

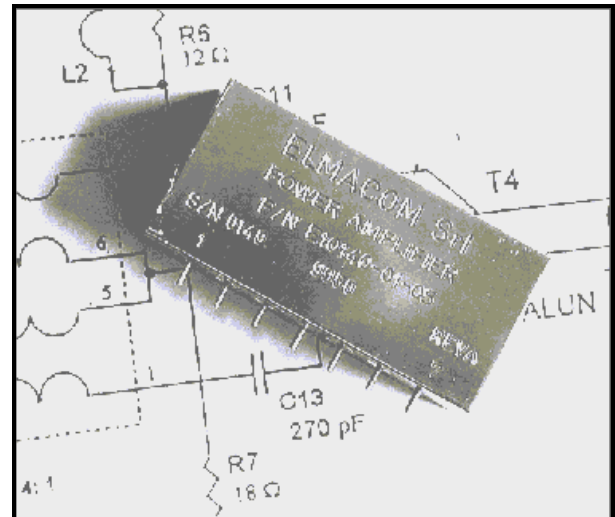
TECHNICAL BULLETIN

MINIATURE POWER AMPLIFIER MODULE

E10140-01-05

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 400 MHz, with a typical 1dB insertion loss due to output filter, TR switch, VSWR bridge, etc.



Features

- Broadband Operation 30 to 400 MHz
- High Saturated Output Power : ≥ 80 W
- High Gain : ≥ 10 dB
- Very Low Gain Ripple : $\leq \pm 1$ 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

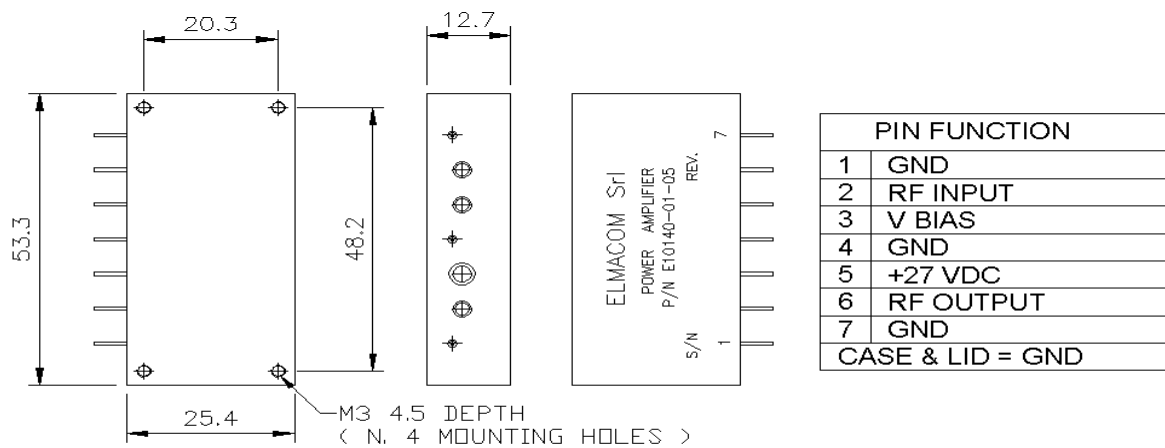
Parameter	Rating	Units
Supply Voltage	30	V
Input Power (Peak)	16	W
Output Power (Peak)	90	W
Bias Voltage	+ 5.2	V
Operating Case Temperature	-40 to +110	°C
Storage Temperature	-54 to +125	°C

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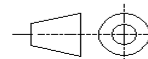
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Electrical Characteristics at 25°C

Parameter	Units	Min	Typ.	Max	Test Conditions
Output Power (CW)	W	80	90		V _{cc} =27V, P _{in} =13 W, Load=50 Ω, V _{bias} = 5.1 V
Power Gain	dB	9	11		V _{cc} =27V, P _{out} =64 W, Load=50, Ω V _{bias} = 5.1 V
Efficiency	%	35	45		V _{cc} =27V, P _{out} =64 W, Load=50 Ω, V _{bias} = 5.1 V
Input VSWR	VSWR		2.2:1	2.5:1	V _{cc} =27V, Load=50 Ω, V _{bias} = 5.1 V
Load VSWR Tolerance	VSWR			2.5:1	V _{cc} =27V, V _{bias} = 5.1 V, P _{out} =64 W, all phases
Gain Variation With Freq.	dB		±0.5	±1	V _{cc} =27V, P _{out} =64 W, Load=50, Ω V _{bias} = 5.1 V
Even Harmonics	dBc		-30	-25	V _{cc} =27V, P _{out} =24 W, Load=50 Ω, V _{bias} = 5.1 V
Odd Harmonics	dBc		-16	-14	V _{cc} =27V, P _{out} =24 W, Load=50 Ω, V _{bias} = 5.1 V
Spurious Output	dBc			-80	V _{cc} =27V, P _{out} =64 W, Load=50 Ω, V _{bias} = 5.1 V



ALL DIMENTIONS ARE IN mm



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