

Features

- Operating voltage: 2.2V~3.6V
- Operating current:
 - ♦ Power down mode: 500nA
 - ♦ Sleep mode: 20μA
 - ♦ Broadcast mode: 180μA @ 250ms
 - ♦ Transparent transmission: 1.1mA @ 20 bytes, 5 times/sec.
- Frequency range: 2402MHz~2480MHz
- TX output power: +3dBm @ Max. power setting
- RX sensitivity: -90dBm (Typ.) @ 1M BPS
- Modulation: GFSK
- Transmission distance: 60m in open area
- Interface: 8 pins × 2 – pitch = 1.27mm stamp hole
- Dimensions: 16mm(L) × 16mm(W)
- Temperature range: -20°C ~ +85°C

General Description

The BCM-7602-G01 is a Bluetooth Low Energy, BLE, transparent transceiver module which is a design based on the BC7602 BLE transparent transmission device. More detailed information is described in the BC7602 datasheets. This module can wirelessly control external devices and supports bidirectional data transfer suitable for lighting products, health care products and home appliances.

Ordering Information

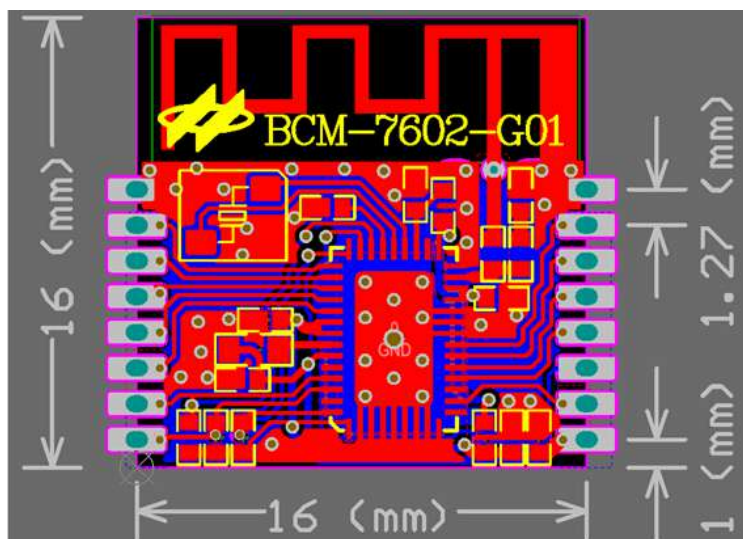
Part Number	Patch Code Version
BCM-7602-G01-BC3	V1.1

Interface

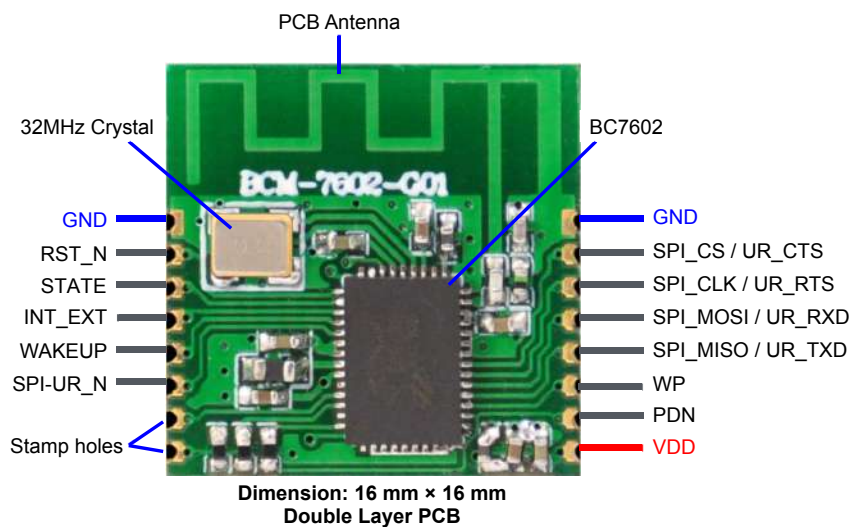
Pin No.	Pin Name	Type	Function Description
1	GND	P	RF negative power supply, ground
2	RST_N	DI	Hardware reset input, active low
3	STATE	DO	BC7602 state pin indicator 0: Operating mode 1: Sleep mode
4	INT_EXT	DO	External Interrupt, normally high and active low
5	WAKEUP	DI	Wake-up pin Enters the Sleep Mode when low
6	SPI-UR_N	DI	SPI/UART mode select pin – selected during the power-on period 0: UART pins selected 1: SPI pins selected
7	SDA	DIO	EEPROM SDA
8	SCL	DI	EEPROM SCL
9	VDD	P	RF positive power supply, 2.2V~3.6V
10	PDN	DI	Power down control pin Enters the power down mode when low
11	WP	DI	EEPROM WP
12	SPI_MISO/UR_TXD	DO	SPI MISO or UART TXD pin Selected by SPI-UR_N during the power-on period
13	SPI_MOSI/UR_RXD	DI	SPI MOSI or UART RXD pin Selected by SPI-UR_N during the power-on period
14	SPI_CLK/UR_RTS	DI	SPI CLK or UART RTS pin Selected by SPI-UR_N during the power-on period
15	SPI_CS/UR_CTS	DI	SPI CS or UART CTS pin Selected by SPI-UR_N during the power-on period
16	GND	P	RF negative power supply, ground.

Legend: DI=Digital Input; DO=Digital Output; DIO=Digital In/Out; P=Power.

Module Dimension Drawing



Module Photograph



Bill of Material

Item	Comp.	Description	Size	Value	Tol.	Part Number
1	C1	X5R ceramic capacitor	0402	1 μ F	$\pm 10\%$	—
2	C2	X5R ceramic capacitor	0402	1 μ F	$\pm 10\%$	—
3	C3	X5R ceramic capacitor	0402	2.2 μ F	$\pm 10\%$	—
4	C4	X5R ceramic capacitor	0402	1 μ F	$\pm 10\%$	—
5	C5	C0G ceramic capacitor	0402	3.3pF	$\pm 5\%$	—
6	C6	X5R ceramic capacitor	0402	1 μ F	$\pm 10\%$	—
7	C7	X5R ceramic capacitor	0402	1 μ F	$\pm 10\%$	—
8	C8	C0G ceramic capacitor	0402	2.4pF	$\pm 5\%$	—
9	C9	X5R ceramic capacitor	0402	1 μ F	$\pm 10\%$	—
14	R1	Chip resistor	0402	47K	$\pm 5\%$	—
15	R2	Chip resistor	0402	47K	$\pm 5\%$	—
16	R3	Chip resistor	0402	47K	$\pm 5\%$	—
20	L1	Chip Beads	0402	—	—	MURATA: BLM15PD121SN1
21	L2	Chip Beads	0402	—	—	MURATA: BLM15PD121SN1
22	L3	Chip inductor	0402	4.7nH	$\pm 2\%$	MURATA: LQG15HN4N7S02
23	L4	Multi-layer Power Inductor	0603	2.2 μ H	$\pm 5\%$	MURATA: LQM18PN2R2NC0 TDK: MLZ1608N2R2LT000 Sunlord: MCL2012S2R2MT
24	U1	IC	QFN46	BC7602	—	—
25	Y1	Crystal	SMD3225	32MHZ/12pF	± 20 ppm	KDS: 1N232000AA0N YOKE: S3225A-032000-F12

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