



HBT4M3

Bluetooth 4.0 Module

Version: V1.0

General Description

Bluetooth low energy Module **HBT4M3** is a Bluetooth module using TI Bluetooth low energy controller CC254x. This module is ideal for low power wireless sensing device applications including mobile phone accessories, sports and leisure equipment, consumer electronics, HID, health care, etc.. This module is integrated with chip antenna, crystal to reduce the external BOM cost. It has been designed to provide ultra low power, low cost and robust communications and compliant with Bluetooth V 4.0 single mode BLE solution.

Application

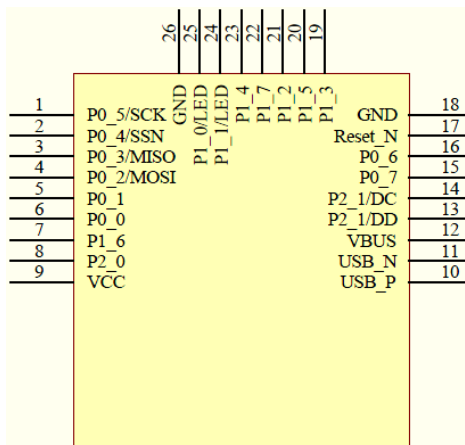
- 2.4GHz Bluetooth 4.0 low energy system
- Mobile device accessories
- Sports and leisure equipment
- Consumer electronics
- HID devices
- Health care and Medical
- Remote sensors

Features

- Bluetooth V 4.0 low energy single mode compliant.
- On-chip low power microcontroller.
- In system programmable flash.
- 12-bit ADC with 8 channels.
- 21 general purpose I/O
- 2 powerful USARTS for serial protocols.
- On board crystal and PCB Antenna..
- Excellent Receiver Sensitivity.



Pin Configuration

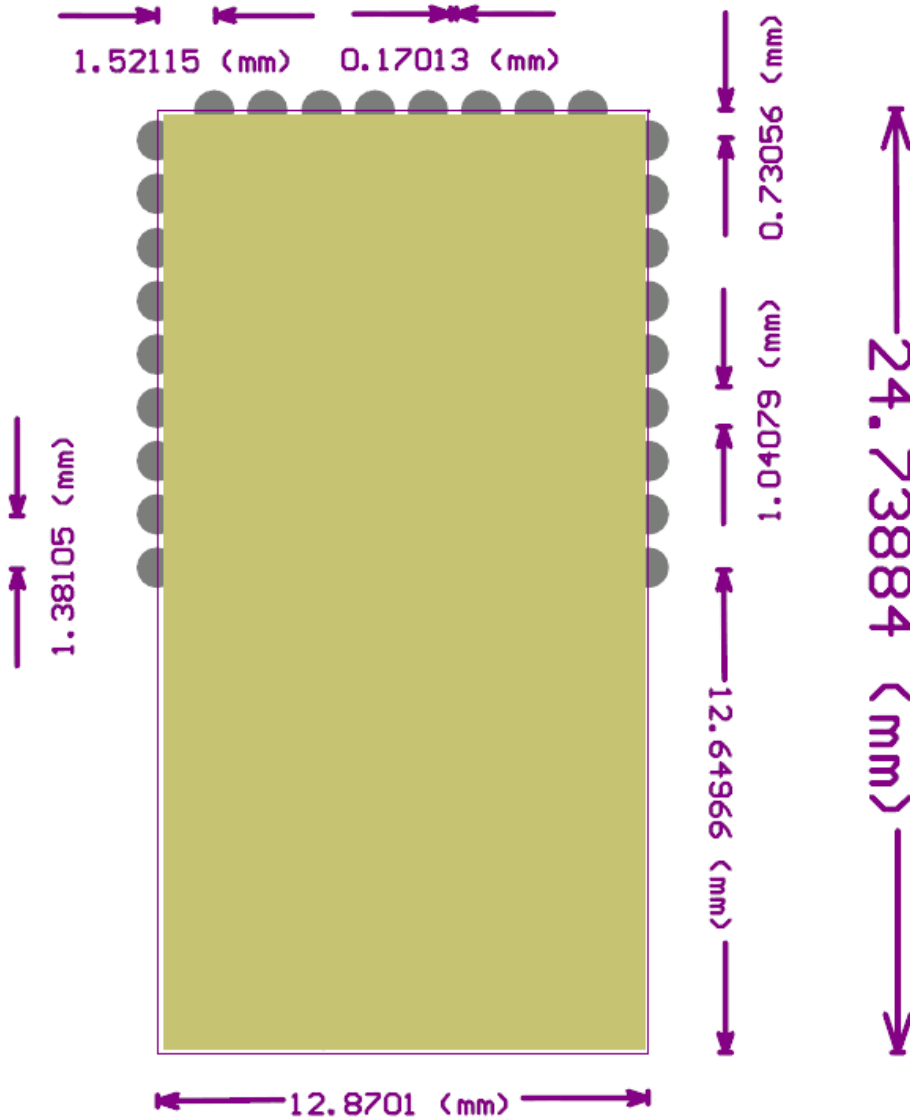


Pin No.	Name	Pin Type	Description
1	P0_5	Analog / Digital IO	GPIO
2	P0_4	Analog / Digital IO	GPIO
3	P0_3	Analog / Digital IO	GPIO/ADC3/TX0
4	P0_2	Analog / Digital IO	GPIO/ADC2/RX0/OP_OUT
5	P0_1	Analog / Digital IO	GPIO/ADC1/OP-/Key2
6	P0_0	Analog / Digital IO	GPIO/ADC0/OP+/Key1
7	P1_6	Digital IO	GPIO/TX(Alternative)
8	P2_0	Digital IO	GPIO/PWM0
9	VCC	Power	Power Input 2Vdc to 3.6Vdc
10	USB_P	Digital IO	USB P(cc2540)
11	USB_N	Digital Input	USB N(cc2540)
12	VBUS	Power	USB 5.0V output
13	P2_2	Digital IO	GPIO
14	P2_1	Digital IO	GPIO
15	P0_7	Analog / Digital IO	GPIO
16	P0_6	Analog / Digital IO	GPIO
17	Reset_N	Digital Input	Reset, Active Low
18	GND	GND	GND
19	P1_3	Digital IO	GPIO



20	P1_5	Digital IO	GPIO/TX(Alternative)
21	P1_2	Digital IO	GPIO
22	P1_7	Digital IO	GPIO/RX(Alternative)
23	P1_4	Digital IO	GPIO/RX(Alternative)
24	P1_1	Digital IO	GPIO/Drive 20mA current
25	P1_0	Digital IO	GPIO/Drive 20mA current
26	GND	GND	GND

Layout Guide(Unit:mm)





Electrical Characteristic

Maximum Electrical Rating:

Parameter	Typical	Max	Unit
DC Supply Voltage VDD		3.9	V
Input high Voltage	2	3.6	V
Output low Voltage	Vss-0.3	Vdd-0.3	V
Output high Voltage	0	50	°C

Digital Level:

Parameter	Min	Typical	Max	Unit
Input low Voltage			0.5	V
Input high Voltage	2.5			V
Output low Voltage			0.5	V
Output high Voltage	2.4			

Typical Current Consumption:

Parameter	Min	Typical	Max	Unit
Transmit 100% 0dbm		21		mA
Receive 100% on		15.8		mA
Icore power mode 1		235		uA
Icore power mode 2		0.9		uA
Icore power mode 3		0.4		uA
Icore low MCU activity		6.7		mA
Sleep timer with 32KHz RCOSC		0.6		uA



RF Spec:

Parameter	Min	Typical	Max	Unit
Frequency Range	2402		2480	Mhz
TX output power		0	4.0	dBm
Freq Deviation GFSK		250		Khz
Channel spacing		1		Mhz
RX sensitivity		-93		dBm