MINEWSEMI

Bluetooth LE Module
ME54BS12

Datasheet

V 1.0.0

ME54BS12-nRF54L15

Highly Flexible, Cost-effective, Ultra-low Power Bluetooth Module

The ME54BS12 is a highly flexible, ultra-low-power, and cost-effective Bluetooth module based on the nRF54L15. It features a powerful Arm® Cortex®-M33 CPU running at up to 128 MHz, along with 1.5 MB of NVM and 256 KB of RAM. The hardware includes an onboard antenna with an integrated design that highlights the enhanced performance of the nRF54 series. It also offers more GPIOs for development, ultra-low system power consumption, excellent RF performance, and a range of powerful supporting resources, making it an ideal solution for Bluetooth connectivity.

FEATURES

- Bluetooth 6.0
- High cost Performance
- Ultra-low Power
- Multi-Protocol support: Bluetooth LE 6.0 Channel Sounding, Bluetooth Mesh, Zigbee, Thread, Matter, and proprietary 2.4 GHz protocols.

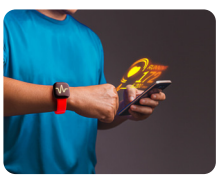
KEY PARAMETER

ME54BS12			
Chip Model	nRF54L15	**Antenna**	PCB
Module Size	15.8×12×2mm	**GPIO**	29
Flash	1.5MB	**RAM**	256 KB
Receiving Sensitivity	-96dBm	**Transmission Power**	-40 ~ +7dBm
Current(TX)	0dBm-5mA	**Current(RX)**	3.2mA

APPLICATION

Smart Home

Computer Accessories



Virtual reality and Augmented reality

Game controllers and Remotes

Medical Devices

Industrial IoT

STORAGE CONDITIONS

- **Please use this product within 6 months after signing the receipt.**
  - This product should be stored without opening the package at an ambient temperature of 5~35°C and a humidity of 20~70%RH.
  - This product should be left for more than 6 months after receipt and should be confirmed before use.
  - The product must be stored in a non-corrosive gas (Cl2, NH3, SO2, NOx, etc.).
  - To avoid damaging the packaging material, do not apply any excessive mechanical shocks, including but not limited to sharp objects adhering to the packaging material and product dropping.

- **This product is suitable for MSL2 (based on JEDEC standard J-STD-020).**
  - After opening the package, the product must be stored at ≤30°C/<60%RH. It is recommended to use the product within 3-6 months after opening the package.
  - When the color of the indicator in the package changes, the product should be baked before welding.

- **Baking is not required for one year if exposure is limited to <30°C and 60%RH. Refer to MSL2 for exposure criteria for moisture sensitivity level. If exposed to (≥168h@85°C/60%RH) conditions or stored for more than one year, recommended baking conditions.**
  1. 120 +5/-5°C, 8 hours, 1 time
  Products must be baked individually on heat-resistant trays because the materials (base tape, reel tape, and cover tape) are not heat-resistant, and the packaging material may be deformed at temperatures of 120℃;
  2、90℃ +8/-0℃，24hours，1times
  The base tape can be baked together with the product at this temperature. Please pay attention to the uniformity of heat.

HANDLING CONDITIONS

• Be careful in handling or transporting products because excessive stress or mechanical shock may break products.
• Handle with care if products may have cracks or damages on their terminals. If there is any such damage, the characteristics of products may change. Do not touch products with bare hands that may result in poor solder ability and destroy by static electrical charge.

QUALITY

Cognizant of our commitment to quality, we operate our own factory equipped with state-of-the-art production facilities and a meticulous quality management system. We hold certifications for ISO9001, ISO14001, ISO27001, OHSA18001, BSCI.

Every product undergoes stringent testing, including transmit power, sensitivity, power consumption, stability, and aging tests. Our fully automated module production line is now in full operation, boasting a production capacity in the millions, capable of meeting high-volume production demands.

COPYRIGHT STATEMENT

RELATED DOCUMENTS

- MinewSemi_Product_Naming_Reference_Manual
  https://en.minewsemi.com/file/MinewSemi_Product_Naming_Reference_Manual_EN.pdf
- MinewSemi_Connectivity_Module_Catalogue
  https://en.minewsemi.com/file/MinewSemi_Connectivity_Module_Catalogue_EN.pdf

For product change notifications and regular updates of Minewsemi documentation, please register on our website: **www.minewsemi.com**

MINEWSEMI
Innovative IoT Module Expert

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