

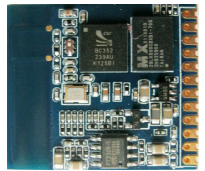
# 29.0 x 25.5 x 2.8 mm SMT Bluetooth Module

ABBTM-2.4GHz-33-T

Compliant to MSL level 3



RoHS  
Compliant



29.0 x 25.5 x 2.8 mm SMT

## FEATURES:

- Bluetooth Spec v1.2 Compliant
- Class 2, up to 10-meter range
- Complete 2.4GHz Bluetooth® System
- Power management: low power 1.8V operation for Bluetooth® core
- Compact size: 29.0mm (L) x 25.5 (W) mm x 2.8 (H) mm
- Bluetooth® Profile Supported: HSP, HFP, A2DP, AVRCP
- Built-in stereo codec
- Internal antenna
- Built-in audio amplifier
- Built-in power manager
- On-board flash memory (8Mbits)
- Echo cancellation software library
- Several firmware options
- Rewritable flash memory for easy upgrade route

## APPLICATIONS:

- Automotive car kit applications
- PDAs and other portable terminals
- Car radio/Car DVD

## GENERAL DESCRIPTION

Abracon's ABBTM-2.4GHz-33-T module is a complete Bluetooth® solution built on CSR BC03 MultiMedia External Core, supported by 8Mbit on-board Flash Memory. ABBTM-2.4GHz-33-T is a short range, compact, cost effective solution designed to facilitate Bluetooth® connectivity for applications including Car & Home Audio and other Handsfree solutions.

ABBTM-2.4GHz-33-T module is a Power Class-2 Bluetooth® device, compliant with version 1.2 specification. The overall architecture comprises of built-in antenna and supporting circuitry for software protocols including L2CAP, SDP, GAP, HSP, HFP, A2DP and AVRCP, resident in the on-board Flash Memory.

## ELECTRICAL SPECIFICATIONS:

Operating Frequency Band	2.4GHz ~ 2.48GHz Unlicensed ISM Band
Bluetooth Specification	V1.2
Output Power Class	Class 2
Operating Voltage	+3.3V and +5.0V
Host Interface	UART
Flash Memory Size	8 Mb

### Absolute Maximum Ratings

	Minimum	Maximum
Storage temperature	-40°C	+150°C
Supply voltage: VBAT	-0.30V	3.6V

### Recommended Operating Conditions

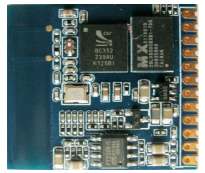
	Minimum	Maximum
Operating temperature range	-40°C	+85°C
Supply voltage: Vcc	+3.0V	+3.6V
Supply voltage: Vdd	+1.7V	+1.9V

# 29.0 x 25.5 x 2.8 mm SMT Bluetooth Module

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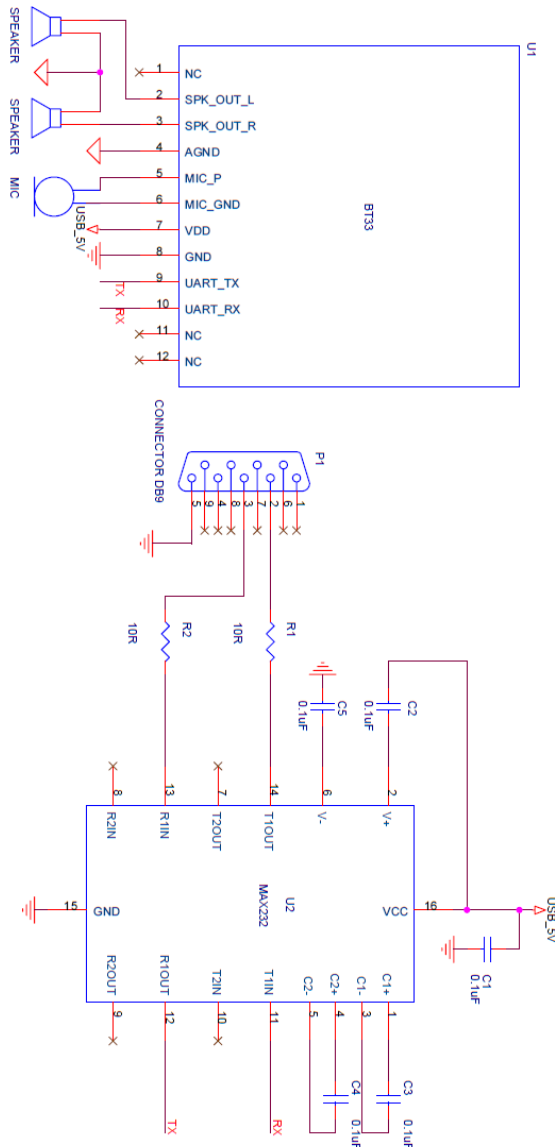
## Firmware Configuration

- a) UART Baud: 115200 , N, 8, 1
- b) BlueTooth Name: BlueAudio
- c) Pin Code: 0000

## Software Description

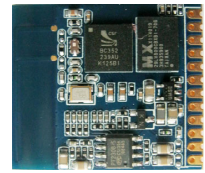
1. After Power on 3V3, the module is connectable and Pairing
2. ABBTM-2.4GHz-33-T can be found with the name “BlueAudio” via any Bluetooth device
3. Input the Pincode “0000”, you can pair with the module named “BlueAudio”
4. Then the BlueAudio can be connected
5. Data can be transferred between the BlueAudio and any other Bluetooth device

## APPLICATION SCHEMATIC



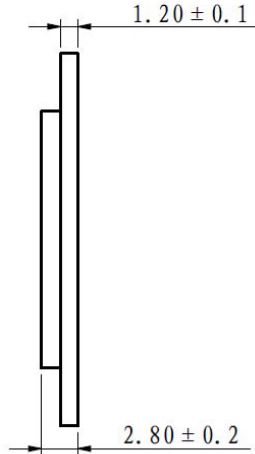
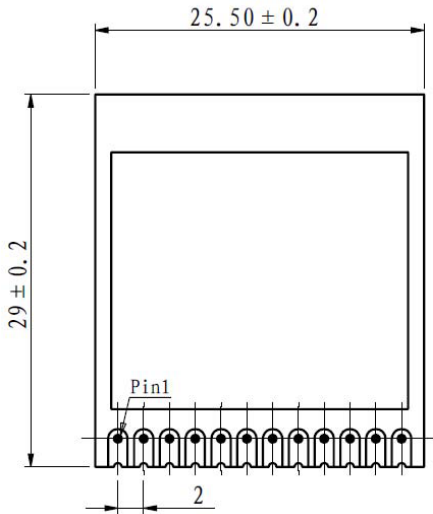
# 29.0 x 25.5 x 2.8 mm SMT Bluetooth Module

ABBTM-2.4GHz-33-T

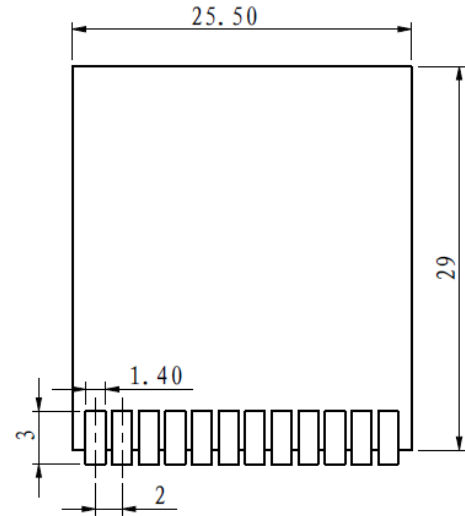


29.0 x 25.5 x 2.8 mm SMT

## MECHANICAL DIMENSIONS



## Recommended Land Pattern



Note: Specified dimensions without tolerance are listed for reference purposes only. Dimensions: mm.

## PIN DESCRIPTION

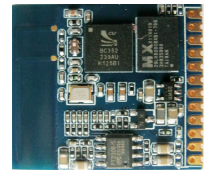
Pin No.	Name	Type	Function
1	NC	Input / Output	Not used currently
2	SPK_OUT_L	Output	Left channel audio out
3	SPK_OUT_R	Output	Right channel audio out
4	AGND	Ground	Analog ground
5	MIC_P	Input	Microphone positive pole input, internal power supply
6	MIC_GND	Ground	Microphone ground
7	VDD	Input	Power supply, +3.3V ~ +5V
8	GND	Ground	Power ground
9	UART_TX	Output	UART data output
10	UART)RX	Input	UART data input
11	NC	Input / Output	Not used currently
12	NC	Input / Output	Not used currently

# 29.0 x 25.5 x 2.8 mm SMT Bluetooth Module

ABBTM-2.4GHz-33-T

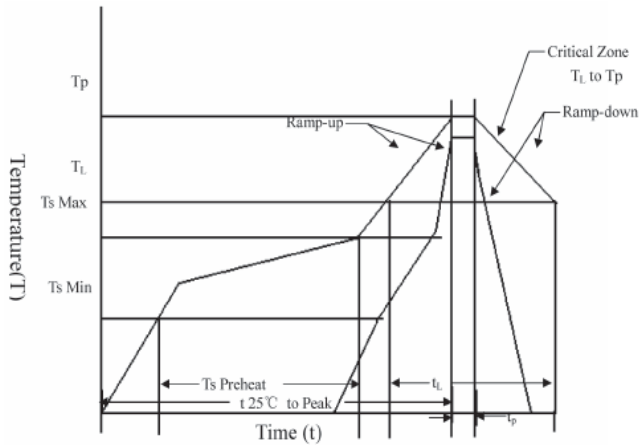


RoHS  
Compliant



29.0 x 25.5 x 2.8 mm SMT

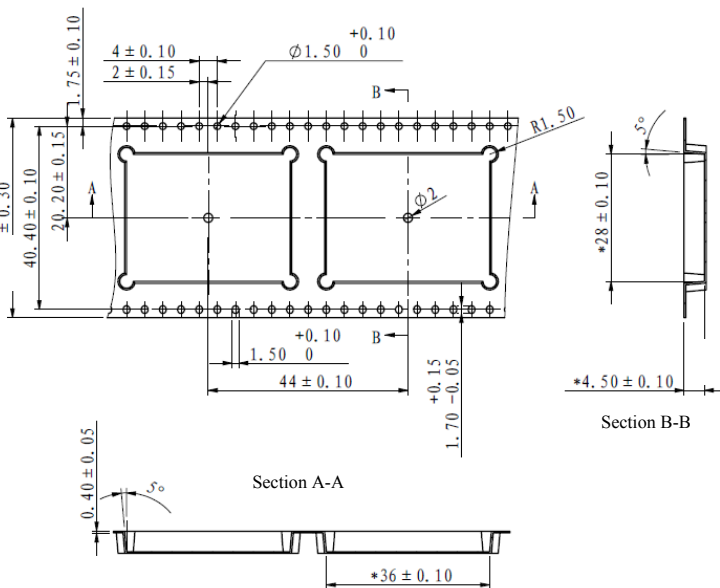
## REFLOW PROFILE



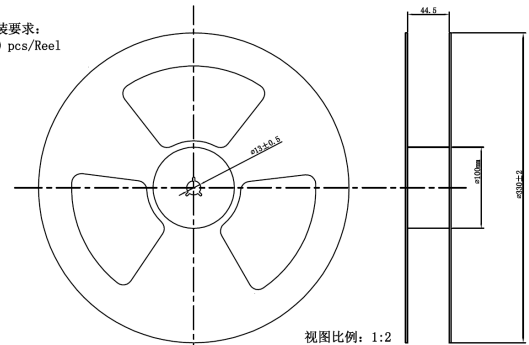
$T_s$ max to $T_l$ (Ramp-up Rate)	3°C/second max.
Preheat	
Temperature Min. ( $T_s$ Min.)	150°C
Temperature Typical ( $T_s$ Typ.)	175°C
Temperature Max. ( $T_s$ Max.)	200°C
Time ( $t_s$ )	60 ~ 180 seconds
Ramp-up rate ( $T_l$ to $T_p$ )	3°C/second max.
Time Maintained Above: --Temperature ( $T_l$ )/Time ( $T_l$ )	217°C/60 ~ 150 seconds
Peak Temperature ( $T_p$ )	250°C max. for 10 seconds
Target Peak Temperature ( $T_p$ Target)	250°C +0/-5°C
Time within 5°C of actual peak ( $t_p$ )	20 ~ 40 seconds
Ramp-down Rate	6°C/second max.
Tune 25°C to Peak Temperature (t)	8 minutes max.

## PACKAGING:

300pcs/reel



包装要求:  
500 pcs/Reel



视图比例: 1:2

- Unless otherwise specified, the tolerance is  $\pm 0.1$ mm
- The carrier tape material thickness is 0.4mm
- Unless otherwise specified, the round corner is R0.3; the peeling angle is no greater than 5°
- The finished products has no rough edges and no damage; cover tape should be sealed
- Material is ROHS compliant

## Packaging:

ABBTM-2.4GHz-33-T devices will be packaged per MSL level-3 requirements; Labeled as MSL 3, Tape- Packed + Vacuum-Packed with Antistatic bag, Desiccant, Humidity Indicator Card (HIC). Ref: IPC/JEDEC J-STD-033B.1

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