

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

Applications

- Cellular
- PCS
- Communication receivers & transmitters



GaliS66+

CASE STYLE: DF782
PRICE: \$0.99 ea. QTY. (20)

+RoHS Compliant

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

General Description

GaliS66+ (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.

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs
& shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

REV. F
M131362
EE-8572/B
GALI-S66+
RS/YB/FL
130115
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Electrical Specifications at 25°C and 16mA, unless noted

Parameter	Min.	Typ.	Max.	Units
Frequency Range*	DC		3	GHz
Gain				dB
	f=0.1 GHz	21.6		
	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.

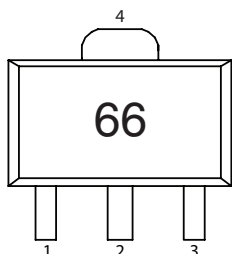


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Product Marking



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: tin/silver/nickel

Tape & Reel: F55

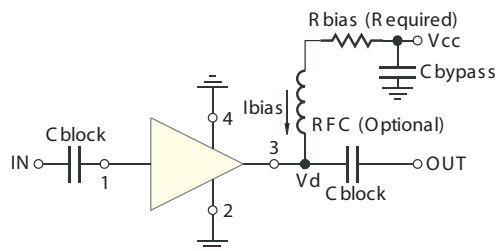
7" reels with 20, 50, 100, 200, 500, 1K devices.

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



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ESD Rating

Human Body Model (HBM): Class 1C (1000v to < 2000v) in accordance with ANSI/ESD STM 5.1 - 2001

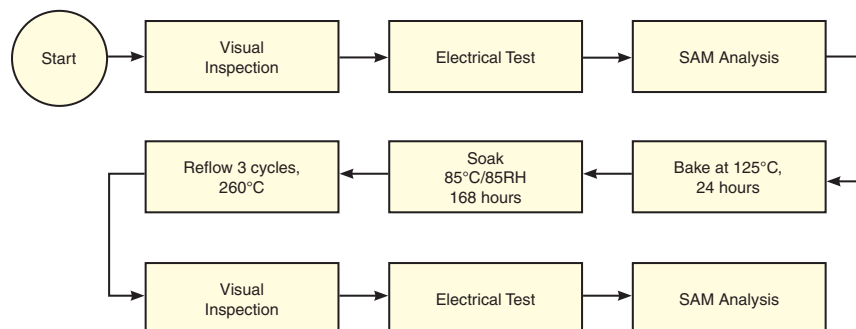
Machine Model (MM): Class M2 (100V) in accordance with ANSI/ESD STM 5.2 - 1999

MSL Rating

Moisture Sensitivity: MSL1 in accordance with IPC/JEDECJ-STD-020C

No.	Test Required	Condition	Standard	Quantity
1	Visual Inspection	Low Power Microscope Magnification 40x	MIP-IN-0003 (MCT spec)	45 units
2	Electrical Test	Room Temperature	SCD (MCL spec)	45 units
3	SAM Analysis	Less than 10% growth in term of delamination	J-Std-020C (Jedec Standard)	45 units
4	Moisture Sensitivity Level 1	Bake at 125°C for 24 hours Soak at 85°C/85%RH for 168 hours Reflow 3 cycles at 260°C peak	J-Std-020C (Jedec Standard)	45 units

MSL Test Flow Chart



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