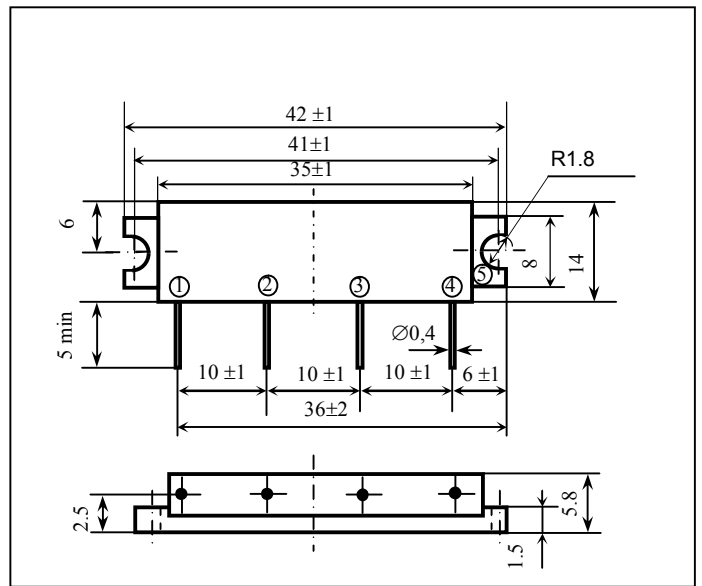


## Power RF Amplifier

Power = 5 Watts  
 Bandwidth = 33 to 39 MHz  
 Gain = 30dB Vcc=9.6 Volts  
 50 Ohms Input/Output Impedances  
 Copper Flange

### Description

The UM109-1A is 5 Watt FM amplifier module covering a bandwidth of 33-39 MHz. This dual stage amplifier is specifically designed for Land Mobile VHF band portable radio applications.



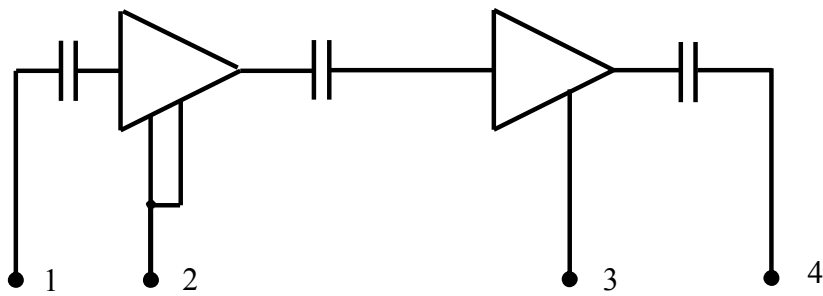
Absolute Maximum Ratings (T=25°C)

Parameter	Symbol	Value	Unit
DC supply Voltage	Vcc	12	V
DC bias Voltage, Power control	Vbb	9.6	V
Input Power	Pin	30	mW
Output Power	Pout	10	W
Operating Case Temp.	Tc	-40 to +85	°C
Storage Temperature	Tstg	-60 to +100	°C

Electrical Characteristics: (Tc = 25°C, Zs = Zl = 50 Ohms. Vcc = 9.6 Volts. Vbb = 9.6Volts.)

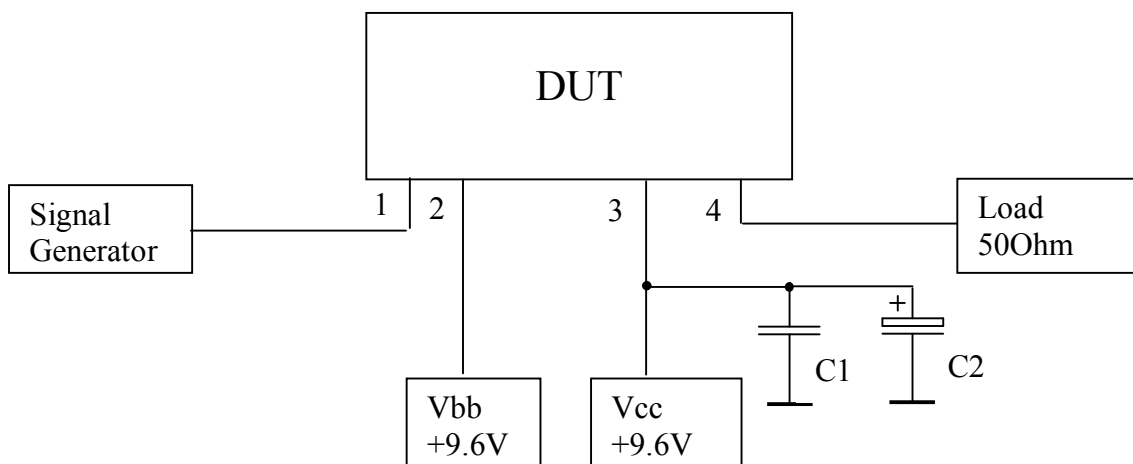
Parameter	Symbol	Min	Typical	Max	Unit	Test Conditions
Frequency Range	BW	33		39	MHz	50 Ohm load
Output Power	Pout	5			Watts	
Power Gain	PG	30			dB	
Total Efficiency	$\eta$	45	55		%	Po=5W, CW
2 <sup>nd</sup> Harmonic	F <sub>2</sub>		-40	-30	dBc	
3 <sup>rd</sup> Harmonic	F <sub>3</sub>		-40	-30	dBc	
Load Mismatch	$\Psi$	No degradation or destroy				Pin=10mW, Po=5W, VSWR =20

## Block diagram



- 1- RF input
- 2- Bias Voltage ( $V_{bb}$ ), Power Control
- 3- Collector Voltage ( $V_{cc}$ )
- 4- RF Output ( $P_{out}$ )
- 5- RF Ground (Case)

## Test block diagram



- C1- 0.1 $\mu$ F
- C2- 100 $\mu$ F

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*Specification is subject to change without notice*