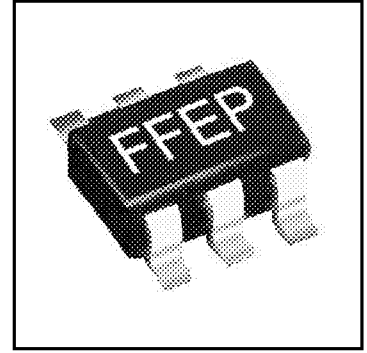


FEATURES

- Integrated Monolithic Oscillator
- Single Frequency Operation
- Ultra-Low Phase Noise: -90dBc/Hz (Typ.)
- Small Size 6-Pin **Plastic** Package for SMT Applications

DESCRIPTION

The FMM5202ML is a GaAs single frequency oscillator MMIC with low phase noise for use in X-Band DBS applications. It is designed to operate with the FMM5107VD downconverter MMIC.



Fujitsu's stringent Quality Assurance Program assures the highest reliability and consistent performance.

ABSOLUTE MAXIMUM RATINGS (Ambient Temperature Ta=25°C)

Item	Symbol	Rating	Unit
DC Bias Voltage	V _{DD}	8	V
Storage Temperature	T _{stg}	-55 to +125	°C
Operating Temperature	T _{op}	-40 to +85	°C

ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Oscillation Frequency	f _{osc}	V _{DD} = 4V V _{LO} = 0V (GND)	9.75	-	11.5	GHz
Oscillation Frequency (1)	f _{osc}		-	11.3	-	GHz
Oscillation Power (1)	P _{osc}		-	4.5	-	dBm
Operating Current (1)	I _{DD}		17	25.5	37	mA
Phase Noise (2)	φ		-	-90	-	dBc/Hz

CASE STYLE: ML

Notes:

- (1) Measurements are performed in a Fujitsu test circuit as shown in Figure 1.
- (2) The phase noise parameters are guaranteed by design, but not tested. The test circuit and conditions shown in Figure 2 for measuring phase noise uses a 10kHz offset frequency.
- (3) The package marking "FFEP" shows the part number, year and month of manufacturer.
Where: "FF" indicates the part number (FMM5202ML)
"E" indicates the year (1997)
"P" indicates the month (April)

Figure 1. RF CHARACTERISTICS MEASUREMENT CIRCUIT

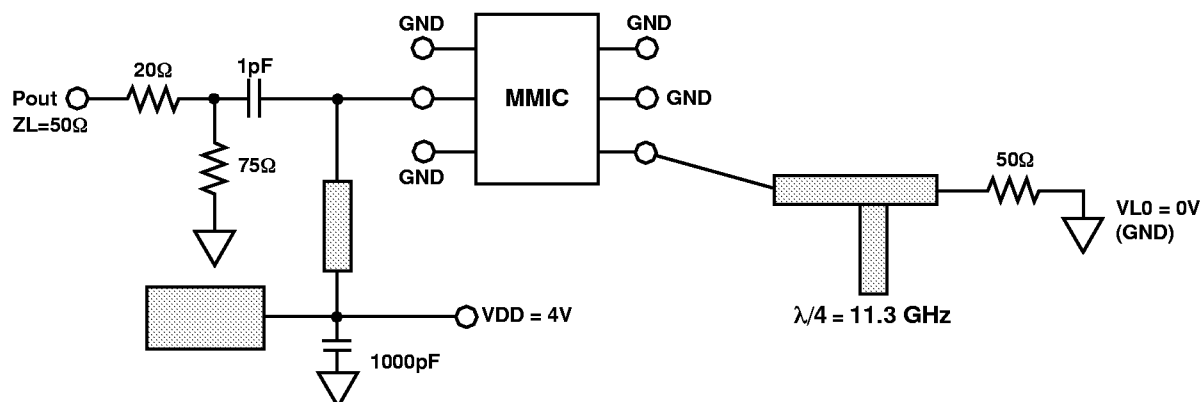
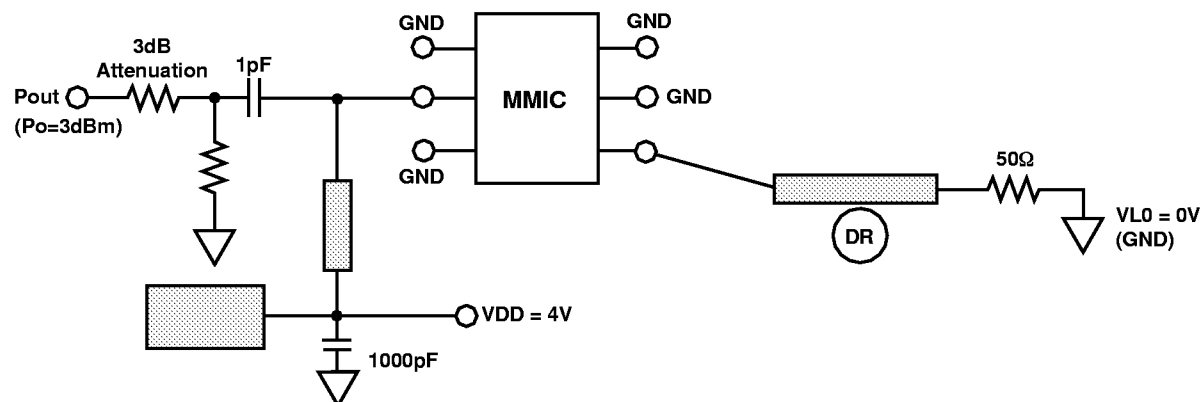
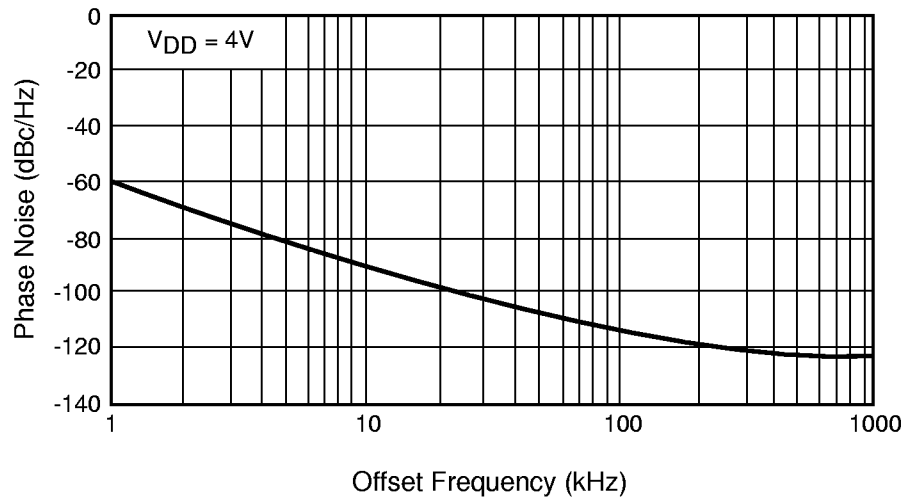


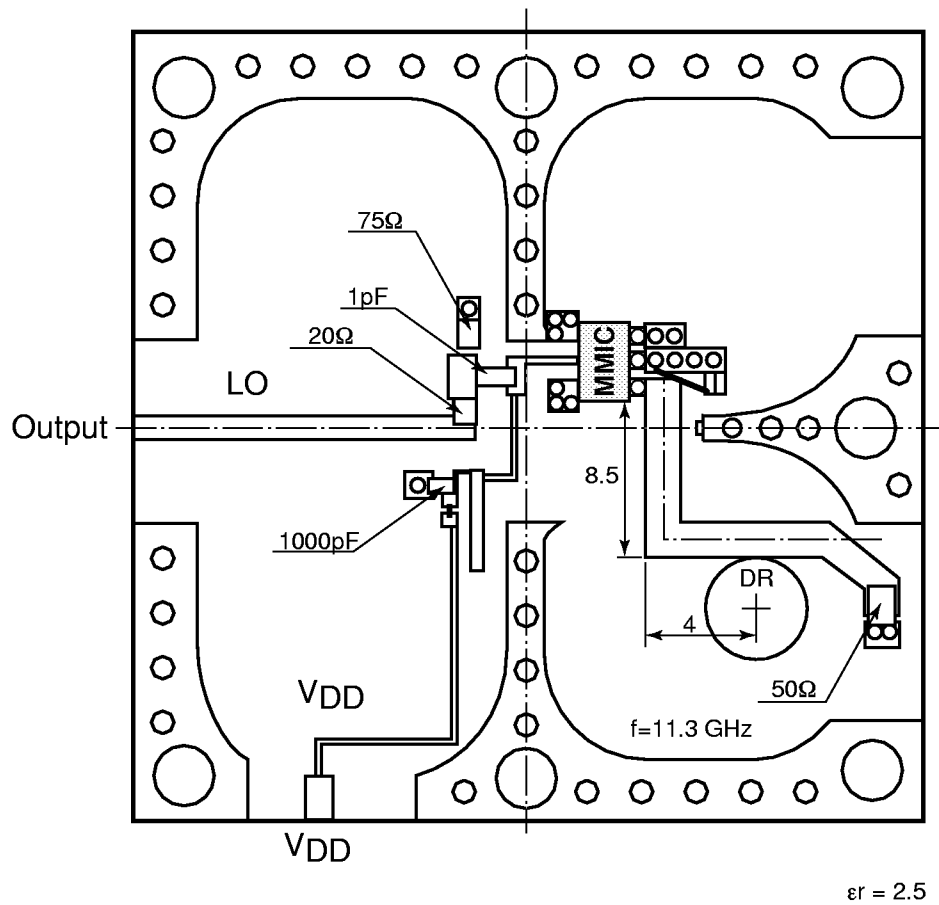
Figure 2. PHASE NOISE MEASUREMENT CIRCUIT



PHASE NOISE vs. OFFSET FREQUENCY

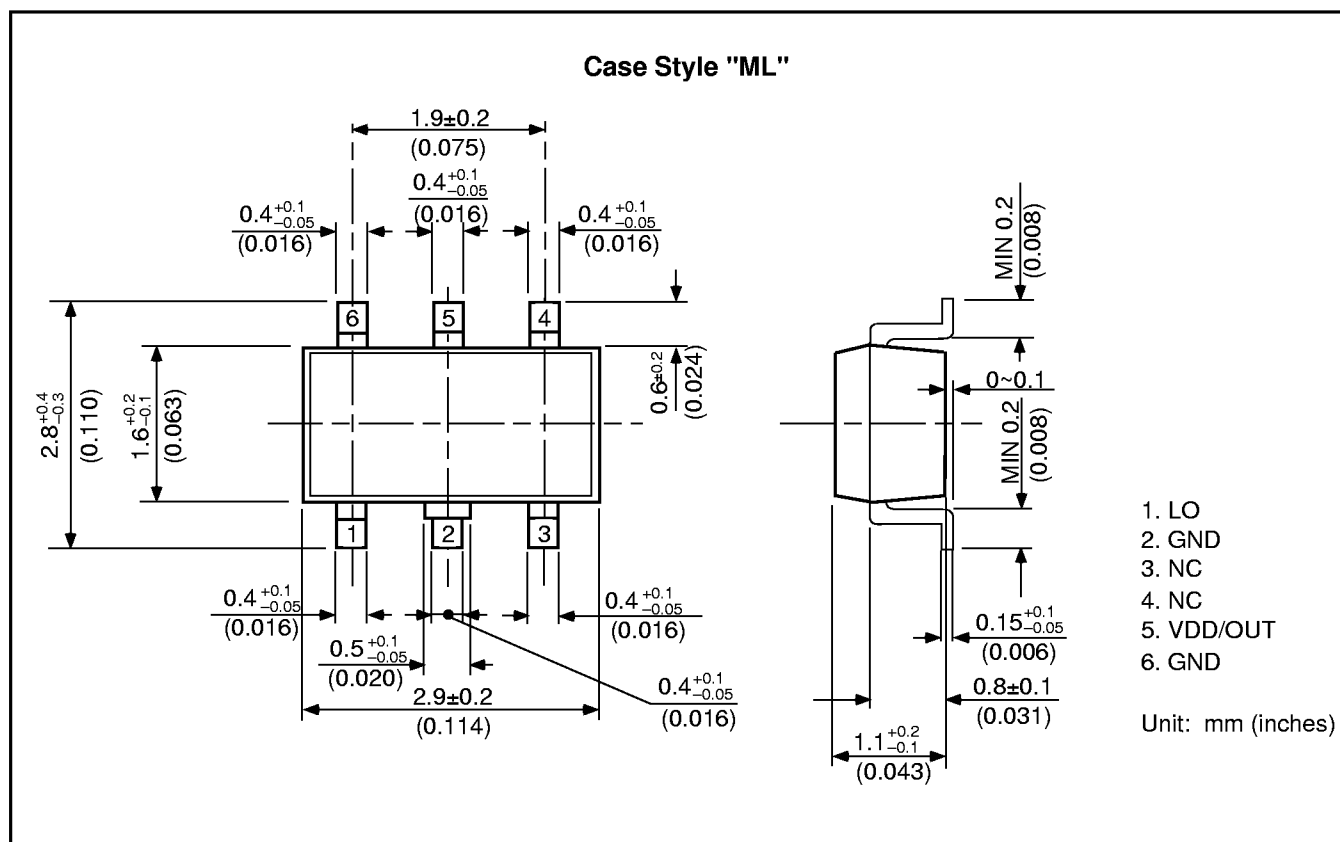


CIRCUIT LAYOUT



FMM5202ML

Single Oscillator GaAs MMIC



For further information please contact:

FUJITSU COMPOUND SEMICONDUCTOR, INC.
2355 Zanker Rd.
San Jose, CA 95131-1138, U.S.A.
Phone: (408) 232-9500
FAX: (408) 428-9111
www.fcsi.fujitsu.com

FUJITSU MICROELECTRONICS, LTD.
Compound Semiconductor Division
Network House
Norreys Drive
Maidenhead, Berkshire SL6 4FJ
Phone: +44 (0)1628 504800
FAX: +44 (0)1628 504888

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- Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.
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