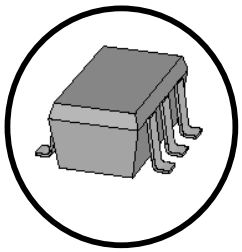
Eudyna

FMM5201MLT4E1

MMIC GaAs Dual Oscillator



SOT Package

FEATURES

- Integrated Monolithic Oscillator
- Small Size SOT Package
- Dual Frequency Operation
- Pb Free

DESCRIPTION

The FMM5201MLT4E1 is a GaAs dual frequency oscillator MMIC with low phase noise for use in Universal DBS downconverters. It is designed to operate with the FMM5107MLT(4E1) downconverter MMIC.

ABSOLUTE MAXIMUM RATINGS (Ambient Temperature Ta = 25℃)

Item	Symbol	Rating	Unit
DC Bias Voltage	V_{DD}	8	V
DC Switch Voltage	V_{LO}	-5	V
Storage Temperature	T_{stg}	-55 ～ +125	℃
Operating Temperature	T_{op}	-40 ～ +85	℃

ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta = 25℃)

Parameter	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Oscillation Frequency Range	f_{OSC}	V_{DD} = 4V V_{LO1} = 0V V_{LO2} = -3V	9.75	—	11.50	GHz
Oscillation Frequency	f_{OSC1}		—	9.75	—	GHz
Oscillation Power	P_{OSC1}		—	4.5	—	dBm
Operating Current	I_{DD1}		17	25.5	37	mA
Phase Noise *1)	ϕ1		—	-90	—	dBc/Hz
Oscillation Frequency Range	f_{OSC}	V_{DD} = 4V V_{LO1} = -3V V_{LO2} = 0V	9.75	—	11.50	GHz
Oscillation Frequency	f_{OSC2}		—	10.6	—	GHz
Oscillation Power	P_{OSC2}		—	4.5	—	dBm
Operating Current	I_{DD2}		17	25.5	37	mA
Phase Noise *1)	ϕ2		—	-90	—	dBc/Hz

*1) Specification items guaranteed but not tested

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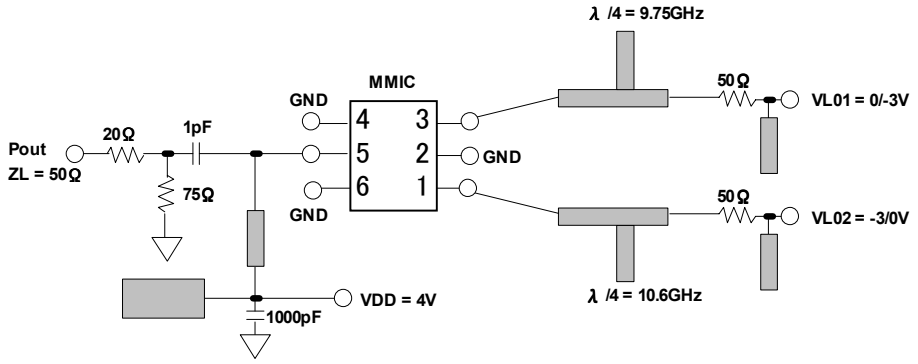
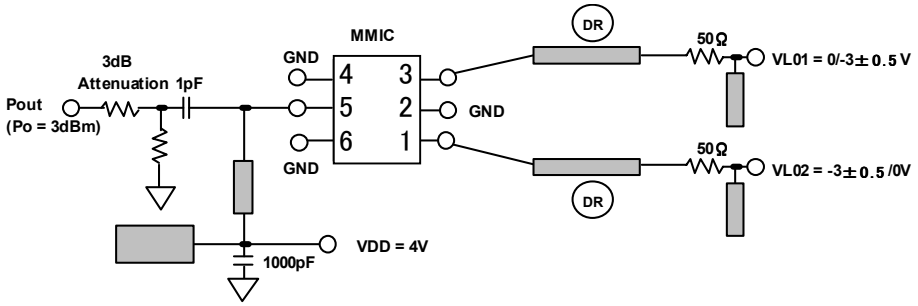
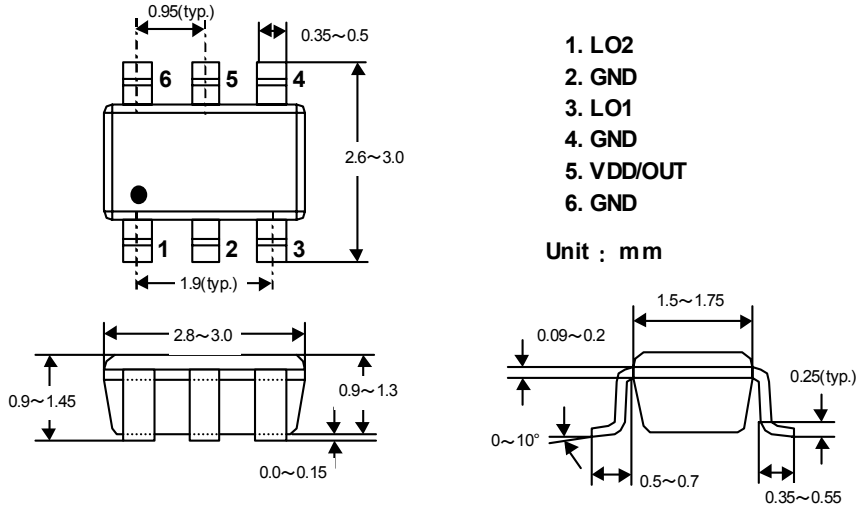
RF Characteristics Evaluation Circuit



Phase Noise Evaluation Circuit



Package Dimensions



1. LO2
2. GND
3. LO1
4. GND
5. VDD/OUT
6. GND

Unit : mm

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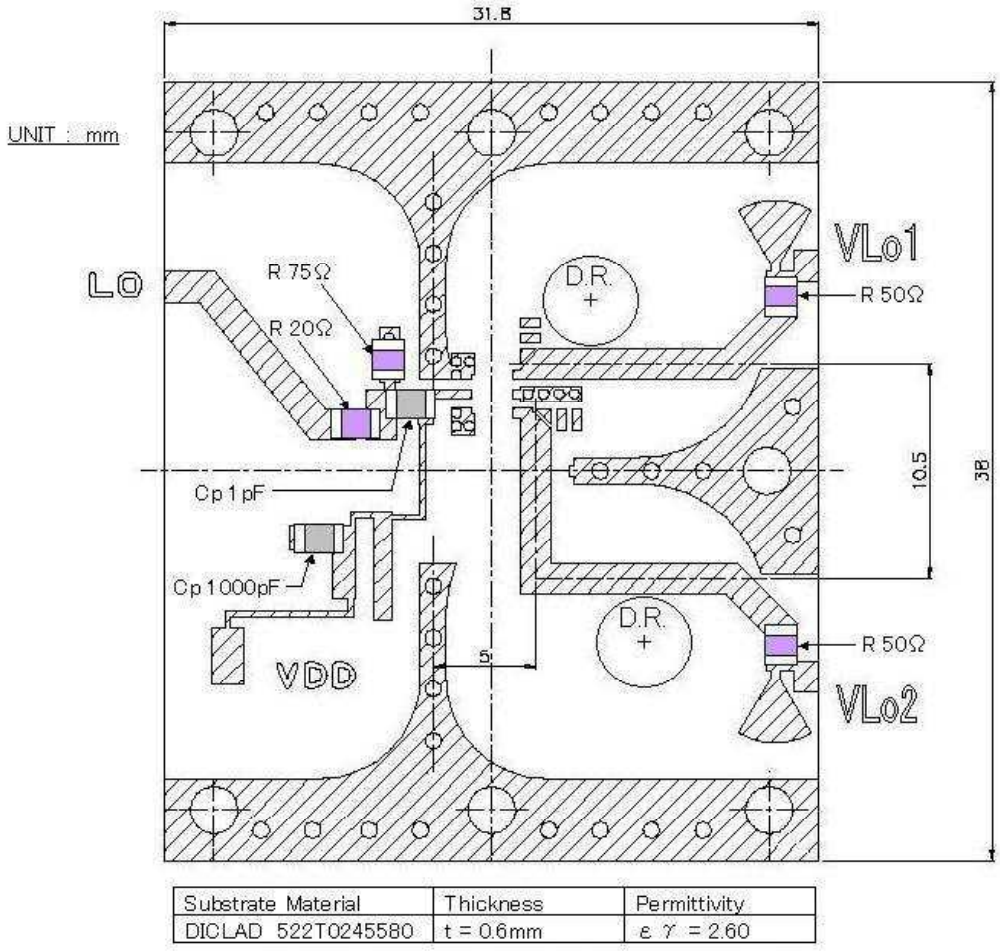
Evaluation Board Drawing



Substrate Material	Thickness	Permittivity
DICLAD 522T0245580	t = 0.6mm	ε_r = 2.60

Rev.2.0
2005.2.15