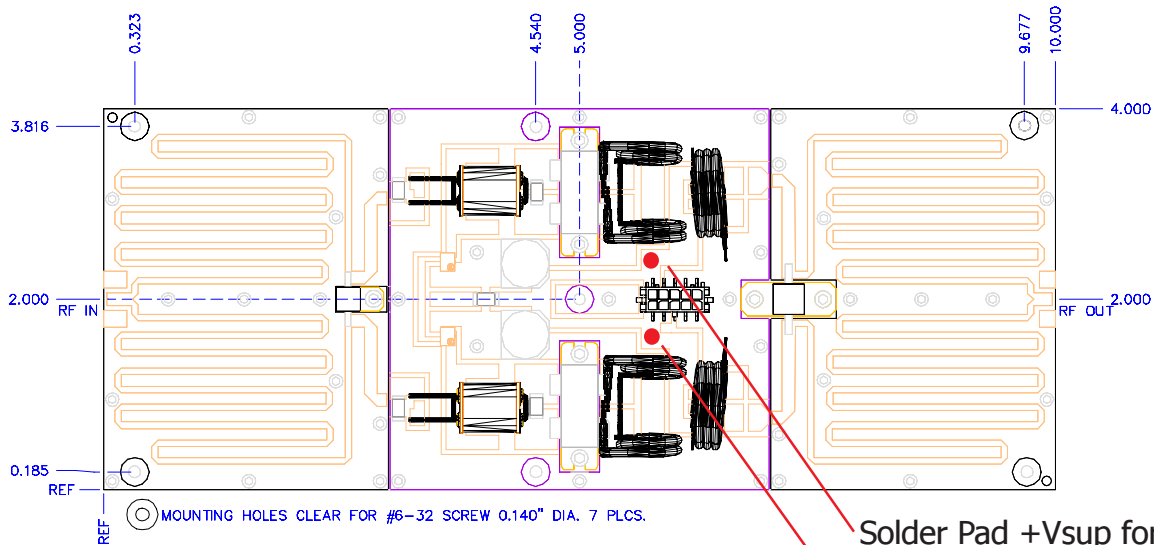




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Solder Pad +Vsup for Transistor A

Solder Pad +Vsup for Transistor B

Tips for Mechanical Mounting:

- 1 All holes are clear for #6 Screw. Stainless Steel mounting hardware is recommended, grade 18-8 or better. A lock washer of same material should also be used.
- 2 Ensure mounting surface is flat to better than 0.003" / "
- 3 Use a thin layer of thermal compound on the backside of the PA - no more than 0.001" - 0.002" thickness!
- 4 Torque all screws to 10-12 in-lbs

Use of cooling air on top of pallet to keep output transformers cool is recommended. Output transformers are rated for continuous operation at 150C, ceramic resistors 180C. Keep any external circuitry away from input and output combiners to avoid any interference - give at least 1.5" clearance to avoid creating feedback paths.

NOTE: Power connections must be soldered to pallet. Connector is rated for 25A maximum.

