

Broadcast Power Xperience Design



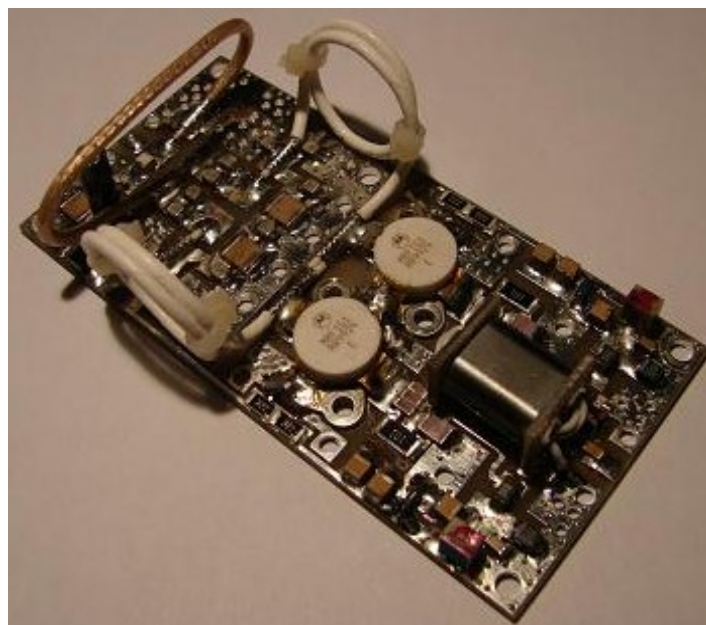
PAFM300W

300W - BROADCAST FM POWER AMPLIFIER MODULE

Designed for FM radio transposers and transmitters, this amplifier incorporates MOSFET transistors to enhance ruggedness and reliability.

General characteristics:

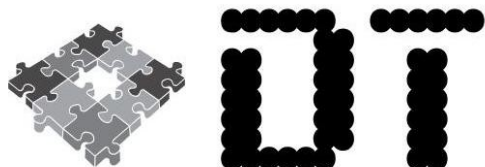
- 87.5 - 108.0 MHz.
- 48 Volts.
- Internal Bias.
- Input/Output 50 Ω .
- Pout : 300 W typical, 350 W max.
- Gain : 18 dB typical, 22dB Max.
- Class A, AB, B or C (ajustable)
- Devices: MRF151 or equivalent.
- ROHS Compliant.



Dimensions (L x W x H): 102 x 50 x 32mm (4" x 2" x 1.25")
This picture is a mere example, it does not bind the provided product

ABSOLUTE MAXIMUM RATINGS (Heatsink Temperature = 50 °C)

SYMBOL	PARAMETER	VALUE	UNIT
Vs	Drain Voltage Supply	50	V
Is	Supply Current	11	A
VSWR	Load Mismatch (all phase angles, T-heatsink =40°C, Id=9A)	3:1	-
Tstg	Storage Temperature Range	-30 to +100	°C
T-heatsink	Operating Temperature	-20 to +70	°C



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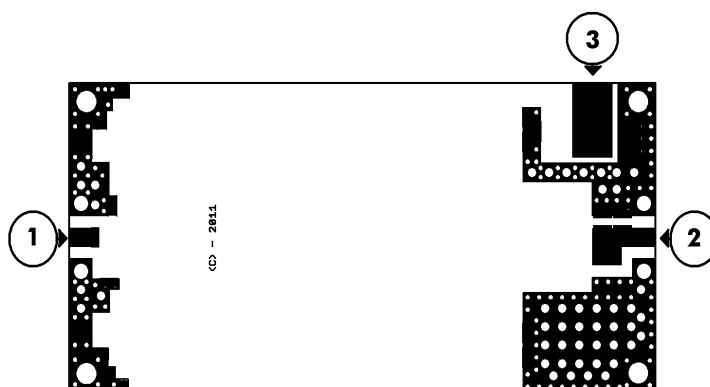
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ELECTRICAL SPECIFICATIONS (T-heatsink = 50 °C, 50Ω loaded, Vs = 48 V)

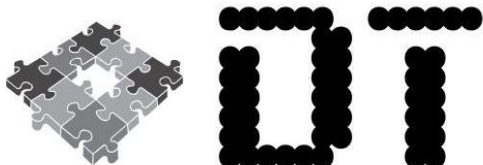
CHARACTERISTICS	MIN.	TYP.	MAX.	UNIT
Operating Frequency Range	87.5		108.0	Mhz
RF Output Power (RFOUT)	0	300	350	W
RF Power Input (RFIN)	2	3	7	W
Power Gain (250W output)	15	18	22	dB
Power Supply Module (Vs)	42	48	50	V
Mosfet Gate Current (Igs)	50	100	150	mA
Current (+48V)	-	8	11	A
Collector Efficiency (Load 50Ω)	69	79	85	%
Input VSWR	1.1:1	1.3:1	1.5:1	
F2 Second Harmonic (without L.P.F.)	-28	-35	-43	dBc
F3 Third Harmonic (without L.P.F.)	-36	-39	-46	dBc

CONNECTIONS



- 1. RF Input (0-7W).** You connect 50 ohm coaxial cable (RG316 or RG178 type) in this connection.
- 2. RF Output (0-300W).** You connect 50 ohm coaxial cable (RG316, RG303, RG400 or RG142 type) in this connection.
- 3. +48V input power supply connection Vs.** Connect to you +48V power supply. +48V/8.5A min. RECOMMENDED.

Note: You connect GND to a M3 screw board or aluminium heatsink.



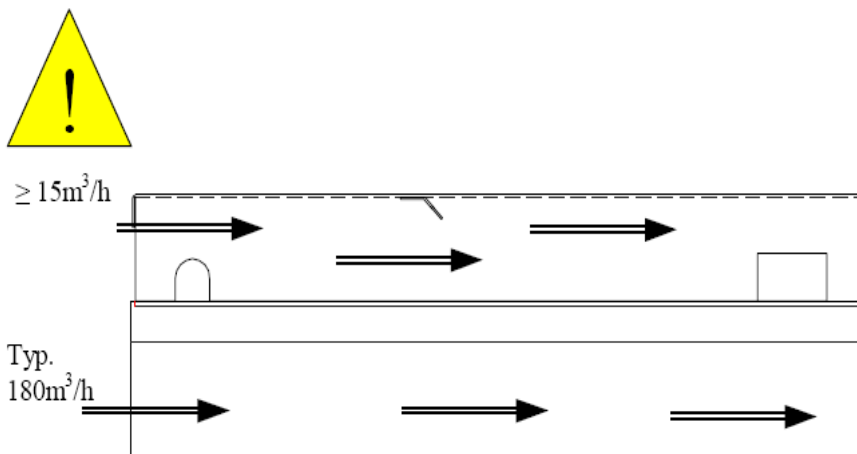
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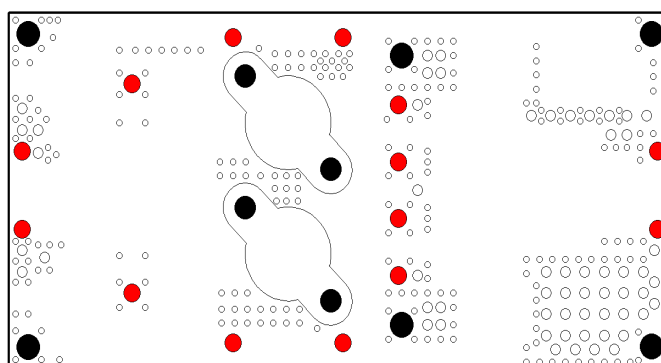
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AIR FLOW DETAIL

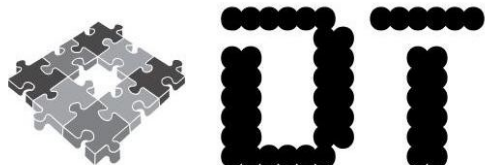


- Is very important you install 1 or 2 fans in FM amplifier.

MECHANICAL



- Use M2 screws in point marked (Red point).
- Use M3 screws in point marked.(Black point)
- Use special paste silicone of RF semiconductors in RF Power Mosfet Transistors. RF Power Mosfet can to die if you use bad paste silicone.
- Use aluminium heatsink, minimum size board. 270mm (10.4") x 100mm (4") recommended.
- Is necessary to use spacer nuts in M3 screws of RF Power Mosfets.
- We recommended that you use 5mm copper laminate (10.2x5cm (4"x2")) between PCB board and aluminium heatsink to dissipate heat faster RF Power Mosfets.



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RECOMMENDATIONS FOR USE

NOT USE AMPLIFIER WITHOUT ANTENNA OR DUMMY LOAD CONNECTED TO THE OUTPUT OF RF.

NOT USE AMPLIFIER WITH TRANSMITTER HAVING PROBLEMS TRANSMISSION, YOU CAN DAMAGE THE AMPLIFIER (TRANSISTORS INSTALLED). NOT ADVISABLE TO USE CHINESE ECONOMIC TRANSMITTERS WITH AMPLIFIER, ARE UNRELIABLE.

NOT USE AMPLIFIER WITHOUT ALUMINIUM HEATSINK.

NOT USE AMPLIFIER WITHOUT FANS.

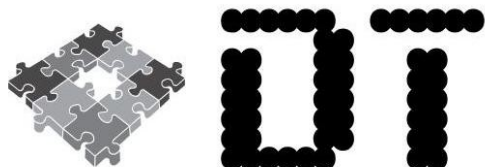
NOT USE AMPLIFIER WITHOUT ALL SCREWS INSTALLED BETWEEN PCB AND ALUMINIUM HEATSINK.

NOT USE AMPLIFIER WITHOUT SCREWS INSTALLED IN AMPLIFIER TRANSISTORS.

READ AIR FLOW DETAIL AND **MECHANICAL** RECOMMENDATIONS, PLEASE.

WE RECOMMENDED USING PROFESSIONAL WATTMETER TO MEASURE POWER AMPLIFIER.

ANY DOUBT, ASK IS RECOMMENDED.



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REVISION 4.5 - 01/2013

REVISION 4.3 - 09/2012

REVISION 4.2 - 01/2012

REVISION 4.1 - 10/2011

REVISION 4.0 - 08/2011

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WARRANTY

All OEM modules have 1 year warranty in Digit@lion Technologies.

The warranty not include the RF power transistor installed.

Shipping Cost to our laboratory and back for a repair is not included in the warranty.

This product is manufactured by Digitalion Technologies. Made in Spain.

For more information of others products you send e-mail to: support@digitaliontechnologies.com