

Wide Band GaAs MMIC Amplifier 0.2 - 3.0 GHz

Rev. V3

Features

- High Gain: 18 dB
- Output Power: +14 dBm
- Noise Figure: 4 dB
- Single Supply: +6 V
- Gain Flatness: ± 0.75 dB
- Lead-Free 8-lead Ceramic Package
- RoHS* Compliant and 260°C Reflow Compatible

Description

M/A-COM's MAAM02350-A2 is a wide band, MMIC amplifier housed in a small, lead-free, 8-lead ceramic package. It includes two integrated gain stages and employs resistive feedback to obtain flat gain and a good, 50-ohm, input and output impedance match over a very wide bandwidth. The MAAM02350-A2 operates from a single +6 V supply. It is monolithic, requiring only DC blocking capacitors, no other external components are needed.

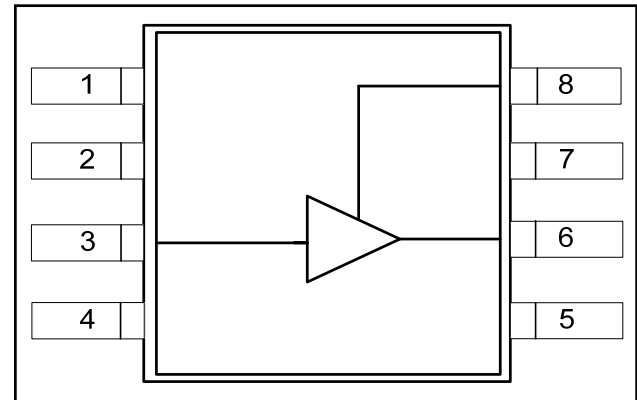
The MAAM02350-A2 functions well as a generic IF, driver or buffer amplifier where high gain, low noise figure, excellent linearity and low power consumption are important. Because of its wide bandwidth, the MAAM02350-A2 can be used in numerous commercial and government system applications, such as wireless communications, EW and radar.

The MAAM02350-A2 is manufactured in-house using a reliable, 0.5-micron, GaAs MESFET process. This product is 100% RF tested to ensure compliance to performance specifications.

Ordering Information

Part Number	Package
MAAM02350-A2	8-Lead Ceramic (CR-3)
MAAM02350-A2G	Gull Wing (CR-10)

Functional Schematic



Pin Configuration¹

Pin No.	Function	Pin No.	Function
1	Ground	5	Ground
2	Ground	6	RF Output
3	RF Input	7	Ground
4	Ground	8	V _{DD}

1. The package bottom must be connected to RF and DC ground.

Absolute Maximum Ratings^{2,3}

Parameter	Absolute Maximum
V _{DD}	+10 V
Input Power	+20 dBm
Current	150 mA
Channel Temperature ⁴	+150°C
Operating Temperature	-55°C to +100°C
Storage Temperature	-65°C to +150°C

2. Exceeding any one or combination of these limits may cause permanent damage to this device.
3. M/A-COM does not recommend sustained operation near these survivability limits.
4. Typical thermal resistance (θ_{JC}) = +80°C/W

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• **North America** Tel: 800.366.2266 / Fax: 978.366.2266

• **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300

• **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

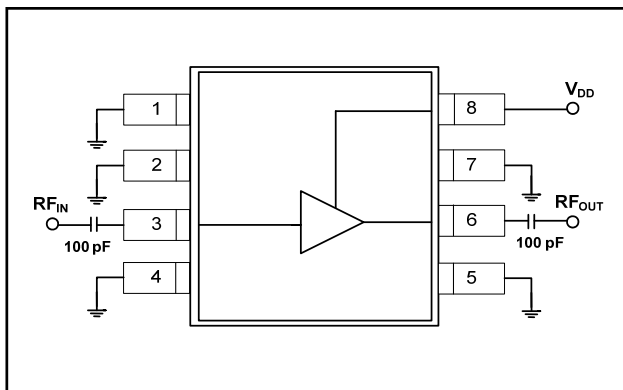
Wide Band GaAs MMIC Amplifier 0.2 - 3.0 GHz

Rev. V3

Electrical Specifications: $T_A = 25^\circ\text{C}$, $V_{DD} = +6\text{ V}$, $Z_0 = 50\ \Omega$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Gain	0.2 - 3.0 GHz, $P_{IN} = -30\text{ dBm}$	dB	16	18	—
Noise Figure	0.2 - 3.0 GHz	dB	—	4.0	4.5
Gain Flatness	0.2 - 3.0 GHz, $P_{IN} = -30\text{ dBm}$	dB	—	± 0.5	—
Input VSWR	0.2 - 3.0 GHz, $P_{IN} = -30\text{ dBm}$	Ratio	—	1.7:1	—
Output VSWR	0.2 - 3.0 GHz, $P_{IN} = -30\text{ dBm}$	Ratio	—	1.3:1	—
Output 1 dB Compression	0.2 - 3.0 GHz	dBm	—	+14	—
Input IP3	0.2 - 3.0 GHz, $P_{IN} = -30\text{ dBm}$	dBm	—	+6	—
Reverse Isolation	0.2 - 3.0 GHz, $P_{IN} = -30\text{ dBm}$	dB	—	30	—
Bias Current	—	mA	—	65	100

Application Schematic



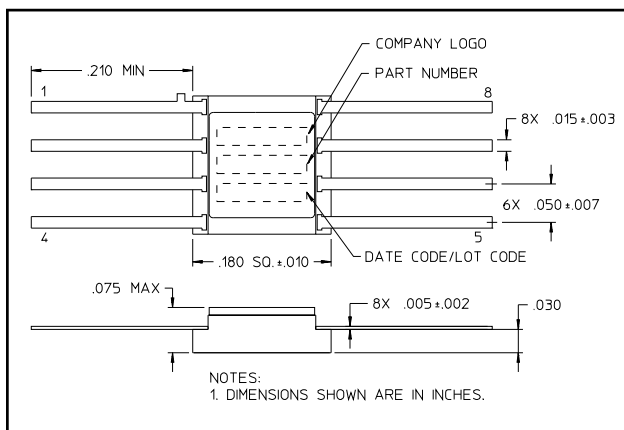
Handling Procedures

Please observe the following precautions to avoid damage:

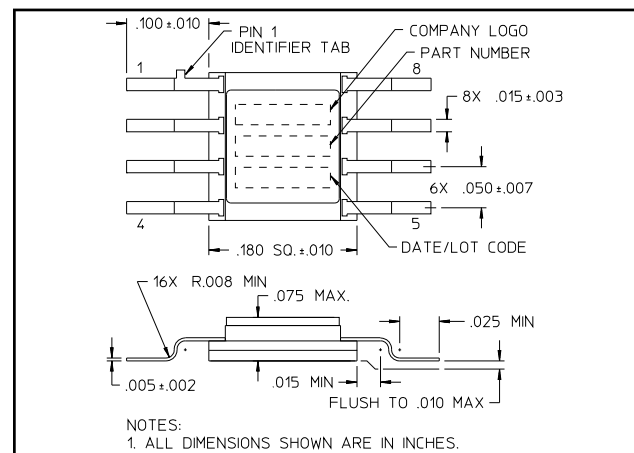
Static Sensitivity

Gallium Arsenide Integrated Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Lead-Free CR-3 (MAAM02350-A2)[†]



Lead-Free CR-10 (MAAM02350-A2G)[†]



[†] Reference Application Note M538 for lead-free solder reflow recommendations.
Meets JEDEC moisture sensitivity level 1 requirements.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• **North America** Tel: 800.366.2266 / Fax: 978.366.2266
• **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
• **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298
Visit www.macontech.com for additional data sheets and product information.

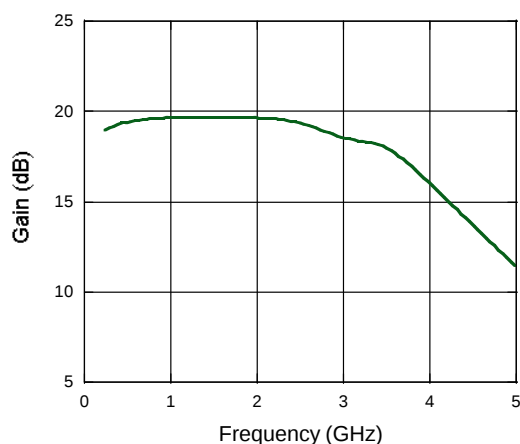
M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

Wide Band GaAs MMIC Amplifier 0.2 - 3.0 GHz

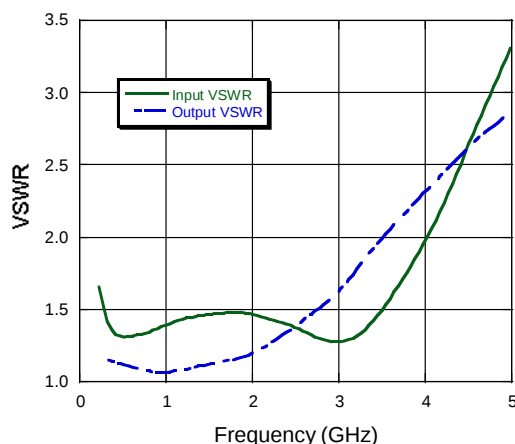
Rev. V3

Typical Performance @ +25°C

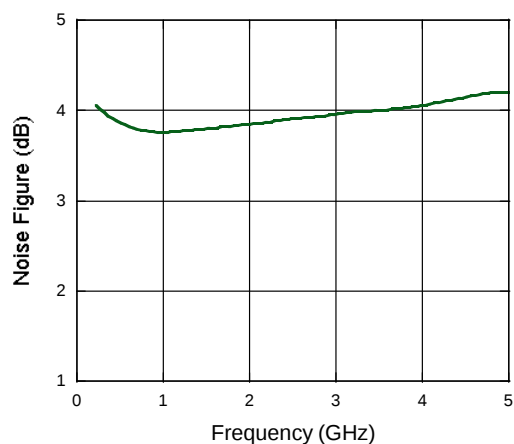
Gain



VSWR



Noise Figure



Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru

www.lifeelectronics.ru