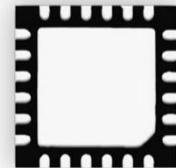


■ Introduction

The XBR816C is highly integrated X band Radar transceiver device in RF CMOS technology. The device is optimized for applications at higher temperatures and it is rated of operating up to 70°C.



PHO-XBR816C

Key Features

- ✧ 1.2V supply voltage
- ✧ Typical 60mA current for default mode
- ✧ Fully integrated 10.525 GHz CMOS transceiver
- ✧ Single-ended transmitter and receiver
- ✧ Max 1dBm transmit output power
- ✧ < -95dBm receiver sensitivity
- ✧ Harmonic rejection: > 40dBc
- ✧ Output noise voltage: max 0.5uVrms for low gain and max 45uVrms for high gain
- ✧ Operation condition: -40°C ~ 70°C
- ✧ QFN 24 pins, 4mm x 4mm package

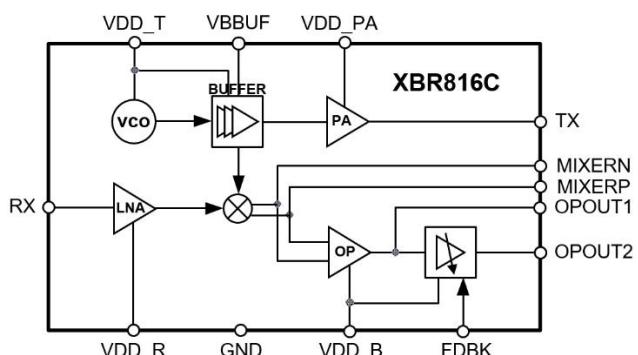
Key Benefits

- ✧ Low power consumption
- ✧ Small system size
- ✧ Low system cost

Applications

- ✧ Smart Radar Sensor
- ✧ Lighting Controller
- ✧ Security & Surveillance Products
- ✧ Industrial Applications
- ✧ Consumer Appliances

System Diagram

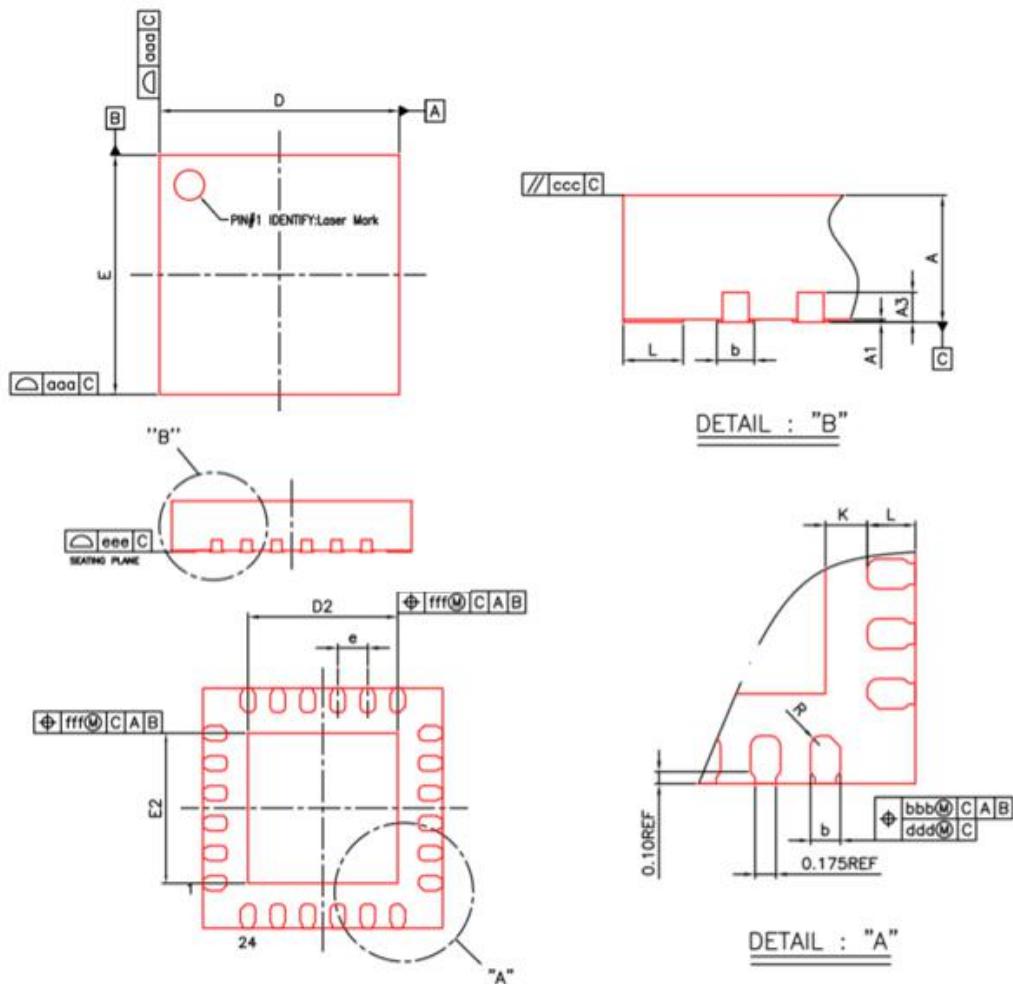


■ Pin assignment

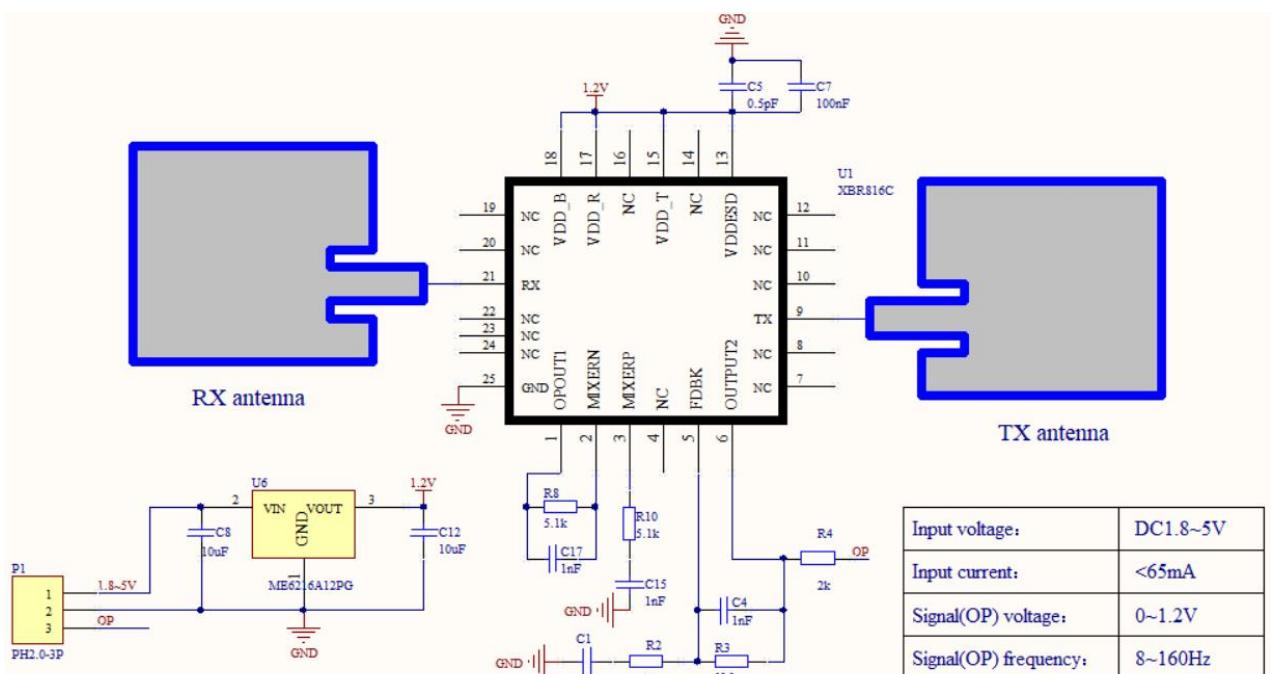
PIN Number	PIN Name	Function
1	OPOUT1	First stage OP IF output
2	MIXERN	Raw IF Signal output N
3	MIXERP	Raw IF Signal output P
5	FDBK	OP Feedback Loop
6	OPOUT2	Second stage OP IF output
9	TXN	RF Signal OUT
13	VDDPA	1.2V supply for power amplifier
15	VDD_T	1.2V supply for transmitter
17	VDD_R	1.2V supply for receiver
18	VDD_B	1.2V supply for baseband
21	RX	RF Signal IN
4,7,8,10,11,12,14,16 19,20,22,23,24	NC	Not connected
25	VSS	Ground

■ Package information

Symbol	Dimension in mm			Dimension in inch		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.85	0.90	0.031	0.033	0.035
A1	0.00	0.02	0.05	0.000	0.001	0.002
A3	0.20 REF			0.008 REF		
b	0.18	0.25	0.30	0.007	0.010	0.012
D/E	4.00 BSC			0.157 BSC		
D2/E2	2.35	2.50	2.65	0.093	0.098	0.104
e	0.50 BSC			0.020 BSC		
L	0.30	0.40	0.50	0.012	0.016	0.020
K	0.20	---	---	0.008	---	---
R	0.09	---	---	0.004	---	---
aaa	---	---	0.15	---	---	0.006
bbb	---	---	0.10	---	---	0.004
ccc	---	---	0.10	---	---	0.004
ddd	---	---	0.05	---	---	0.002
eee	---	---	0.08	---	---	0.003
fff	---	---	0.10	---	---	0.004



■ Reference Design



Beijing Phosense Electronic Technology Co.,Ltd

Address: Room 810, Building B, Fenglan International, Yard 32, Xizhimen North Street, Haidian District, Beijing

E-Mail : Info_us@phosense-tech.com

Website : www.phosense-tech.com

We reserve the right to make technical changes or modify the contents of this document without prior notice. The purchase of goods shall be subject to the terms agreed by both parties. Phosense assumes no responsibility for any errors or information in this document.

We reserve all rights to this document and its themes and illustrations. It is strictly prohibited to copy, use or disclose all or part of its contents to third parties without prior written permission.

Beijing Phosense Electronic Technology Co., Ltd. has the right to interpret the above content within the scope permitted by law.

Copyright© 2021 Phosense.



Official website



Wechat