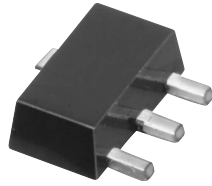


Surface Mount

# 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	PRICE \$ Qty. (25)		
		over frequency, GHz						Output (1 dB Comp.) Typ.				NF IP3 (dBm) Typ.				In	Out	I	P	Current (mA)							
	f <sub>L</sub> -f <sub>u</sub>	0.1	1	2	3	4	Min.@ 1GHz	0.1 GHz	0.5 GHz	1.0 GHz	Min.@ 0.1GHz	Input (no dmg.)	Typ. GHz	0.1 GHz	0.5 GHz	1.0 GHz			mA	mW	Typ	Min	Max	Typ	Min	Max	
Gali74	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	2.35

\* 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

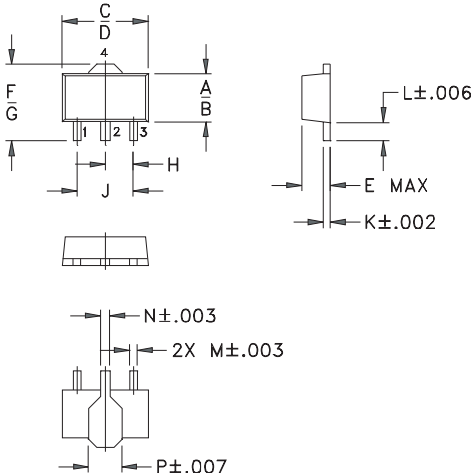
Operating Temperature -45°C to 85°C  
 Storage Temperature -65°C to 150°C

## Model Identification

Model GALI-74 Marking<sup>†</sup> 74

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

## Outline Drawing (DF782)



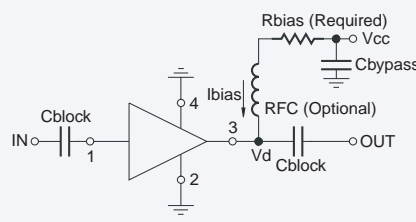
## Outline Dimensions (inch mm)

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

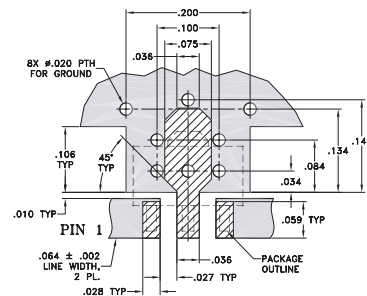
## Typical Biasing Configuration



## R BIAS "1%" Resistor Values

Vcc	GALI-74
7	28.7
8	41.2
9	53.6
10	66.5
11	78.7
12	90.9
13	102
14	115
15	127

## Suggested PCB Layout (PL-019)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS .050" ± .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



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

ISO 9001 CERTIFIED

REV. A  
M91597  
Gali-74  
ED-10887/6  
MM/RS/CP  
040329  
Page 1 of 4

