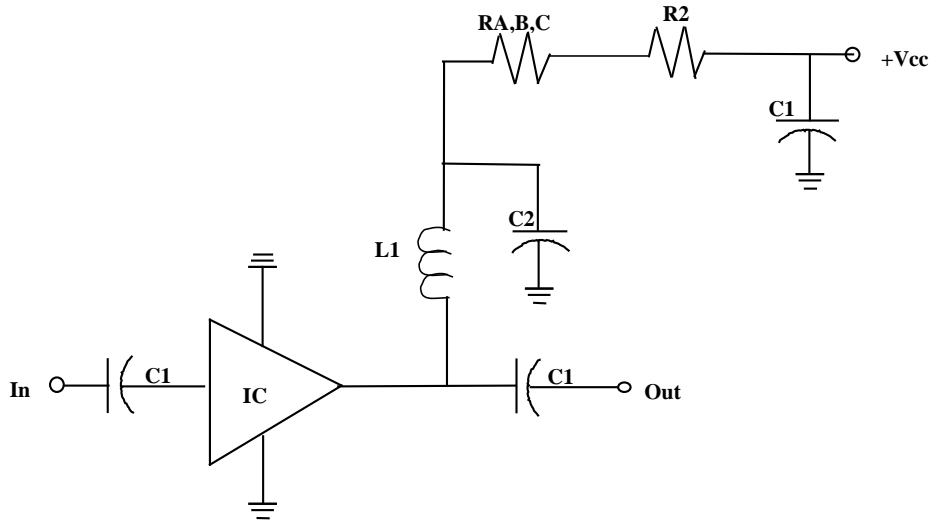
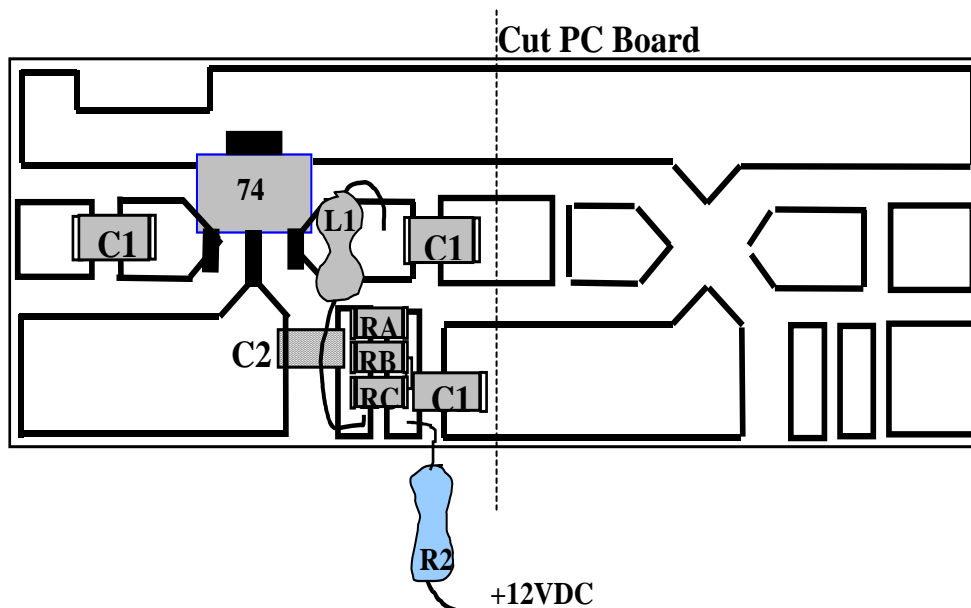


**Universal Wide Band Amplifier  
DEM Part Number MMICKGALI  
For 0.01 - 1 GHz, +12VDC Operation**

(GALI-74)



C1	1000 pF chip
C2	≈ 0.1 μF chip
L1	1.0 μF choke
R A,B,C	150 Ω chip
R2	56 Ω 1/2W



Surface Mount

# Monolithic Amplifier

**NEW!**  
Gali 74

50Ω, High dynamic range, DC to 1 GHz



SOT-89  
(DF 782)

## Features

- InGaP HBT IF and RF amplifier
- frequency range, DC to 1 GHz, usable to 4 GHz
- high gain, 25.1 dB typ. at 100 MHz
- up to +19.2 dBm typ. output power at 100 MHz
- high IP3, +38 dBm at 100 MHz
- low noise figure, 2.7 dB typ.
- unconditionally stable
- low thermal resistance
- transient protected
- patent pending
- low cost \$1.85 (qty. 1000)

## Applications

- cellular
- broadband
- communication receivers & transmitters

## Electrical Specifications @ 25°C

MODEL NO.	FREQ.* (GHz)	GAIN, dB Typical					MAXIMUM POWER (dBm)	DYNAMIC RANGE				VSWR (:1) Typ.		MAXIMUM RATING**		DC OPERATING POWER @ Pin 3***			THERMAL RESISTANCE θjc, typ. °C/W						
		over frequency, GHz						Output (1 dB Comp.) Typ.	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	I	P	Current	Volt	Max								
	f <sub>1</sub> -f <sub>2</sub>	0.1	1	2	3	4	Min. @ 1GHz	0.1 GHz	0.5 GHz	1.0 GHz	Min. @ 0.1GHz	0.1 GHz	0.5 GHz	1.0 GHz	In	Out	mA	mW	Typ	Min	Max				
Gali 74	DC-1	25.1	21.8	18	15.3	13.4	20	19.2	19	18.3	18	10	2.7	38	37	33	1.2	1.6	130	700	80	4.8	4.3	5.3	120

\* Low frequency cutoff determined by external coupling capacitors.

\*\* Permanent damage may occur if any of these limits are exceeded.

\*\*\* These ratings are not intended for continuous normal operation.

Reliability predictions and normal operating conditions are applicable at current specified.

## Maximum Ratings

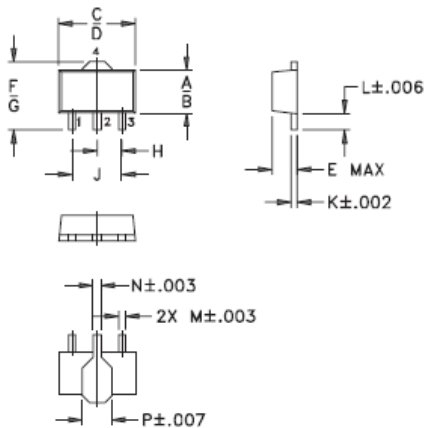
Operating Temperature	-45°C to 85°C
Storage Temperature	-65°C to 150°C

## Model Identification

Model	Marking†
GALI-74	74

†Prefix letter (optional) designates assembly location. Suffix letters (optional) are for wafer identification.

## Outline Drawing (DF782)



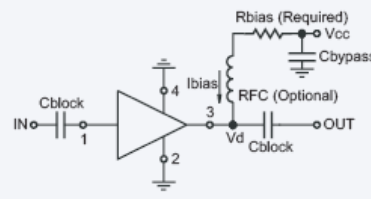
## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt.
.102	.090	.181	.173	.063	.167	.155	.059	.118	.015	.041	.016	.019	.065	grams
2.59	2.29	4.60	4.39	1.60	4.24	3.94	1.50	3.00	0.38	1.04	0.41	0.48	1.65	.2

## Pin Configuration

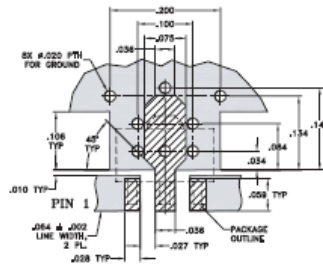
RF IN	1
RF OUT	3
DC	3
GND EXT.	2,4

## Typical Biasing Configuration



R BIAS	
"1%" Resistor Values	GALI-74
Vcc	28.7
7	41.2
8	53.8
9	66.5
10	78.7
11	90.9
12	102
13	115
14	127

## Suggested PCB Layout (PL-019)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS .030" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

□ DENOTES PCB COPPER LAYOUT  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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