

Bluetooth Low Energy SoC

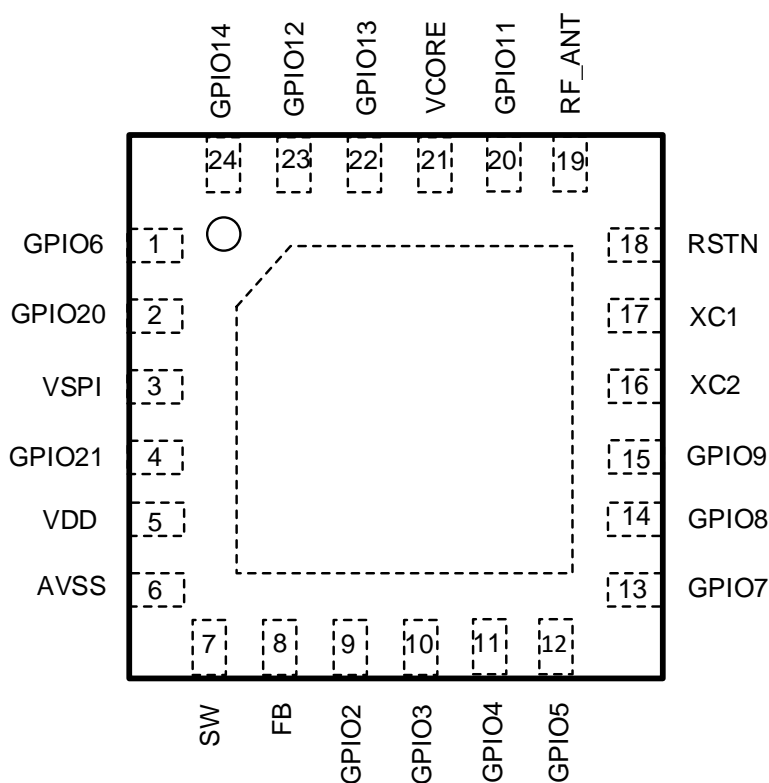
DESCRIPTIONS

The SUM7057 is a System on Chip (SoC) fully compliant with BLE 5.0 Spec. It integrates a low power, high performance 2.4GHz transceiver, a 32-bit RISC MCU up to 64 MHz, and rich interface peripherals. The SOC's memory system includes 128 KB ROM, 48 KB retention SRAM, 16 KB Cache SRAM, and up to 4 Mb flash. To help customers to reduce BOM cost, The SUM7057 integrates Balun, DCDC, 32 KHz RC oscillator and charger. Under certain circumstances, The SUM7057 can work with one external crystal only. The SUM7057 offers abundant SDK with the function of over-the-air (OTA) firmware updating.

ORDER INFORMATION

Model	Package	Ordering Number	Packing Option
SUM7057	QFN4 × 4-24	SUM7057F512QNB24	Tape and Reel

PIN CONFIGURATION (Top View)



QFN4 × 4-24

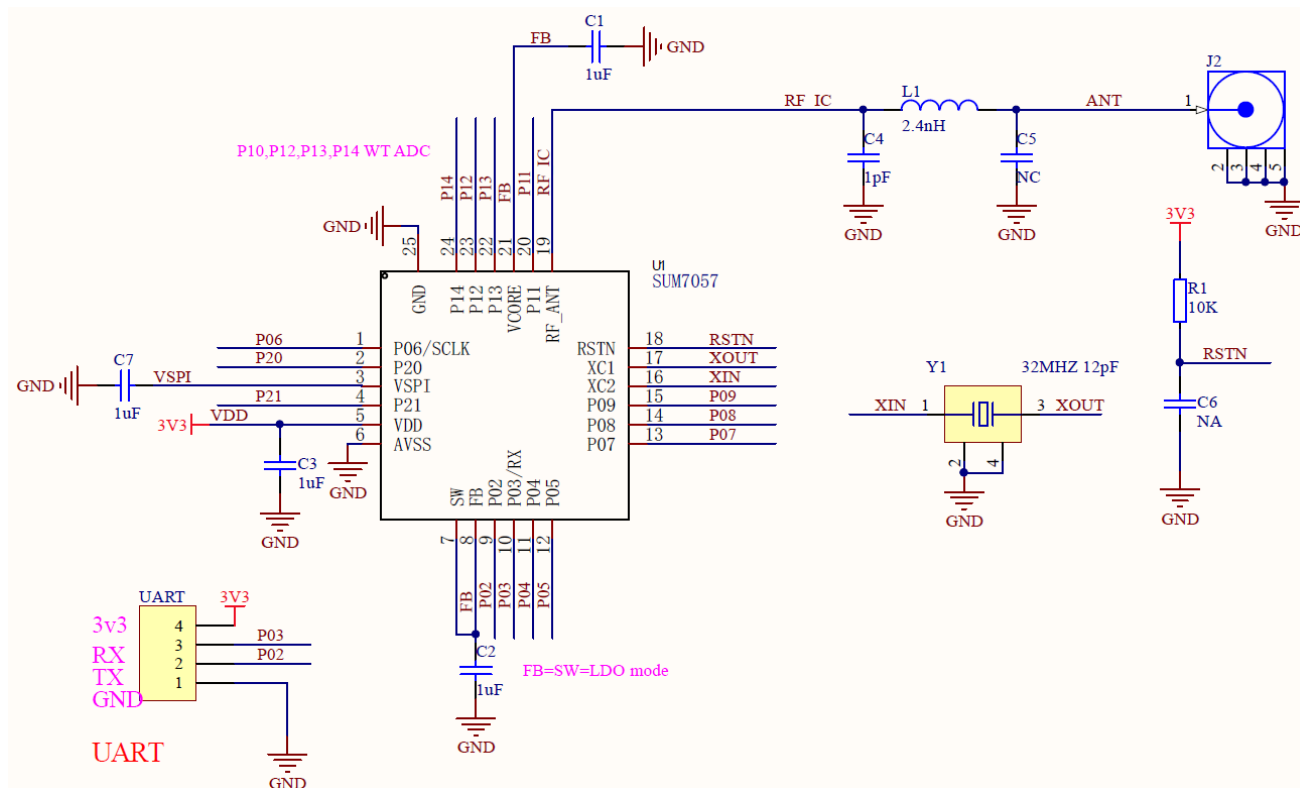
PIN FUNCTION

Pin Number	Name	Description
1	GPIO6	GPIO
2	GPIO20	GPIO
3	VSPI	I/O supply for flash
4	GPIO21	GPIO
5	VDD	VDD supply, 1.7V ~ 3.6 V
6	AVSS	GND
7	SW	No Connection
8	FB	VDD feedback for BUCK
9	GPIO2	GPIO
10	GPIO3	GPIO
11	GPIO4	GPIO
12	GPIO5	GPIO
13	GPIO7	GPIO
14	GPIO8	GPIO
15	GPIO9	GPIO
16	XC2	Crystal oscillator pin.
17	XC1	Crystal oscillator pin.
18	RSTN	Global chip enable/resetn, low level reset
19	RF_ANT	RF In/Out
20	GPIO11	GPIO
21	VCORE	Core supply
22	GPIO13	GPIO
23	GPIO12	GPIO
24	GPIO14	GPIO

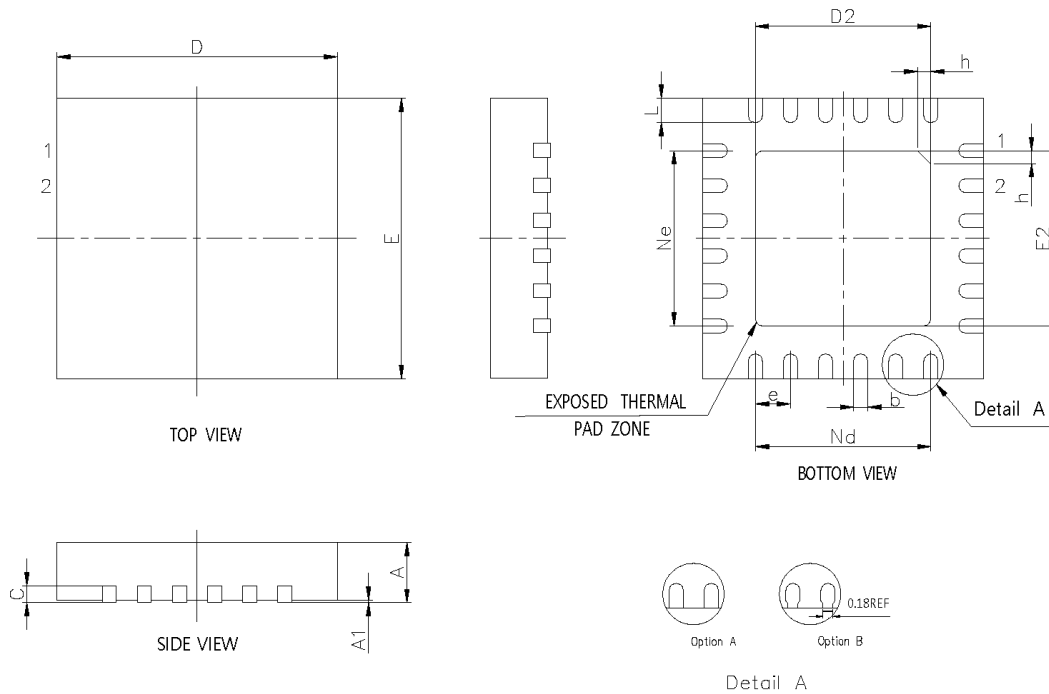
The schematic diagram illustrates the SUM7057 module with the following components and connections:

- Module Pins and Connections:**
 - P06/SCLK:** Connected to P20.
 - P20:** Connected to VSPI.
 - P21:** Connected to VDD (3V3).
 - VDD:** Connected to 3V3.
 - AVSS:** Connected to GND.
 - SW:** Connected to P02.
 - P02:** Connected to FB.
 - P03/RX:** Connected to P04.
 - P04:** Connected to P05.
 - P05:** Connected to P07.
 - P07:** Connected to P08.
 - P08:** Connected to P09.
 - P09:** Connected to XC1.
 - XC1:** Connected to XC2.
 - XC2:** Connected to RSTN.
 - RSTN:** Connected to R1 (10K).
 - R1:** Connected to 3V3.
 - 3V3:** Connected to RSTN.
 - RSTN:** Connected to C6 (NA).
 - C6:** Connected to GND.
 - GND:** Connected to GND.
- External Components:**
 - C1:** 1uF capacitor connected to FB and GND.
 - C2:** 1uF capacitor connected to FB and GND.
 - C3:** 1uF capacitor connected to VDD and GND.
 - C4:** 1pF capacitor connected to RF IC and GND.
 - C5:** NC capacitor connected to GND.
 - C6:** NA capacitor connected to GND.
 - L1:** 2.4nH inductor connected to RF IC and ANT.
 - L2:** 10uH inductor connected to SW and FB.
 - L3:** 10uH inductor connected to FB and GND.
 - L4:** 10uH inductor connected to FB and GND.
 - L5:** 10uH inductor connected to FB and GND.
 - L6:** 10uH inductor connected to FB and GND.
 - L7:** 10uH inductor connected to FB and GND.
 - L8:** 10uH inductor connected to FB and GND.
 - L9:** 10uH inductor connected to FB and GND.
 - L10:** 10uH inductor connected to FB and GND.
 - L11:** 10uH inductor connected to FB and GND.
 - L12:** 10uH inductor connected to FB and GND.
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 - L16:** 10uH inductor connected to FB and GND.
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 - L97:** 10uH inductor connected to FB and GND.
 - L98:** 10uH inductor connected to FB and GND.
 - L99:** 10uH inductor connected to FB and GND.
 - L100:** 10uH inductor connected to FB and GND.

APPLICATION CIRCUITS 2



PACKAGE DIMENSION

QFN4 x 4-24


Symbol	Millimeter		
	Min	Nom	Max
A	0.70	0.75	0.80
A1	-	0.02	0.05
b	0.18	0.25	0.30
c	0.18	0.20	0.25
D	3.90	4.00	4.10
D2	2.40	2.50	2.60
e	0.50 BSC		
Nd	2.50 BSC		
Ne	2.50 BSC		
E	3.90	4.00	4.10
E2	2.40	2.50	2.60
L	0.35	0.40	0.45
h	0.30	0.35	0.40

V 1.2