Surface Mount

Monolithic Amplifier

DC-3 GHz

Features

- Miniature SOT-89 package
- Low noise figure, 2.4 dB typ.
- Internally Matched to 50 Ohms
- Wide bandwidth, DC to 3 GHz
- Excellent package for heat dissipation, exposed metal bottom
- Low thermal resistance for high reliability
- Aqueous washable

Generic photo used for illustration purposes only

Gali S66+

CASE STYLE: DF782

Applications

- Cellular
- PCS
- Communication receivers & transmitters

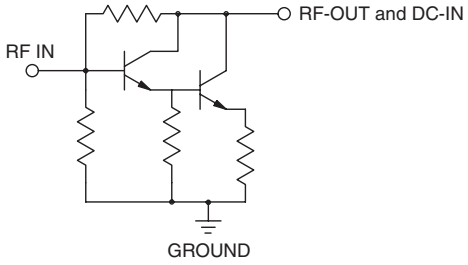
+RoHS Compliant

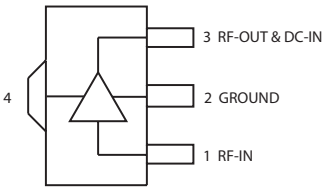
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

General Description

Gali S66+ (RoHS compliant) is a wideband amplifier offering high dynamic range. Lead finish is SnAgNi. It has repeatable performance from lot to lot, and is enclosed in a SOT-89 package. It uses Darlington configuration and is designed to be rugged for ESD.

simplified schematic and pin description





Function	Pin Number	Description
RF IN	1	RF input pin. This pin requires the use of an external DC blocking capacitor chosen for the frequency of operation.
RF-OUT and DC-IN	3	RF output and bias pin. DC voltage is present on this pin; therefore a DC blocking capacitor is necessary for proper operation. An RF choke is needed to feed DC bias without loss of RF signal due to the bias connection, as shown in "Recommended Application Circuit".
GND	2,4	Connections to ground. Use via holes as shown in "Suggested Layout for PCB Design" to reduce ground path inductance for best performance.

Electrical Specifications at 25°C and 16mA, unless noted

Parameter		Min.	Typ.	Max.	Units
Frequency Range*		DC		3	GHz
Gain	f=0.1 GHz	—	21.6	—	dB
	f=1 GHz	—	20.3	—	
	f=2 GHz	15	18.2	—	
	f=3 GHz	—	16.4	—	
Input Return Loss	f= DC to 3 GHz		25		dB
Output Return Loss	f= DC to 3 GHz		20		dB
Output Power @ 1 dB compression	f=2 GHz	1.0	3.3	—	dBm
Output IP3	f=2 GHz		19.1		dBm
Noise Figure	f=2 GHz		2.4		dB
Recommended Device Operating Current			16		mA
Device Operating Voltage		3.0	3.5	4.0	V
Device Voltage Variation vs. Temperature at 16 mA			-2.1		mV/°C
Device Voltage Variation vs. Current at 25°C			3.7		mV/mA
Thermal Resistance, junction-to-case[1]			64		°C/W

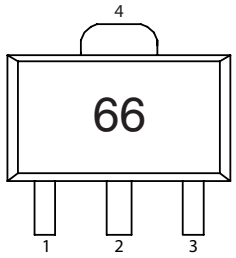
*Guaranteed specification DC-3 GHz. Low frequency cut off determined by external coupling capacitors.

Absolute Maximum Ratings

Parameter	Ratings
Operating Temperature	-45°C to 85°C
Storage Temperature	-65°C to 150°C
Operating Current	50mA
Input Power	20dBm

Note: Permanent damage may occur if any of these limits are exceeded.

Product Marking



Markings in addition to model number designation may appear for internal quality control purposes.

Additional Detailed Technical Information

Additional information is available on our web site. To access this information enter the model number on our web site home page.

Performance data, graphs, s-parameter data set (.zip file)

Case Style: DF782
Plastic package, exposed paddle, lead finish: Matte-Tin

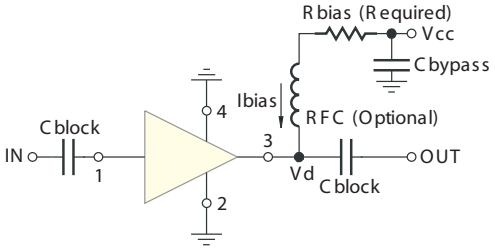
Tape & Reel: F55
7" reels with 20, 50, 100, 200, 500, 1K devices.

Suggested Layout for PCB Design: PL-019

Evaluation Board: TB-409-S66+

Environmental Ratings: ENV08T2

Recommended Application Circuit



Test Board includes case, connectors, and components (in bold) soldered to PCB

R BIAS	
Vcc	**"1%" Res. Values (ohms) for Optimum Biasing**
7	187
8	243
9	301
10	374
11	432
12	499
13	562
14	619
15	681
16	750
17	806
18	866
19	931
20	976