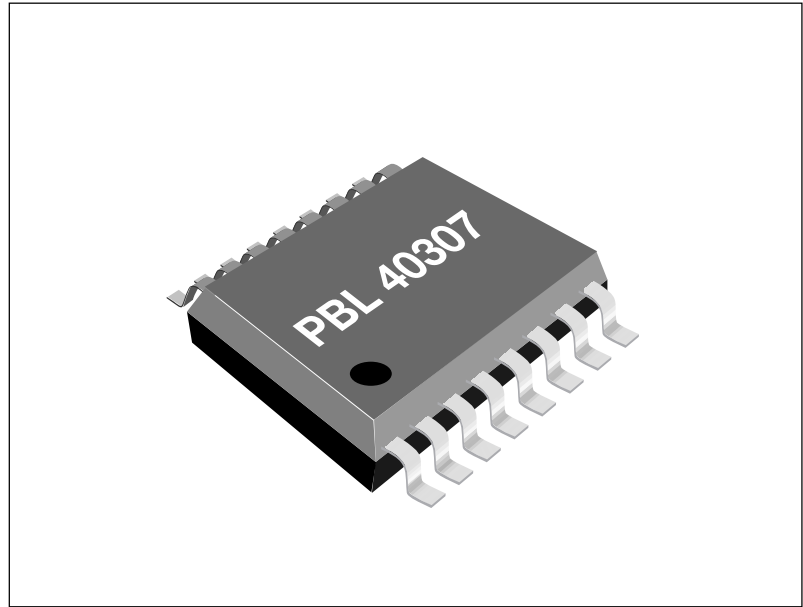


GSM Dual Band Tx_VCO

Key Features

- One IC handles GSM900 DCS 1800/PCS 1900 bands
- High output power: (17 dBm, 13dBm/13dBm)



16 pin QSOP

Description

The PBL 403 07 is a Dual Band Tx_VCO for use in GSM dual band terminals.

The resonators for each band are external. The resonator consists of varactor, capacitor and inductor in

series from ground to the VCO resonator pin. The inductor, capacitor and varactor determines the oscillation frequency, and also the tuning range.

Absolute Maximum Ratings

Parameter	Symbol	Condition	Value		Unit
Supply	V_{CC}		5		V
Operating case temp. range	T_c		-25 to +90		°C
Storage temp. range	T_{stg}		-30 to +100		°C

Electrical Characteristics

Specifications apply measured in a reference fixture.

Parameter	Symbol	Condition	Min	Limits Typ	Max	Unit
Supply voltage			3.55	3.75	3.95	V
Current Consumption				45	60	mA
Osc frequency OSC_GSM		T=25 deg. C nom. center frequency deviation	880		928	MHz
Osc frequency OSC_DCS		T=25 deg. C nom. center frequency deviation	1700		1807	MHz
Osc frequency OSC_PCS		T=25 deg. C,	1835		1933	MHz
RF output		GSM	15.2	16.7	18.2	dBm
RF output		DCS	11.2	12.7	14.2	dBm
RF output		PCS	11.2	12.7	14.2	dBm
V_{cont} sensitivity GSM		$V_{cont}=0.5-2.5V$	28	33	43	MHz/V
V_{cont} sensitivity DCS/PCS		$V_{cont}=0.5-2.5V$	50	60	70	MHz/V
Pushing figure		Slope for VCC = 3,75 ±0.15V	-3		3	MHz/V
Pulling figure		VSWR 6:1 All phase at PA output	F_c-2	F_c	F_c+2	MHz
Spurios, harmonics		At TXA, TXB			-10	dBc
Phase noise		+/-400kHz from carrier			-115	dBc/Hz
Output power TXA, TXB		Unbalanced or balanced	-15		-3	dBm

ESD

These devices are ESD sensitive.

Pin Configuration

Terminal	Symbol	Function
1	Osc1_D1	Voltage supply to the GSM VCO
2	Res_OSC1	GSM Resonator connection
3	GND	
4	Res_Osc2	DCS/PCS Resonator connection
5	Osc2_D1	Voltage supply to the DCS/PCS
6	Osc1_D2	Voltage supply to the GSM VCO
7	GND	
8	Osc2_D2	Voltage supply to the DCS/PCS VCO
9	TA	reference output
10	TB	reference output
11	GND	
12	RFut_GSM	GSM VCO output
13	GND	
14	RFut_DCS	DCS VCO output
15	GND	
16	GND	

Package drawing, QSOP 16

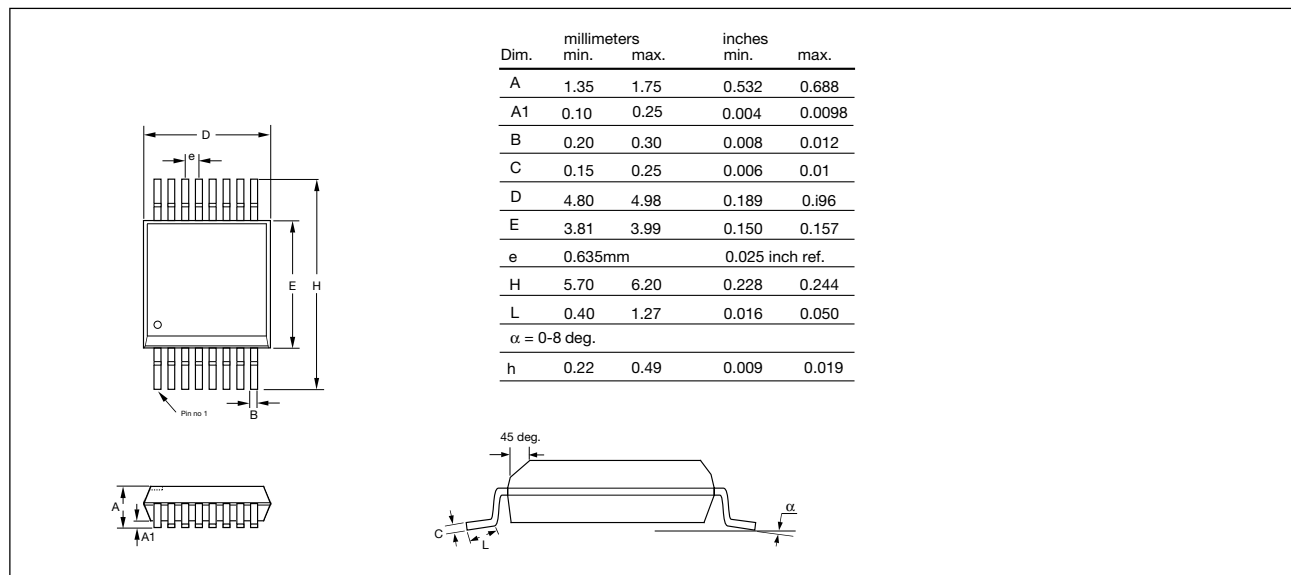


Figure 1. External components

Evaluation Board

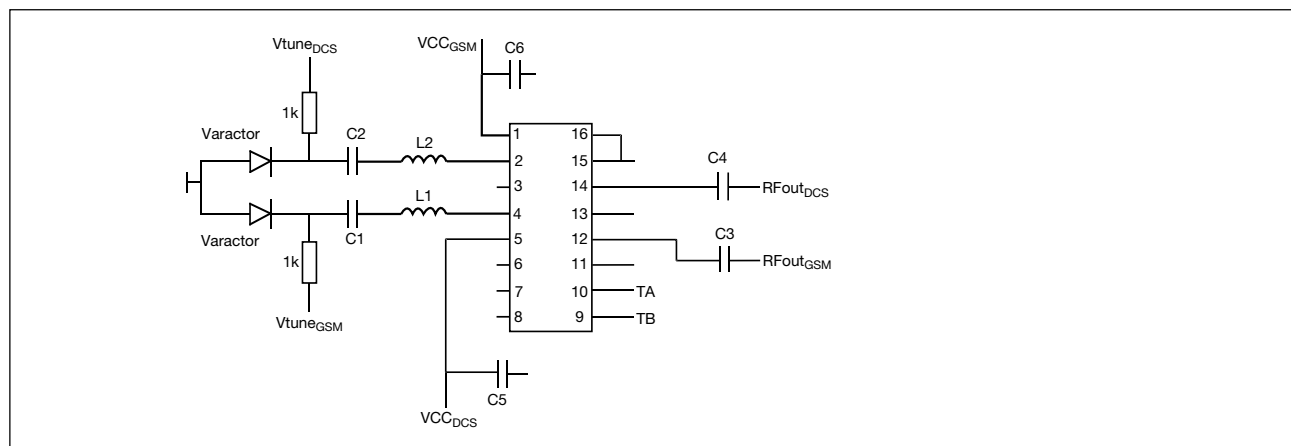


Figure 2. External components

Evaluation Board continued

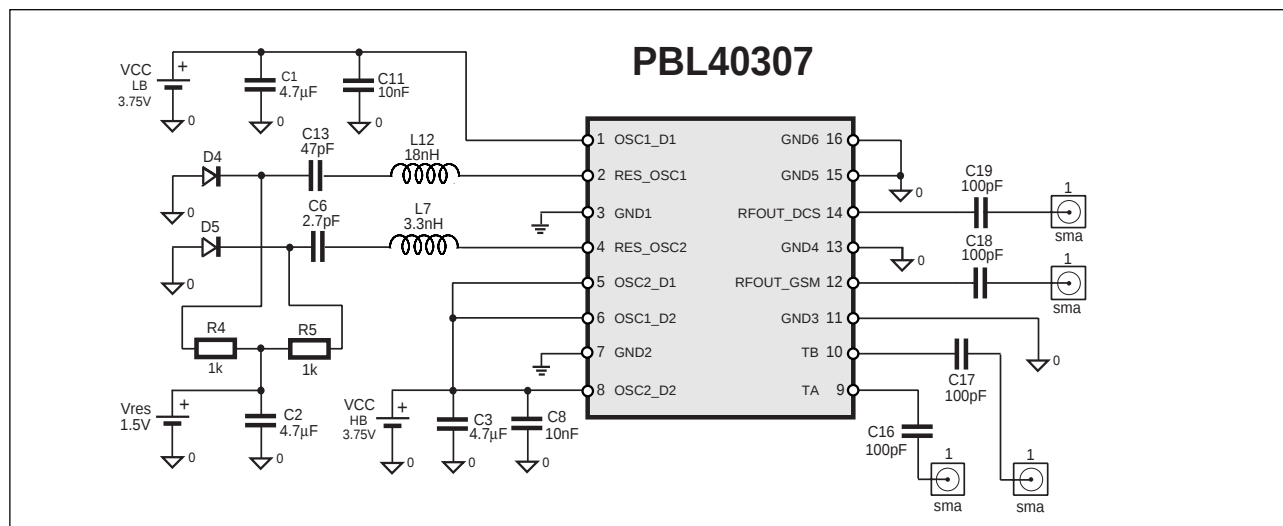


Figure 3. Evaluation Board schematic.

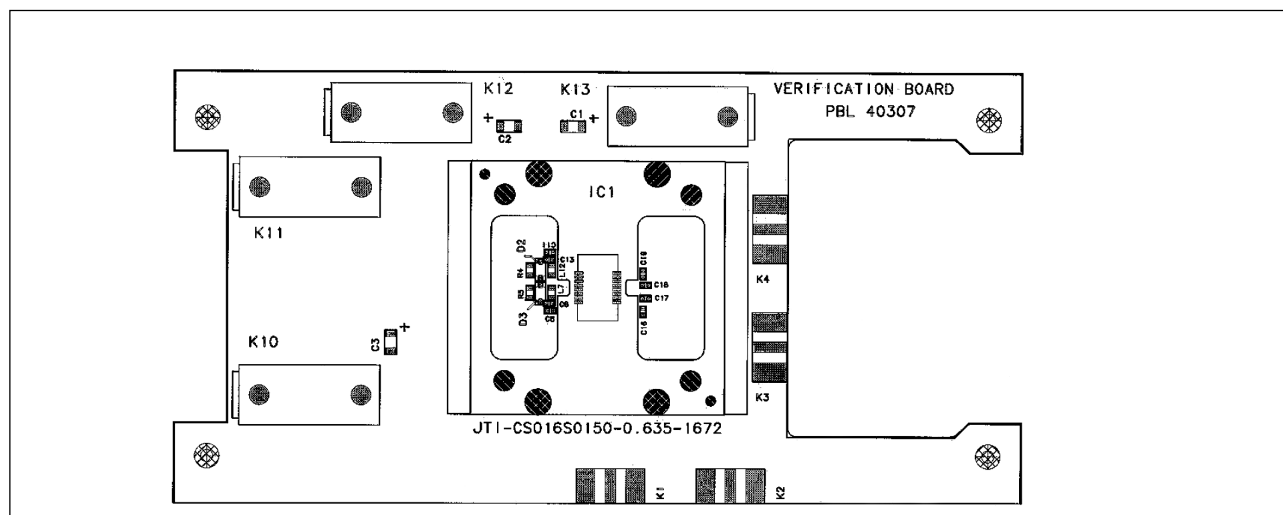


Figure 4. Evaluation Board layout.

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Data Sheet

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