
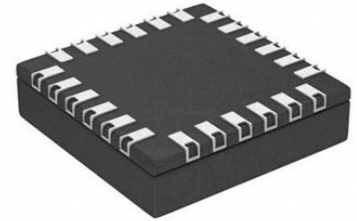


Ultra Low Power Bluetooth 5.1 SoC

Manufacturer:	Renesas Technology Corp
Package/Case:	WFQFN24
Product Type:	RF Integrated Circuits
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The SmartBond TINY™ DA14531 is the Bluetooth® low energy solution to power the next 1 billion IoT devices

SmartBond TINY™, the world's smallest and lowest power Bluetooth 5.1 System-on-Chip, brings down the cost of adding Bluetooth low energy in any system to \$0.50 in high volumes.

This awesome combination takes mobile connectivity to places previously out of reach, triggering a wave of a billion IoT devices, all with SmartBond TINY at the heart.

The low system cost is achieved through the high level of integration in SmartBond TINY: a complete Bluetooth low energy system can be achieved with the addition of 6 tiny external passives, a crystal and power source. And to lower the barrier of entry, SmartBond TINY will also be available in an easy-to-use tiny module incorporating all the needed components, making the addition of Bluetooth low energy to any application a simple drop-in.

Record low hibernation and active power consumption ensure long operating and shelf life with even the tiniest, disposable batteries. Based on a powerful 32-bit arm Cortex M0+ with integrated memories and a complete set of analog and digital peripherals, SmartBond TINY is extremely power efficient, delivering a record score of 18300 on the latest EEMBC benchmark for IoT connectivity, IoTMark™. Available in a tiny 2.0 x 1.7 mm package, the DA14531 is half the size of its predecessor, or any offering from other leading manufacturers. And it is complemented by a flexible SDK supporting major compilers such as Keil and GCC out of the box.

Application: Connected consumer: Beacons, smart labels, remote controls, proximity tags, connected watches, stylus pens, mice, toys, low power sensors, Bluetooth LEConnected health: connected injectors, inhalers, glucose monitors, smart patches, blood pressure meters, thermometersAutomotive: tire pressure monitoring systems and low power wireless sensors

Key Features

Future proof, compliant with Bluetooth 5.1 (core)

Optimized for disposable products in connected medical, connected consumer

Designed to work with disposable, even printed batteries

Works well with smallest capacity batteries, <30mAh

Supports multiple years of shelf life

Inrush current can be limited for disposable batteries with high internal resistance

Package design allows for low cost manufacturing with smallest possible footprint

Only requiring a single 32MHz crystal

In bypass mode no DC/DC inductor required

No boost converter required when working with 1.5V batteries

Production Line Tool for accelerated production ramp up, resulting in faster time to market and shortest production test time per device

Application

Connected consumer:

Beacons, Smart labels, Remote controls, Proximity tags, Connected watches, Stylus pens, Mouse, Toys, Low power sensors, Bluetooth LE add on “BLE pipe” to existing applications

Connected health:

Connected injectors, Inhalers, Glucose monitors, Smart patches, Blood pressure meters, Thermometers

Automotive:

Tire Pressure, Monitoring Systems and low power wireless sensors

Recommended For You

DA14531-00000G2

Renesas Technology Corp

SOT-23-6

DA14683-00000A92

Renesas Technology Corp

QFN60

DA14681-01000U22

Renesas Technology Corp

UFBGA53

DA14581-00AT2

Renesas Technology Corp

QFN

DA14699-00000HR2

Renesas Technology Corp

VFBGA100

HSP50110JI-52

Renesas Technology Corp

PLCC84

HFA3724IN

Renesas Technology Corp

QFP

uPB1507GV-E1

Renesas Technology Corp

SSOP8

F1958NBGK8

Renesas Technology Corp

QFN

UPB1507GV

Renesas Technology Corp

MSOP8

F1958NBGK

Renesas Technology Corp

QFN-24

F1956NBGI

Renesas Technology Corp

QFN

F2258NLGK

Renesas Technology Corp

QFN

F1912NCGI

Renesas Technology Corp

QFN

F2932NBGP8

Renesas Technology Corp

QFN