



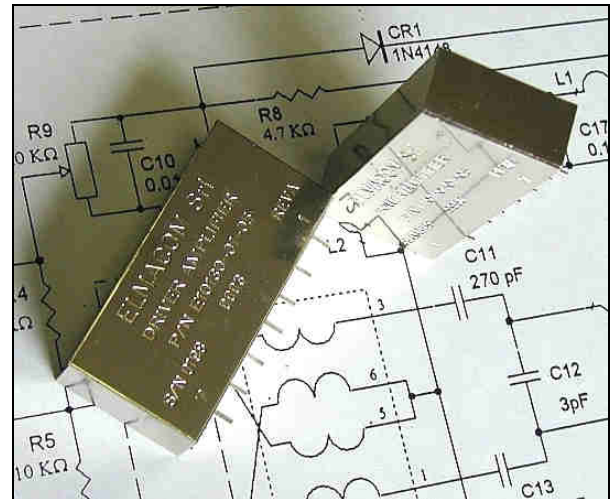
## TECHNICAL BULLETIN

**MINIATURE POWER AMPLIFIER MODULE**

**E10430-01-05**

**Rev.A**

This miniature, wideband VHF/UHF, power amplifier is designed for very wideband military and commercial communications application. This specification describes a single stage class AB Linear Power Amplifier which incorporates gold-metallised, SI MOSFET transistor for high reliability. This amplifier is designed to conservatively provide low distortion AM power for radio rated at 15 W carrier, 60 W PEP over the **full** frequency range from 30 to 470 MHz, with a typical 1dB insertion loss due to output filter, TR switch, VSWR bridge, etc.



### Features

- Broadband Operation 30 to 470 MHz
- High Saturated Output Power :  $\geq 80$  W
- High Gain :  $\geq 10$  dB
- Very Low Gain Ripple :  $\leq \pm 1.5$  dB
- Low Input VSWR :  $\leq 2.5 : 1$
- Rugged Push-pull FET Design
- Optimised for Airborne Environment
- Hundreds of sets in use worldwide
- Built to MIL Standards
- Proprietary Design Improvement

### Absolute Maximum Ratings

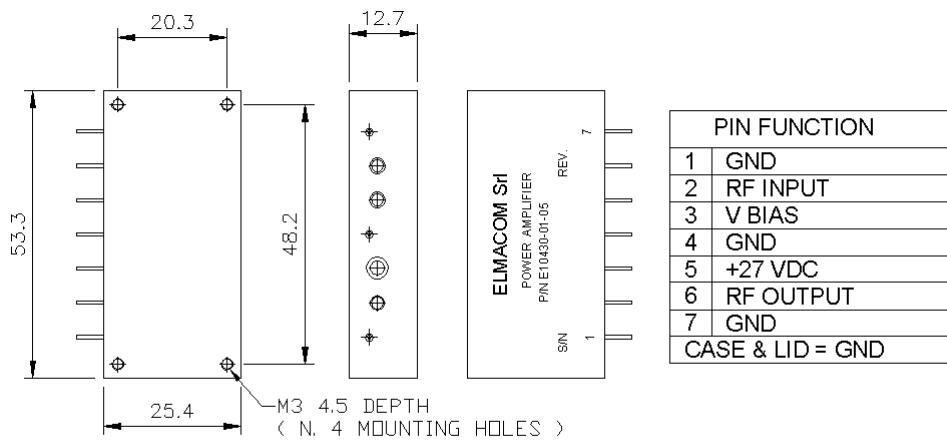
| Parameter                  | Rating      | Units |
|----------------------------|-------------|-------|
| Supply Voltage             | 30          | V     |
| Input Power (Peak)         | 16          | W     |
| Output Power (Peak)        | 90          | W     |
| Bias Voltage               | + 5.1       | V     |
| Operating Case Temperature | -40 to +110 | °C    |
| Storage Temperature        | -54 to +125 | °C    |

### ELMACOM srl

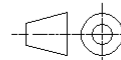
Via delle Genziane s.n.c 00012 Guidonia, Rome - Italy  
Phone: +39 (0774) 379296 Fax: +39 (0774) 353442  
E-mail : [info@elmacom.com](mailto:info@elmacom.com) Website : [www.elmacom.com](http://www.elmacom.com)

## Electrical Characteristics at 25°C

| Parameter                 | Units | Min | Typ.  | Max   | Test Conditions                              |
|---------------------------|-------|-----|-------|-------|--|
| Output Power (CW)         | W     | 80  | 90    |       | Vcc=27V, Pin=15 W, Load=50 Ω, Vbias= 5.1 V   |
| Power Gain                | dB    | 10  | 11    |       | Vcc=27V, Pout=80 W, Load=50 Ω, Vbias= 5.1 V  |
| Efficiency                | %     | 30  | 40    |       | Vcc=27V, Pout=80 W, Load=50 , Ω Vbias= 5.1 V |
| Input VSWR                | VSWR  |     | 2.2:1 | 2.5:1 | Vcc=27V, Load=50 Ohm, Vbias= 5.1 V           |
| Load VSWR Tolerance       | VSWR  |     |       | 2.5:1 | Vcc=27V, Vbias= 5.1 V, Pout=80 W, all phases |
| Gain Variation With Freq. | dB    |     | ±0.5  | ±1    | Vcc=27V, Pout=80 W, Load=50 , Ω Vbias= 5.1 V |
| Even Harmonics            | dBc   |     | -30   | -25   | Vcc=27V, Pout=30 W, Load=50 , Ω Vbias= 5.1 V |
| Odd Harmonics             | dBc   |     | -16   | -14   | Vcc=27V, Pout=30 W, Load=50 , Ω Vbias= 5.1 V |
| Spurious Output           | dBc   |     |       | -80   | Vcc=27V, Pout=30 W, Load=50 , Ω Vbias= 5.1 V |



ALL DIMENTIONS ARE IN mm



### ELMACOM srl

Via delle Genziane s.n.c 00012 Guidonia, Rome - Italy  
 Phone: +39 (0774) 379296 Fax: +39 (0774) 353442  
 E-mail : [info@elmacom.com](mailto:info@elmacom.com) Website : [www.elmacom.com](http://www.elmacom.com)