VM-70X Transmitter notes

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RF Output settings - Dec 20, 2010
434 MHz, 13.8Vdc, no video,
RF pot CCW =240 mA
6W = 1.6A, pot 3.75K/ 2.4V
5W= 1.5A, pot 3.6K/ 2.2V
4W=1.38A, pot 3.45K/ 2.17V
3W=1.15A, pot 3.3K/ 2.05V
2W=.99A, pot 3.1K/ 1.92V
1W=.78A, pot 2.9K/ 1.78V
.5W=.65A, pot 2.8K/ 1.7V
.25W=.5A, 2.7K/ 1.6V
<.1W pot 2.15K

439 MHz full CW 5.8W=1.62A
426 MHz full CW 6.8W=1.7A

Set 439 to .5W, 426=.75W

427 set to 1W at 13.8V, .5W at 9.4V

47K Thermistor should equalize heat dissipation limit

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Feb 16, 2011
Thermistor test.
Mouser/Vishay 71-07C5002JP 50k measured 40K at 84 degrees soldered between DC ground next to cover and RF pot trace.
Open pot at max =5W on 434.
3.0W with thermistor.
100 deg 2.4W 27K
110 deg 1.7W 20K
120 deg 1.05W 18K
125 deg .9W 17K

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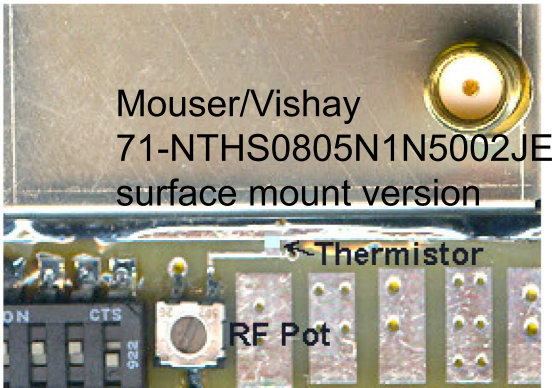


Feb 18, 2011
Time test, thermistor directly connected. RF out pot at max. Clamped in vice (provided some heatsinking).

| Time | deg | Watts |
|---|---|---|
| 0 | 80 | 3.25 |
| 1 | 86 | 3.0 |
| 2 | 93 | 2.6 |
| 3 | 100 | 2.0 |
| 4 | 106 | 1.6 |
| 5 | 110 | 1.3 |
| 6 | 112 | 1.1 |
| 7 | 114 | 1.0 |
| 8 | 115 | .9 |
| 9 | 115 | .9 |
| 10 | 115 | .9 |

Unclamped and put rubber bumper at minute 11.

| | | |
|---|---|---|
| 12 | 114 | .7 |
| 15 | 140 | .25 |

Needs larger heat sink surface to top out at 1W.

August 2, 2011
6x8" aluminum sheet with VM-70X. 5oz total
Cut 1" long in 6" sides, 1.5" in.
Bend up 1.5" in from 8" side. Bend down 1" 6" sides.
13.8Vdc applied. Tenma multimeter for temp and DC Amps. IFR for PEP.

Set to 1.8Wpep grey scale at 81 degrees.
Half hour 2.26W 132deg .8A vid/1.0A no vid

Set to 2.8W 115 deg, 3.0W 139deg half hour .98/1.2A

Set to 4.0Wpep 113 deg, 149 deg half hour 1.16/1.4A

Next try 80mmx15mm 12V fan. Mouser 664-D8015MX1-12VLF $10.73