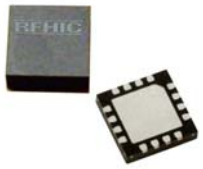
Active Down Mixer MO9Q

Product Features

- Integrated Monolithic GaAs MESFET
- Active Mixer Packages Module
- Pb-free 3mm 16-pin QFN package
- Lower Manufacturing Cost
- Higher Productivity and Reliability
- Very Low Noise Figure & Low Distortion

Applications

- Repeater
- Base Station



Package Type: QFN-3

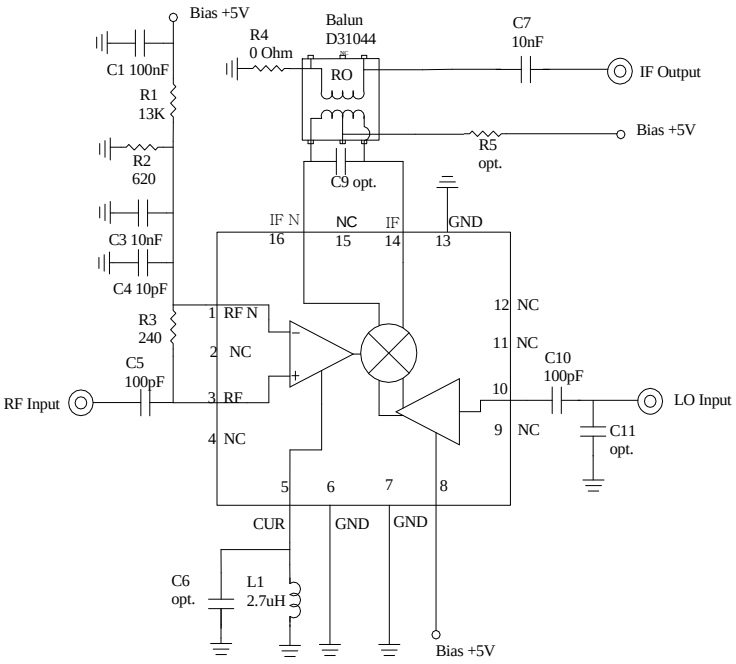
Description

The IC operates from a positive +5V rail consuming 145 mA of current while only requiring a 2 dBm LO drive.
The MCM is implemented with reliable and mature GaAs MESFET technology.

Electrical Specifications (Typical Performance at -30°C ~ 80°C)

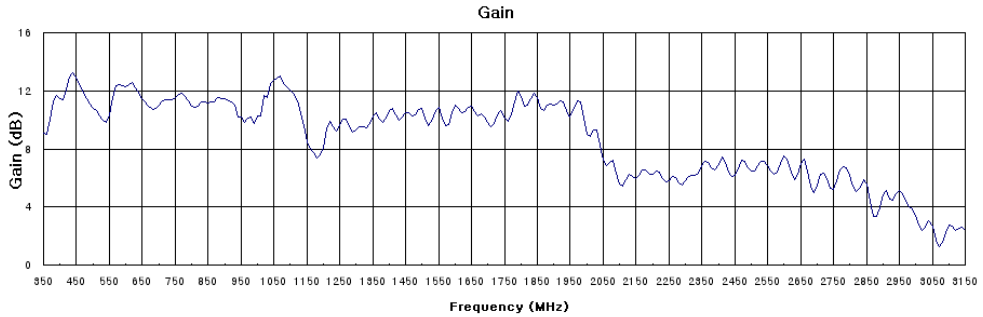
RF Frequency	LO Frequency	IF Frequency	Conversion Gain	OIP3	LO to IF Leakage	IF to RF Leakage	Vdd / Idd
(MHz)	(MHz)	(MHz)	(dB)	(dBm)	(dBm)	(dBm)	(V / mA)
836	766	70	11	28	-15	-20	5 / 145
1850	1780		10	25	-20	-20	5 / 145
2140	2070		6	25	-20	-20	5 / 145
3500	3430		0	20	-20	-25	5 / 145

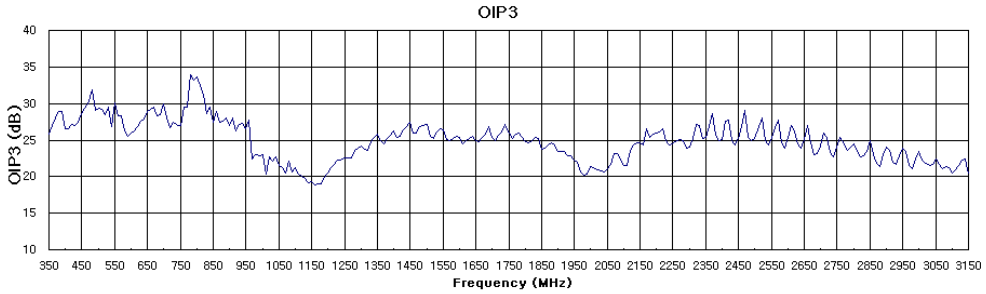
Application Circuit : Matched externally for broadband

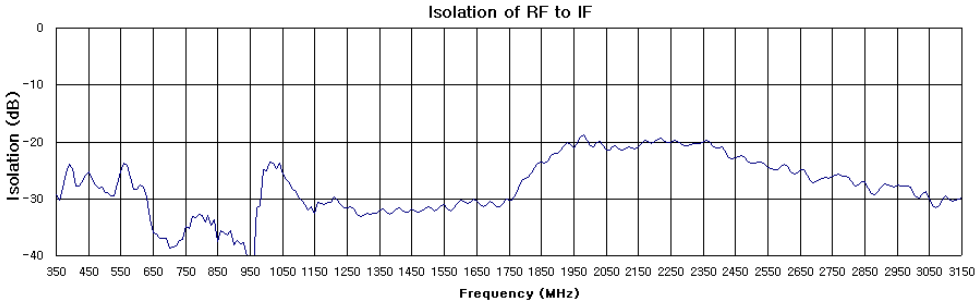


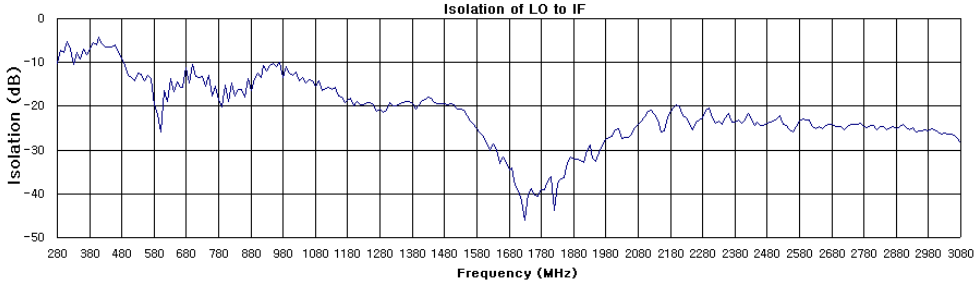
Typical Performance @25℃

Test Condition : Input 350~3150MHz@-10dBm/tone separated by 1MHz, Output 70MHz



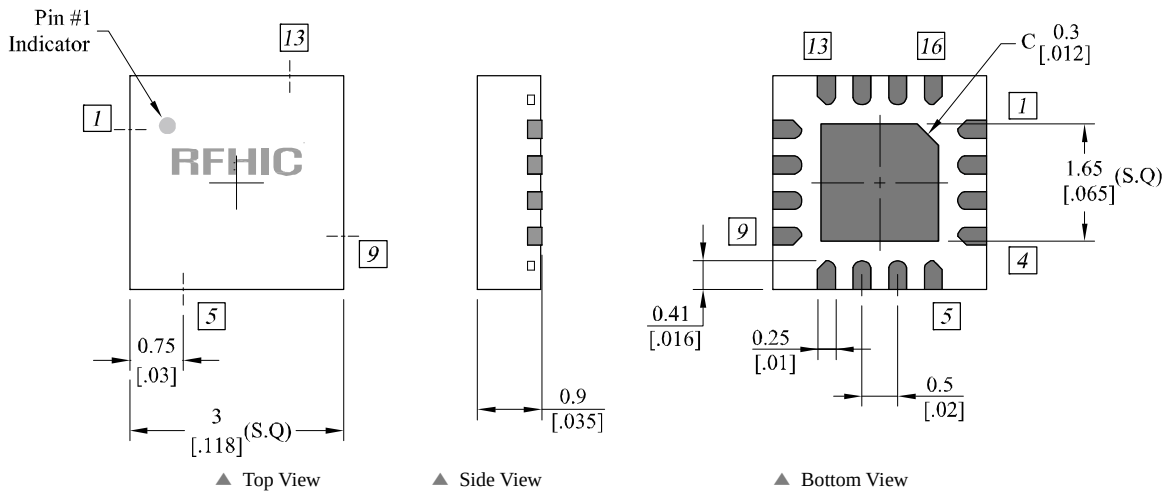






Package Dimensions (Type: QFN3x3)

* Unit: mm[inch] | Tolerance: ±0.2[.008]



▲ Top View ▲ Side View ▲ Bottom View

Pin Description							
Pin No	**Function**	**Pin No**	**Function**	**Pin No**	**Function**	**Pin No**	**Function**
1	RFN In	5	CUR	9	NC	13	Ground
2	NC	6	Ground	10	Lo_In	14	IF Out
3	RF In	7	Ground	11	NC	15	NC
4	NC	8	Bias	12	NC	16	IFN Out

*** Mounting Configuration Notes**

1. Ground / thermal via holes are critical for the proper performance of this device.
2. Add as much copper as possible to inner and outer layers near the part to ensure optimal thermal performance.
3. Mounting screws can be added near the part to fasten the board to a heatsink. Ensure that the ground / thermal via hole region contacts the heatsink.
4. Do not put solder mask on the backside of the PCB in the region where the board contacts the heatsink.
5. RF trace width depends upon the PCB material and construction.
6. Use 1 oz. Copper minimum.

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
MO9Q	2013.1.8	8.2	Change by a new dimension form	-
MO9Q	2012.2.18	8.1	-	-