

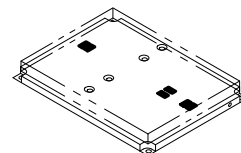
The RF Line Broadband RF Array for TV Transmitter

The MRFA2600 is a solid state class A amplifier and is specifically designed for TV transposers and transmitters. This amplifier incorporates microstrip technology and reliable Motorola push-pull transistors.

- Specified 26.5 Volts: 470–860 MHz Characteristics
Output Power: 25 Watts Min @ 1 dB Comp. (CW)
Gain: 10.5 dB Min (Small Signal)
- Suitable for 28 Volts Application
- 50 Ω Input and Output Impedance

MRFA2600

**25 W, 470–860 MHz
CLASS A
RF POWER AMPLIFIER**



**CASE 429A-02
STYLE 1**

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	29	Vdc
Current	I_{max}	4	Adc
Storage Temperature Range	T_{stg}	–40 to +100	°C
Operating Temperature (1)	T_{op}	–20 to +70	°C

NOMINAL OPERATION CONDITION

Supply	Transposer Application	$V_{CC} = 26.5 \text{ V}$	$I_{sup} = 3.8 \text{ A}$
	Transmitter Application	$V_{CC} = 28 \text{ V}$	$I_{sup} = 3.6 \text{ A}$

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$, $V_{CC} = 26.5 \text{ V}$, $I_{sup} = 3.8 \text{ A}$, unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Instantaneous Bandwidth	BW	470	860	MHz
Power Gain (small signal)	G_p	10.5	—	dB
Gain Ripple (small signal)	G_{rple}	—	± 1	dB
Output Power @ 1 dB Compression	P_{out}	25	—	W
Mismatch Tolerance ($P_{out} = 25 \text{ W}$)	VSWR	$\infty:1$	—	—
Intermodulation (–8 dB/–16 dB/–10 dB, $P_{ref} = 20 \text{ W}$)	IMD	—	–53	dB $_{ref}$
Intermodulation (–8 dB/–16 dB/–7 dB, $P_{ref} = 20 \text{ W}$)	IMD	—	–50	dB $_{ref}$
Input Return Loss	IRL	15	—	dB

(1) Temperature is measured at temperature test point (on the flange of the transistor).

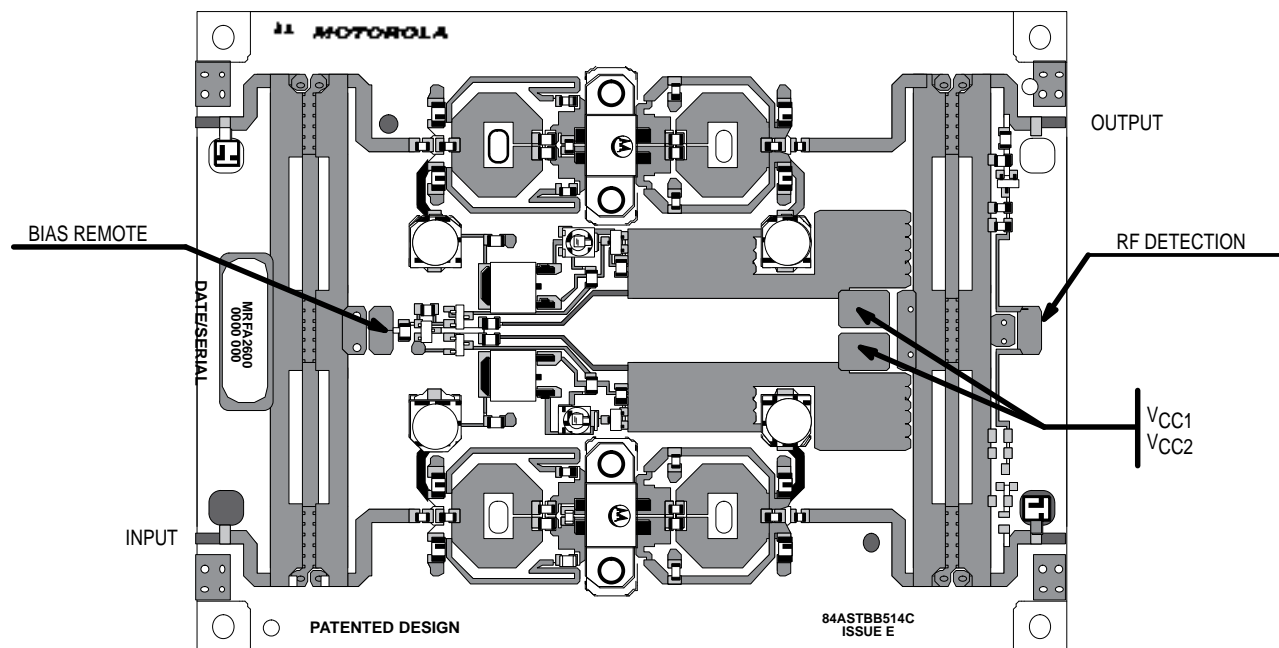
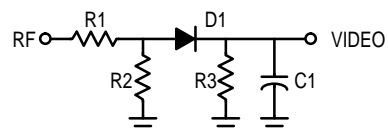


Figure 1. MRFA2600 Connections

RF DETECTION

$V_D = 1 \text{ V}$ @ 25 W
on infinite load

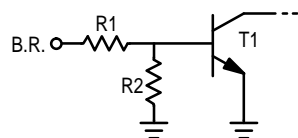
C1 22 pF
D1 MMBD701
R1 22 k Ω
R2 680 Ω
R3 2.2 k Ω



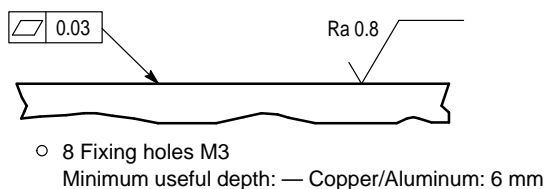
BIAS REMOTE

If B.R. = "1" (TTL signal)
bias circuit is off

R1 4.7 k Ω
R2 4.7 k Ω
T1 . BCX20



MOUNTING RECOMMENDATIONS



HEATSINK TOOLING

- Flatness better than 0.03 mm.
- Roughness: Typical value 0.8.

THERMAL COMPOUND

- Paste with silicones: SICERONT KF Ref. 1201 Recommended.
- Thickness: Optimum between 0.06 mm and 0.15 mm, on the whole back surface of the amplifier.
(Typical volume: 700 mm³ for 0.1 mm thickness)
(Equivalent weight: 1.5g for 2.2 density paste).

SCREWS

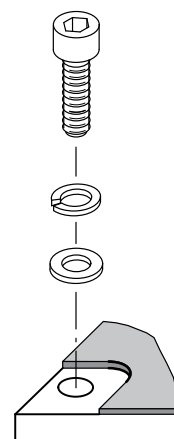
- Socket head cap screws: — CHC M3 x 10 for Copper/Aluminum Heatsink.
- Material: Nickel plated steel.

WASHERS

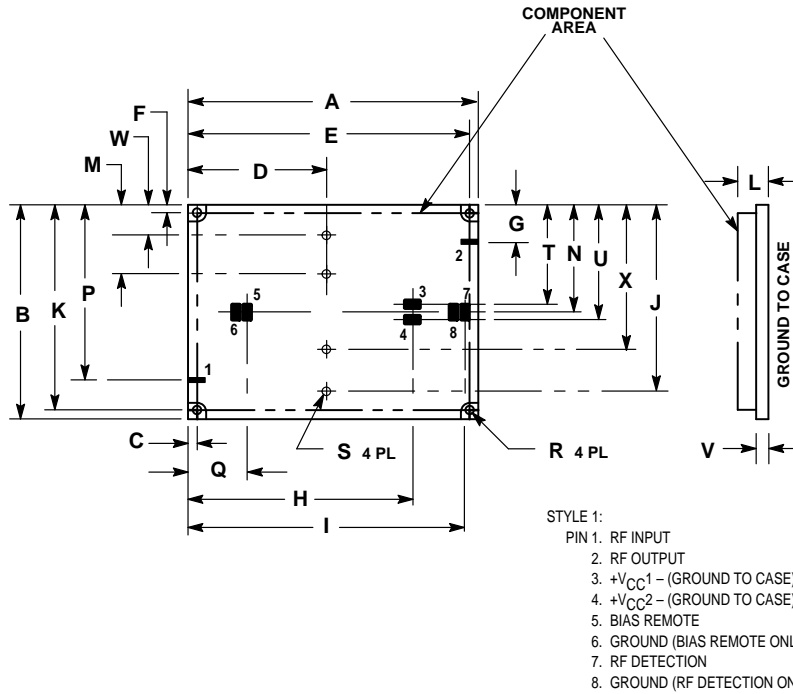
- Split lock washers WZ Ø3 + Flat washers ZU Ø3.

CLEANING

- Some components of this amplifier are not qualified for every kind of cleaning solvent.
- Do not clean the amplifier in a solvent bath.
- Local cleaning is recommended.




PACKAGE DIMENSIONS



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	114.88	115.12	4.523	4.532
B	84.88	85.12	3.342	3.351
C	3.40	3.60	0.134	0.142
D	54.70	54.90	2.154	2.161
E	111.40	111.60	4.386	4.394
F	3.40	3.60	0.134	0.142
G	14.60	15.40	0.575	0.606
H	88.70	89.50	3.492	3.524
I	109.50	110.30	4.311	4.343
J	74.00	74.20	2.913	2.921
K	81.40	81.60	3.205	3.213
L	—	12.00	—	0.472
M	25.00	25.20	0.984	0.992
N	42.40	42.60	1.669	1.677
P	69.60	70.40	2.740	2.772
Q	23.00	23.80	0.906	0.937
R	3.40	3.70	0.134	0.146
S	3.18	3.42	0.125	0.135
T	39.10	39.90	1.539	1.571
U	45.10	45.90	1.776	1.807
V	4.50	4.90	0.177	0.193
W	10.80	11.00	0.425	0.433
X	59.80	60.00	2.354	2.362

CASE 429A-02 ISSUE A

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MRFA2600/D

