

Surface Mount Monolithic Amplifier

Gali  74+
Gali  74

50Ω, High dynamic range, DC to 1 GHz



CASE STYLE : DF782

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

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
- low cost \$1.85 (qty. 1000)
- protected by US patent, 6,943,629

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 θ _{jc} , typ. °C/W	PRICE \$ Qty. (25)		
		over frequency, GHz						Output (1 dB Comp.) Typ.				NF IP3 (dBm) Typ.				In	Out	I	P	Cur-	Device	Typ			Min	Max
	f _l -f _u	0.1	1	2	3	4	Min.@ 1GHz	0.1 GHz	0.5 GHz	1.0 GHz	Min.@ 0.1GHz	Input (no dmg.)	Typ.	0.1 GHz	0.5 GHz	1.0 GHz			mA	mW	(mA)	Volt				
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

Pin Configuration

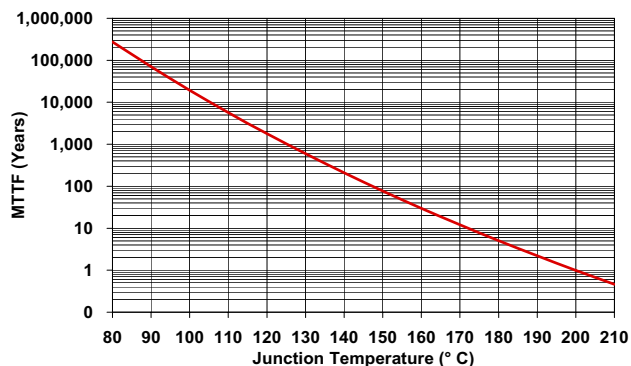
RF IN	1
RF OUT	3
DC	3
GROUND	2

Model Identification

Model	Marking [†]
GALI-74(+)	74

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

MTTF vs. Junction Temp.



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Mini-Circuits ISO 9001 & ISO 14001 Certified

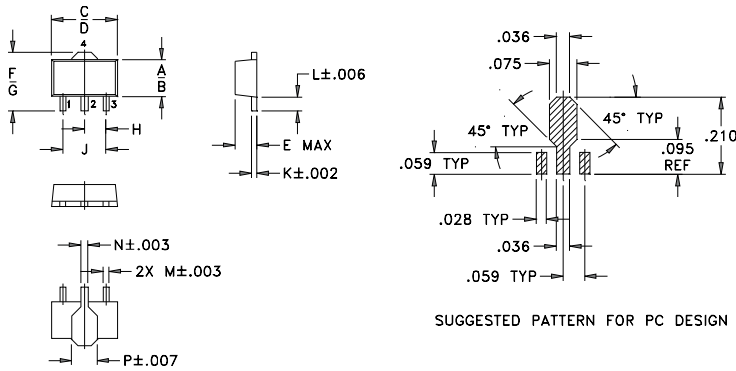
INTERNET <http://www.minicircuits.com>

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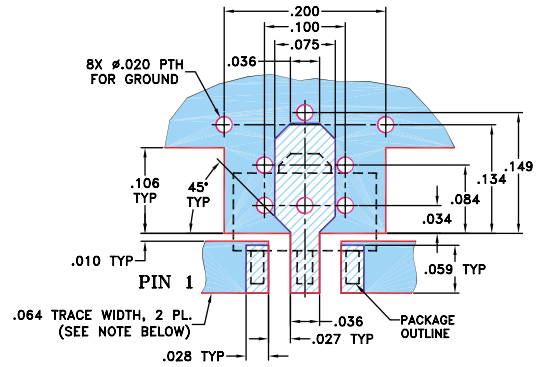


REV. C
M102713
Gali-74
ED-10887/6
MM/RS/CP
060222
Page 1 of 4

Outline Drawing



Demo Board MCL PIN: Gali-74-TB
Suggested PCB Layout (PL-019)



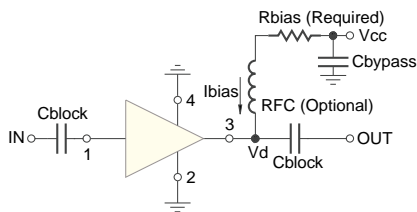
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
.102	.090	.181	.173	.063	.167	.155	.059
2.59	2.29	4.60	4.39	1.60	4.24	3.94	1.50
J	K	L	M	N	P	wt	
.118	.015	.041	.016	.019	.065	grams	
3.00	0.38	1.04	0.41	0.48	1.65	grams	0.2

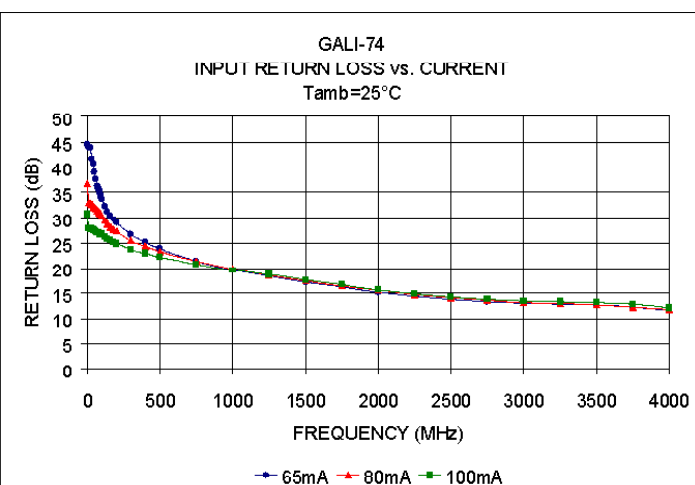
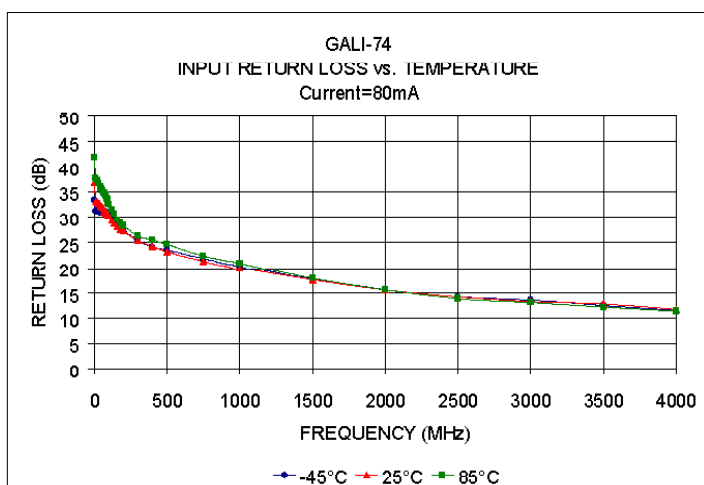
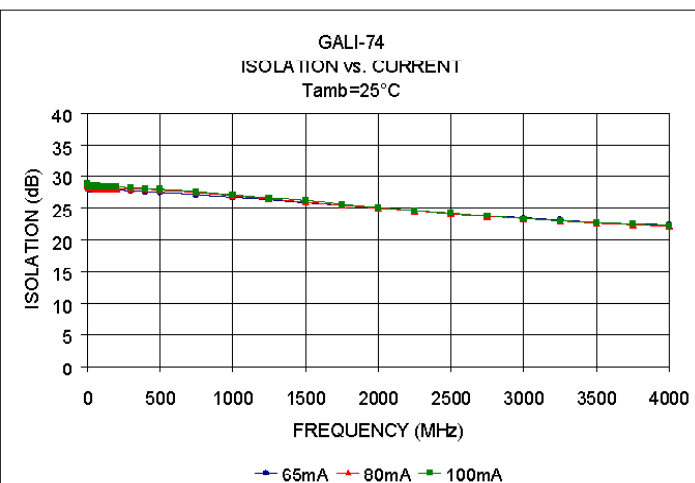
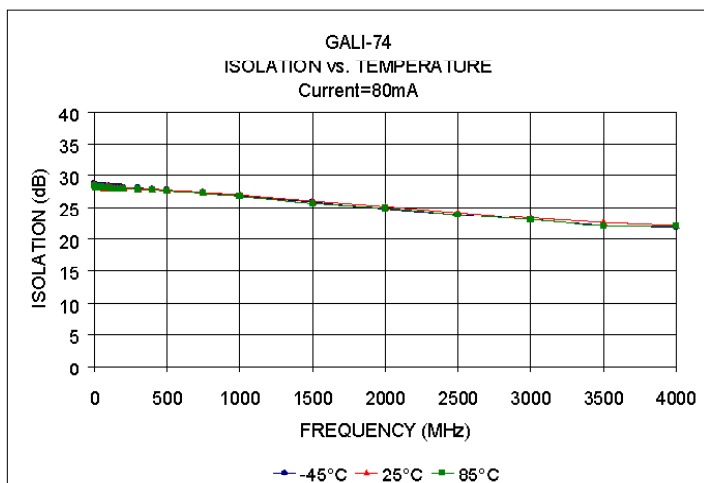
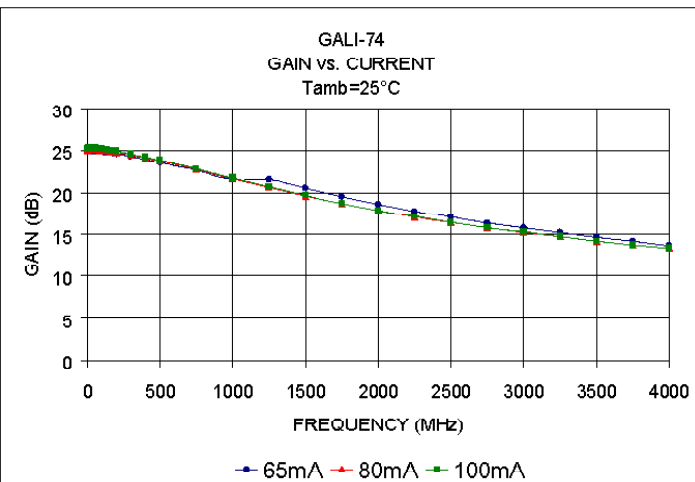
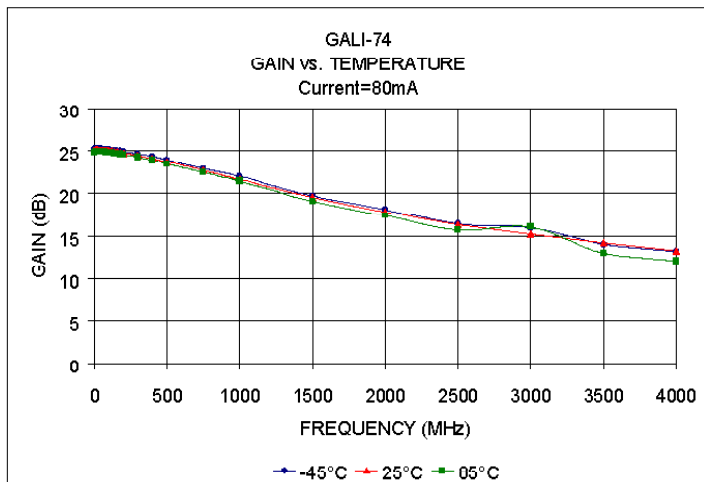
Typical Biasing Configuration



R BIAS	
"1%" Resistor Values	GALI-74(+)
Vcc	
7	28.7
8	41.2
9	53.6
10	66.5
11	78.7
12	90.9
13	102
14	115
15	127

Performance Curves

Gali  74+
Gali  74



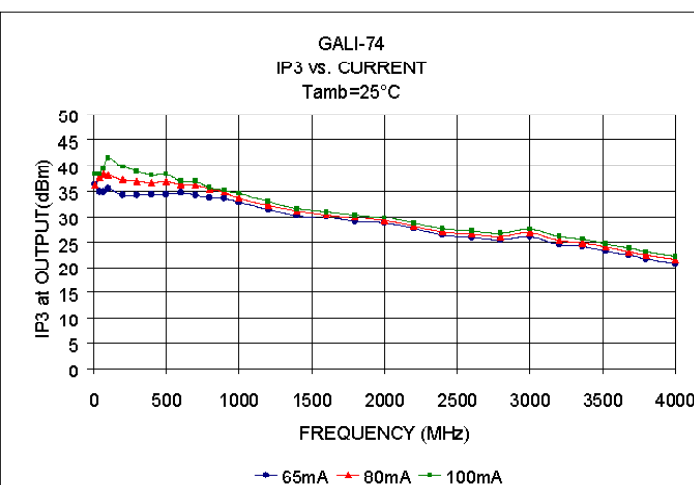
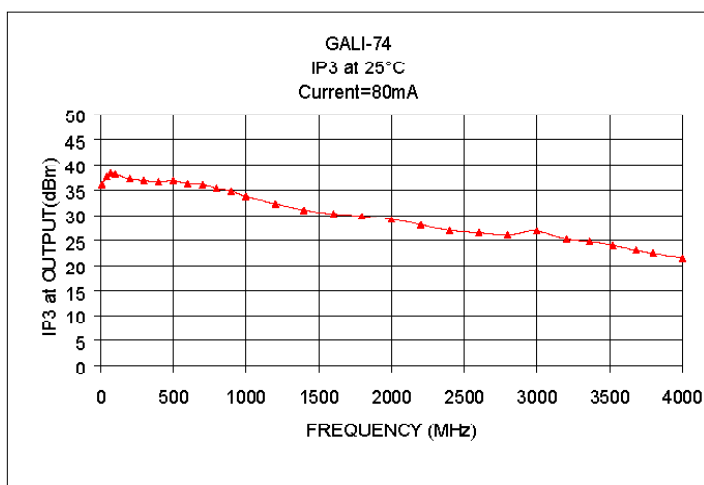
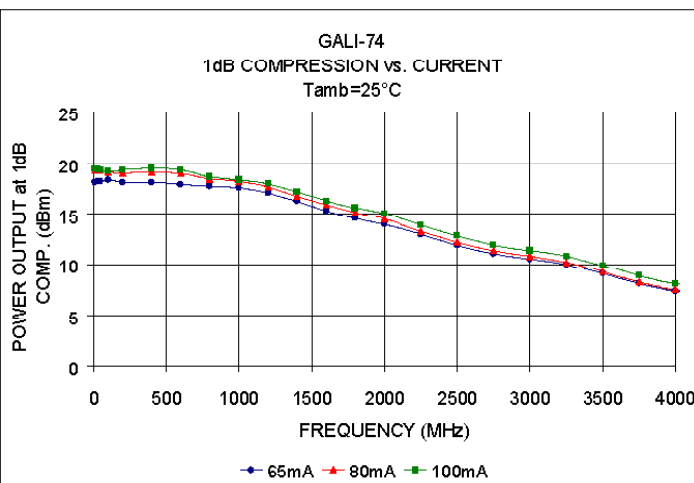
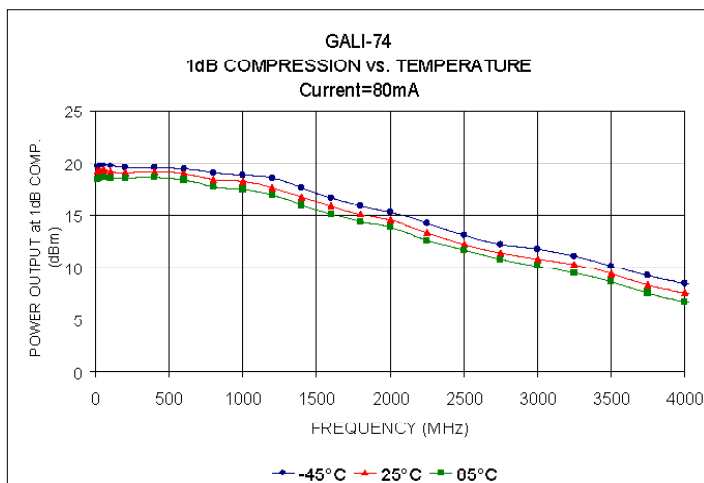
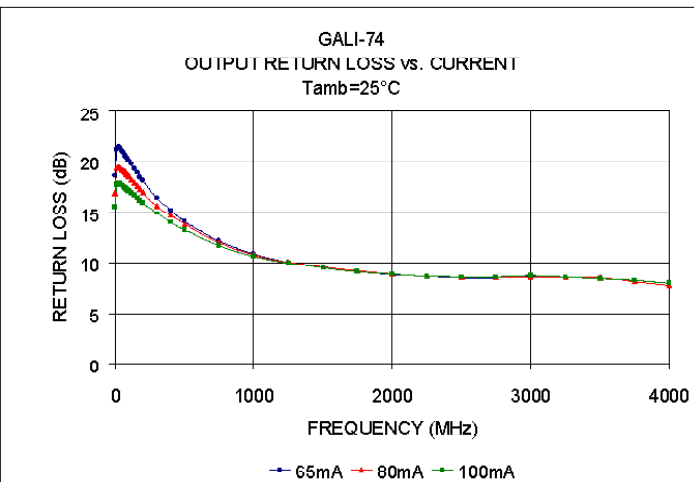
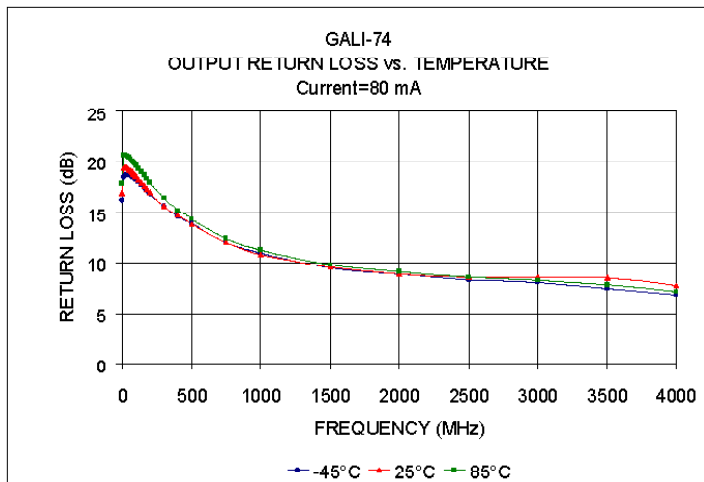
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