

Product Features

Dual Output: $F_o=13.0\text{GHz}\sim 14.9\text{GHz}$

$F_o/2=6.5\text{GHz}\sim 7.45\text{GHz}$

Broadband Voltage-Controlled Oscillator (VCO)

Supply Voltage: 5V

Current Consumption: <300mA

Pout: >4dBm(RFOUT)

Phase Noise: -103dBc/Hz@100kHz(VTUNE=5V)

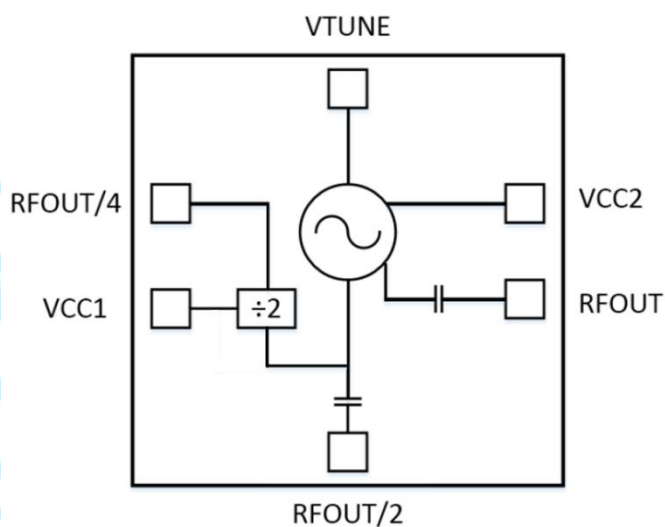
Applications

- VSAT Radio
- Point to Point/Multipoint Radio
- Test Equipment & Industrial Controls
- Military End-Use

General Description

The BR9184FL is a gallium arsenide heterojunction bipolar transistor (HBT)-based MMIC VCO, capable of generating sinusoidal signals from 13.0GHz to 14.9GHz. With a tuning voltage range of 0V to 13V and a maximum K_{vco} of 1.3GHz/V, it offers wide frequency coverage.

Functional Block Diagram



Functional Block Diagram

Ordering Information

Part Number	Package	Description
BR9184FL	QFN32	13.0GHz~14.9GHz MMIC VCO

Recommended Operating Conditions

Supply Voltage: $V_{CC1}/V_{CC2}=5\text{V}$

VTUNE: 0V~13V

Operating Temperature: -55℃~+125℃

Storage Temperature: -65℃~+150℃

Electrical Specifications (VCC1=VCC2=5V, T_A=25°C)

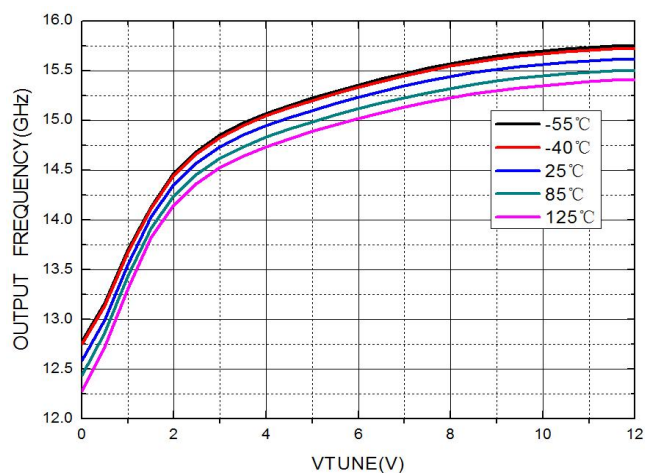
Electrical Specifications

Parameter	Test Condition	Min	Typ	Max	Units
Frequency Range(Fo)	VCC1=VCC2=5V; VTUNE=0V~13V	13.0	-	14.9	GHz
Power Output(Fo)	VCC1=VCC2=5V; Freq=13.0~14.9GHz	4	-	-	dBm
Frequency Range(Fo/2)	VCC1=VCC2=5V; VTUNE=0V~13V	6.5	-	7.45	GHz
Power Output(Fo/2)	VCC1= VCC2=5V; Freq=6.5~7.45GHz	-3	-	-	dBm
Frequency Range(Fo/4)	VCC1= VCC2=5V; VTUNE=0V~13V	3.25	-	3.725	GHz
Power Output(Fo/4)	VCC1=VCC2=5V; Freq=3.25~3.725GHz	-7	-	-	dBm
VCO Tuning Voltage	-	0	-	13	V
Phase Noise@100kHz Offset	VCC1=VCC2=5V; VTUNE=5V	-	-	-103	dBc/Hz
Current Consumption	-	-	-	300	mA
Pushing	VTUNE=5V; VCC1=VCC2=4.5V~5.5V	-	-	40	MHz/V
Harmonic 1/2	VCC1=VCC2=5V; VTUNE=5V	15	-	-	dBc
Harmonic 3/2		35	-	-	

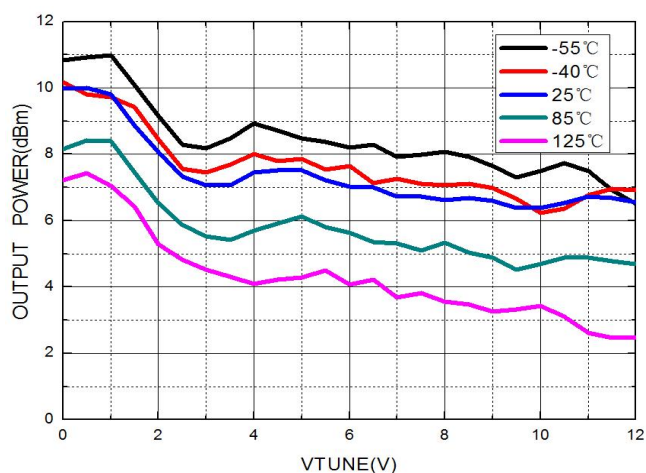
ESD WARNING

	ELECTROSTATIC SENSITIVE DEVICE OBSERVE HANDLING PRECAUTIONS
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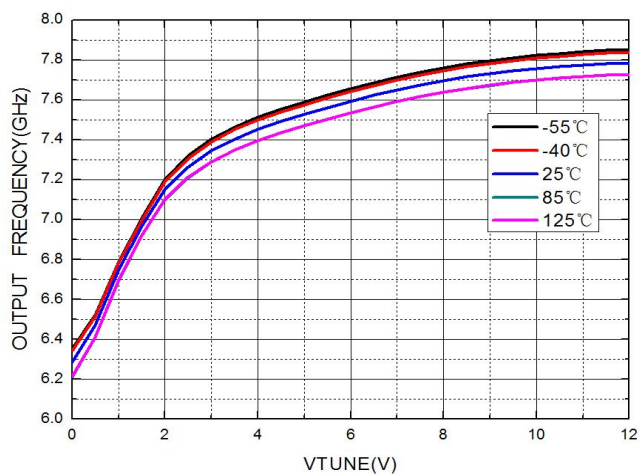
Typical Performance



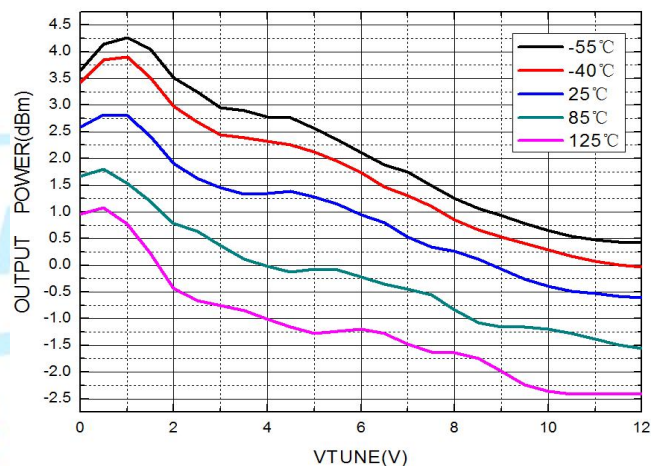
Frequency vs Tuning Voltage, VCC = +5V



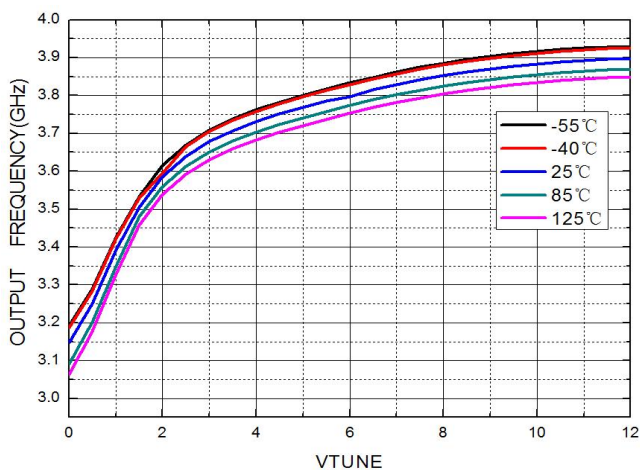
Output Power vs Tuning Voltage, Vcc= +5V



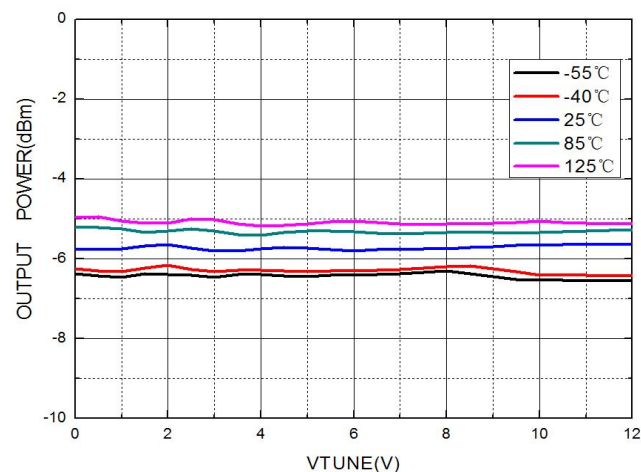
Fo/2 Frequency vs Tuning Voltage, VCC= +5V



Fo/2 Output Power vs Tuning Voltage, VCC= +5V

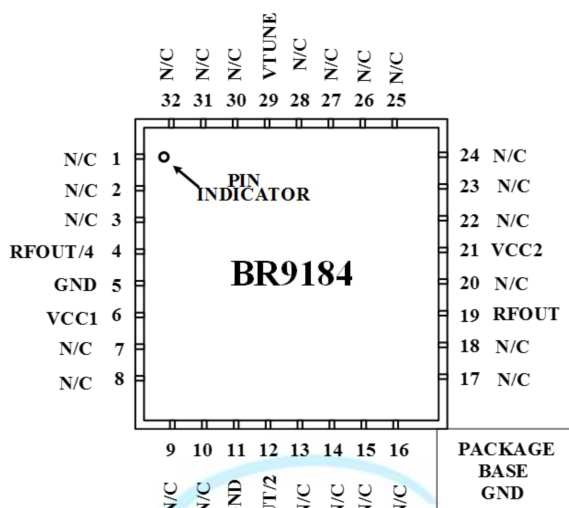


Fo/4 Frequency vs Tuning Voltage, VCC= +5V



Fo/4 Output Power vs Tuning Voltage, VCC= +5V

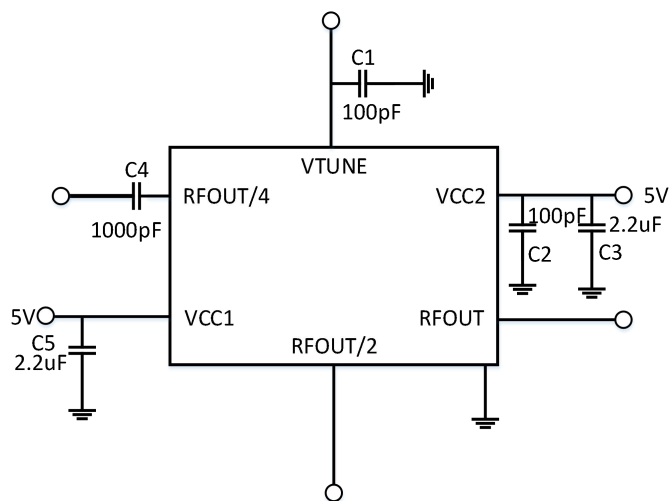
Pad Description



Pin Descriptions

Number	Pad	Description
1,2,3,7,8,9,10,13,14,15,16,17,18 20,22,23,24,25,26,27,28,30,31,32	N/C	No Connection. These pins may be connected to RF/ DC ground.
4	RFOUT/4	Divide-by-4 Output
6	VCC1	Supply Voltage 1
12	RFOUT/2	Divide-by-2 Output
19	RFOUT	RF output
21	VCC2	Supply Voltage 2
29	VTUNE	Control Voltage and Modulation Input
5,11	GND	Connected to DC/RF ground.

Typical Application Circuit

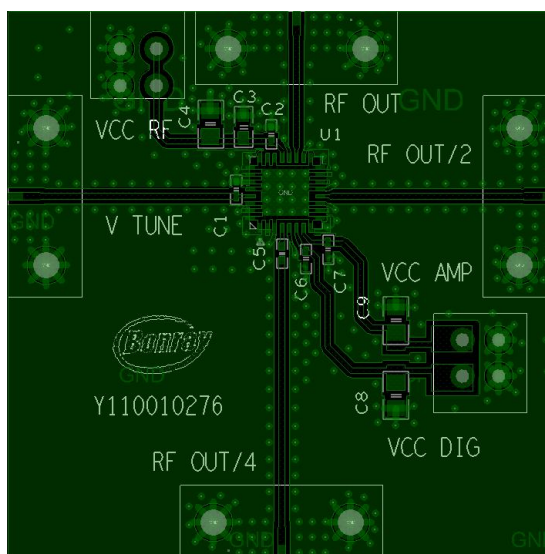


Typical Application Circuit

Item	Package	Value
C1、C2	0402	100pF
C3、C5	0402	2.2uF
C4	0402	1000pF

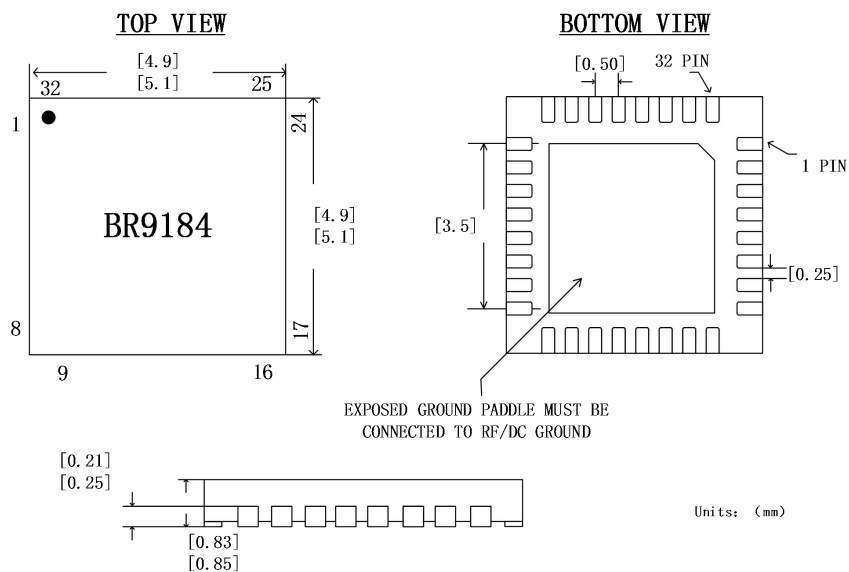
博瑞集信

Evaluation PCB



Evaluation PCB

Outline Drawing



Outline Drawing

