22 2024.Jan-Mar

HOLTEK

2024

Holtek eBook

HOLTEK SEMICONDUCTOR INC.

About Holtek

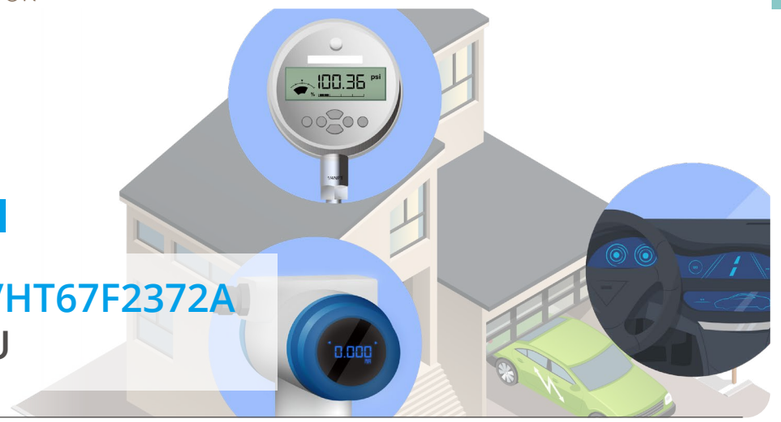
Holtek Semiconductor is a leading professional IC design house in Taiwan having its major business activities focused in the area of microcontroller and peripheral component design and marketing. From its origins in 1998, the company has continuously focused its energies in the advancement of new product development and skills innovation. The company's ability to keep in line with market trends, has given Holtek the means of releasing a wide range of highly successful and extremely competitive IC devices.

Contact Us

Contents

Product News

Recommended Products



PRODUCT NEWS

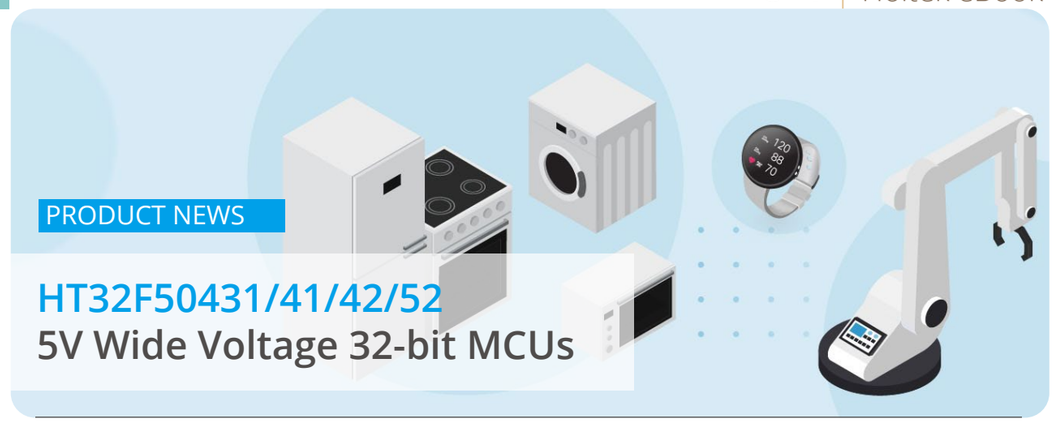
HT67F2362A/HT67F2372A
A/D LCD MCU

Holtek is delighted to announce the release of new device additions to its A/D Flash LCD MCU range, the HT67F2362A and HT67F2372A. These MCUs are extension products of the HT67F2362 and HT67F2372 devices, now including a C-type LCD driver to maintain good display effects at low voltage and also adding a Timer Module with a capture input function. These new devices provide a software library dedicated for IEC/UL 60730 verification to assist users with their product development and verification requirements. The devices include an integrated hardware CRC engine for MCU Program Memory self-diagnostic testing, a function which allows developers to reduce test times as well as reducing MCU resource loading. They also include an LCD/LED driver circuit. All of these features combine to make the devices suitable for LED/LCD display home appliances and automotive products such as water meters, gas meters, heat meters, electric vehicle instruments, exercise bike instruments, various home appliances and health/measurement related products in addition to many others.

These devices have abundant system resources, including a 16K×16/32K×16 Flash Program Memory, a 2K×8/3K×8 Data Memory, a 1K×8/2K×8 Data EEPROM and two/three UART interfaces. The integrated high accuracy 8/12/16MHz RC oscillator now has an improved tolerance of ±1%. The A/D converter 1.2V reference voltage has a high accuracy of ±1%. Additionally, multi-functional Timer Modules, a 16-bit hardware Multiplier and Divider, comparator, IAP function, SPI/I²C and UART interfaces are also included. As well as being utilised as product master controllers, these MCUs can also function as slave devices and be connected to other master ICs using their communication interfaces as part of an overall system. With their functional diversity, the devices can be used in a huge range of home appliance control applications as well as automotive products to name but a few of the many application possibilities. With regards to packaging, the HT67F2362A is supplied in 48/64-pin LQFP package types while the HT67F2372A is supplied in 48/64/80-pin LQFP package types. These are fully pin-compatible with the predecessor HT67F2362/HT67F2372 devices.

More about HT67F2362A

More about HT67F2372A



PRODUCT NEWS

HT32F50431/41/42/52
5V Wide Voltage 32-bit MCUs

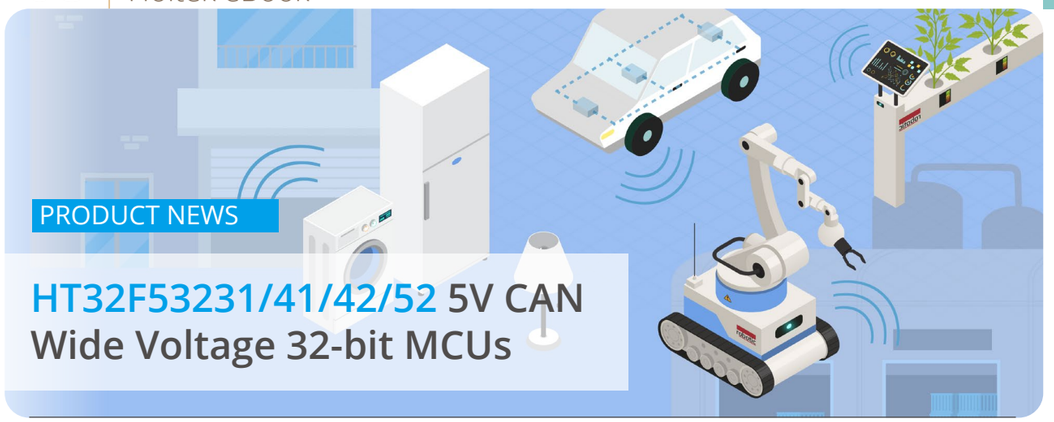
Holtek's continued innovation and release of new MCUs now sees latest additions to its range with the new 5V wide voltage Arm® Cortex®-M0+ MCUs, the HT32F50431, HT32F50441, HT32F50442 and HT32F50452. These devices have been upgraded in many areas to make them especially suitable for use in a wide range applications such as smart homes, industrial control, embedded systems, consumer electronics, etc.

These devices have an operating voltage range of 2.5V~5.5V, an industrial temperature range of -40℃~105℃ and an operating speed of up to 60MHz. The devices provide up to 128KB of Flash Program Memory and up to 16KB of SRAM Data memory. The devices also contain a 6-channel PDMA. In addition, the devices provide an independent VDDIO pin to facilitate the connection of components whose voltage is different to the MCU VDD voltage. A variety of peripheral resources are included, such as EBI, DIV, SPI, UART, USART, I²C, MCTM, GPTM, PWM, BFTM, RTC, CRC, CMP, LED controller with an automatic scanning function and so on. The devices contain a 12-channel SAR A/D Converter with a conversion speed of up to 2Msps whose reference voltage, VREF, can be configured as an internal reference voltage. The devices are supplied in 32/46-pin QFN and 44/48/64-pin LQFP package types, which provide up to 54 GPIO pins.

Holtek's HT32 series is supported by multiple development environments which includes Keil, IAR, SEGGER as well as GNU. The device series is also supported by additional comprehensive development resources such as hardware development kits, peripheral driver firmware libraries and application examples. The full M0+ MCU series has been licensed for use by Keil MDK-ARM. By using the ISP (In-System Programming) and IAP (In-Application Programming) technologies, the firmware can be easily and rapidly upgraded. The full HT32 series has passed the UL/IEC 60730-1 Class B certification and can provide self-test programs which are contained in a Safety Test Library in order to reduce product certification cycle times.

More about HT32F50431/41/42/52

← Back to contents



PRODUCT NEWS

HT32F53231/41/42/52 5V CAN Wide Voltage 32-bit MCUs

Holtek is delighted to announce the release of its new generation 32-bit Arm® Cortex®-M0+ 5V CAN MCUs, the HT32F53231/HT32F53241/HT32F53242/HT32F53252 series. These devices include a Bosh licensed CAN bus controller which supports the CAN 2.0A/B protocol specifications and conforms to ISO11898-1:2003 standards. The CAN interface can be combined with the UART/USART LIN mode to form an in-vehicle network to meet related vehicle application requirements. These devices are especially suitable for use in a wide range applications such as home intelligence, building automation, industrial automation, mechanical control, two-wheeled electric vehicles, on-board diagnostics, related peripherals and so on.

These new devices have an operating voltage range of 2.5V~5.5V, an industrial temperature range of -40℃~105℃ and an operating speed of up to 60MHz. Regarding memory storage, there is up to 128KB of Flash Program Memory and up to 16KB of SRAM Data memory. The devices also contain a 6-channel PDMA. In addition, the devices provide an independent VDDIO pin to facilitate the connection of external components whose voltage is different to the MCU VDD voltage. A variety of peripheral resources are included, such as CAN, EBI, DIV, SPI, UART, USART, I²C, MCTM, GPTM, PWM, BFTM, RTC, CRC, CMP, LED controller with an automatic scanning function etc. The devices contain a 12-channel SAR A/D Converter with a conversion speed of up to 2Msps whose reference voltage, VREF, can be configured as an internal reference voltage. The devices are supplied in 32/46-pin QFN and 48/64-pin LQFP package types, which provide up to 54 GPIO pins.

Holtek's HT32 series is supported by multiple development environments which includes Keil, IAR, SEGGER and GNU. The device series is also supported by additional comprehensive development resources such as hardware development kits, peripheral driver firmware libraries and application examples. The full M0+ MCU series has been licensed for use by Keil MDK-ARM. By using the ISP (In-System Programming) and IAP (In-Application Programming) technologies, the firmware can be easily and rapidly upgraded. The full HT32 series has passed the UL/IEC 60730-1 Class B certification and can provide self-test programs which are contained in a Safety Test Library in order to reduce product certification cycle times.

More about HT32F53231/41/42/52

PRODUCT NEWS

HT45F0006/36 Induction Cooker MCUs

With a focus in the induction cooker application area, Holtek announces the release of its new induction cooker Flash MCUs, the HT45F0006 and HT45F0036. The devices provide the required hardware protection circuits such as voltage and current surge protection, IGBT over-voltage protection, over-current protection as well as valley voltage detection etc. When compared with previous generation products, these new devices provide a richer set of functional resources. The devices have an integrated hardware assistance UL certification function and provide hardware UART and I²C interfaces to communicate with the panel. They also retain all the benefits of the previous generation products such as a PPG hardware frequency jittering function which can effectively reduce the IGBT reverse voltage and therefore reduce any generated electromagnetic interference (EMI) when the induction cooker is operating at higher power levels. This will reduce the costs of any required anti-electromagnetic interference components and assist with passing EMI standard testing.

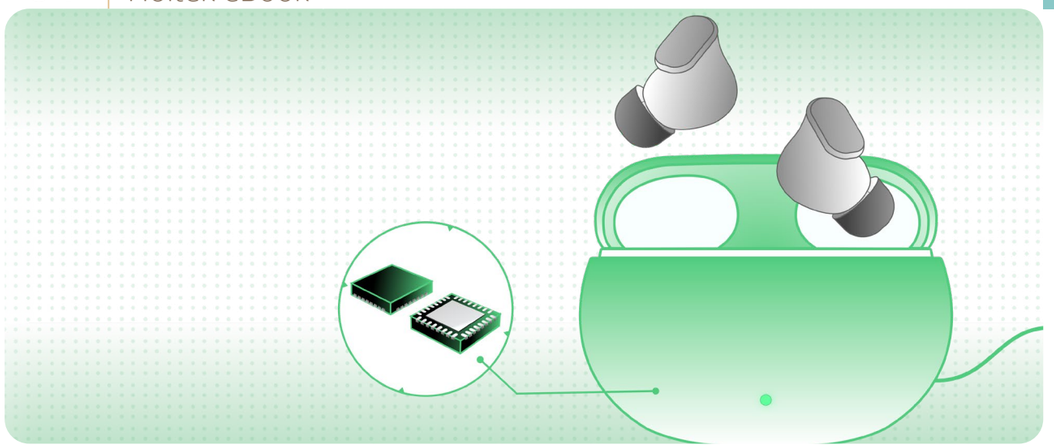
For the HT45F0036, the device provides the induction cooker with a means of generating a uniform and efficient heating source when the induction cooker is operating at lower power levels. The device also includes an integrated IGBT drive circuit which can directly drive the IGBT thus further reducing the number of required external components and reducing the PCB layout complexity.

Regarding system resources, the devices contain an 8K×16 Flash Program Memory, a 512×8 Data Memory and a 512×8 Data EEPROM. As for peripheral features, the devices include UART and I²C communication interfaces, a 9-bit Programmable Pulse Generator which includes an internal hardware frequency jittering function, a 12-bit A/D converter which includes a 2-channel A/D automatic conversion function, a comparator, five groups of Over Voltage Protection functions and an operational amplifier which has an internal programmable gain. The HT45F0036 also includes a group of IGBT drive circuits with excellent application flexibility. Regarding packaging, the devices are supplied in 16-pin NSOP and 20-pin SOP package types. The full range of functions and features that these devices provide ensures their excellent suitability for use in induction cooker products.

More about HT45F0006

More about HT45F0036

← Back to contents



PRODUCT NEWS

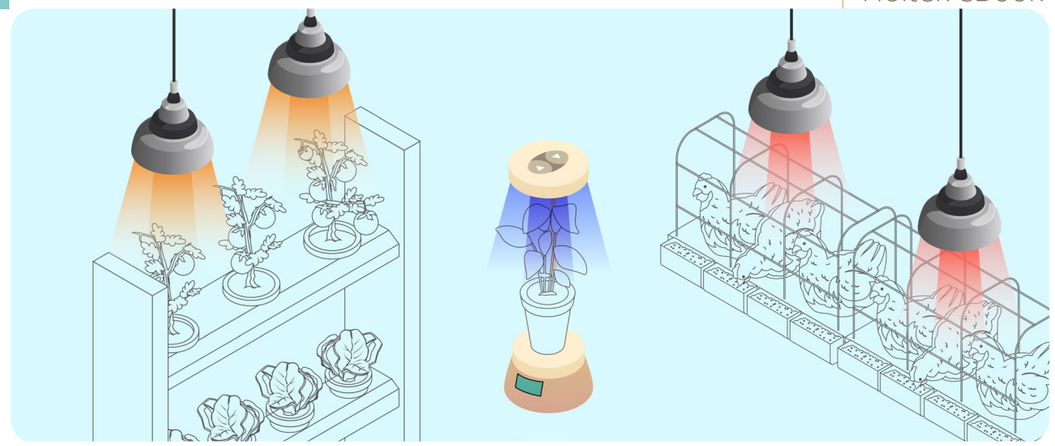
HT45F2440 TWS Earbud Charging Case MCU

Holtek is delighted to announce the release of its new highly integrated TWS earbud charging case Flash MCU, the HT45F2440. With a high input voltage of up to 24V and a charging current of up to 1A, the linear charger management system can be used to prevent the charging case from damage when the USB-C interface is connected to an abnormal voltage and also to shorten the charging time when the voltage is normal. The integrated low-power synchronous boost converter, which has a low 5μA standby current, provides power to the earbuds and extends the TWS earbud usage time.

The device contains a 4K×16 Flash Program Memory, a 256×8 RAM and a 128×8 EEPROM. With regards to peripheral features, the device also includes several multi-function timer modules, a 6-channel 12-bit A/D converter, a reference voltage source with a tolerance of ±1% as well as an IC temperature measurement function. These functions meet the requirements of Li-battery charging and discharging management and device temperature management. The available interfaces used together with the integrated power path management can implement direct USB-C earbud charging to shorten the charging time. The communication interfaces between the charging case and the TWS earbuds support both UART and AM types.

The device is supplied in a 32-pin QFN (4mm×4mm) package type, which permits reductions in the PCB area. The high level of functional integration simplifies the PCB layout and architecture design. The device is very suitable for use in TWS earbud charging cases or products which utilise an integrated Li-battery and require the voltage to be boosted to a 5V output.

More about HT45F2440



PRODUCT NEWS

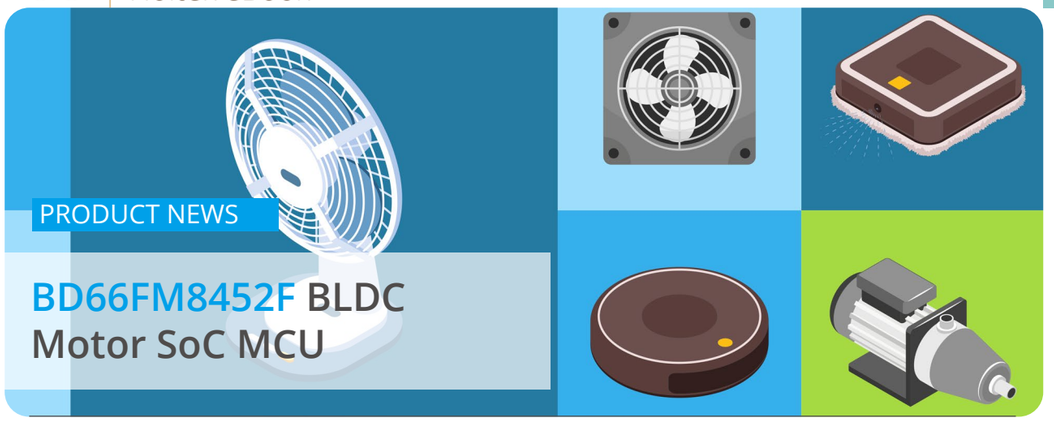
HT45R5530 TRIAC Dimmable LED Lighting OTP MCU

Holtek is delighted to announce the release of its new LED dimmable function OTP MCU, the HT45R5530. A special of the device is its PSR flyback power design architecture. Its integrated active power factor correction control technology enables the device to obtain an excellent power factor rating exceeding 0.9, low harmonic distortion and high efficiency. The device also supports front phase angle detection and provides an active bleeder circuit as well as an LED driver circuit to implement isolated LED dimming applications. These features have combined to ensure that the device will find excellent use in applications such as TRIAC LED dimming lights or decorative lighting sources, LED plant lights, LED dimming strips for farm lighting systems, TRIAC dimming LED drivers and other lighting products.

Regarding system resources, the device contains a 2K×15 OTP Program Memory, a 96×8 Data Memory, a 3-channel 8-bit SAR-ADC, an 8-bit PWM output dimming range from 5% to 100%, ±3% LED constant current regulation and a maximum 500mA current output on the DRV pin driving MOSFET. The device provides complete protection functions to enhance product safety, such as output over voltage protection, output short-circuit protection, VCC over/under voltage protection and external/internal over temperature protection. The device is supplied in a 16-pin NSOP package.

More about HT45R5530

← Back to contents



Holtek is delighted to announce its new Brushless DC motor control SoC Flash MCU, the BD66FM8452F. This new device integrates an MCU, an LDO, a three-phase 32V driver, a VDC bus voltage detection function and a high-voltage FG circuit. This all-in-one solution greatly simplifies the usual peripheral circuit and allows for much smaller PCBA areas, making the device suitable for use in low profile products which have small PCBA requirements. To increase system security and stability, the device provides many protection functions which include Over Current Protection, VCC Under Voltage Lock-Out, Output Short-circuit Protection and Over Temperature Protection. This device is suitable for use in three-phase BLDC motor products with voltages below 24V and power ratings below 18W, such as sweeping robot driving motors, low-wattage fans, pumps, etc.

The device contains 8K×16 of Flash Program Memory, 2K×8 of RAM Data Memory and has an operating frequency of up to 20MHz. A 9-channel 12-bit A/D converter is included along with two 16-bit timers, two 10-bit timers as well as a high-speed UART and an I²C communication interface. The BLDC motor control circuit includes a 16-bit speed monitoring timer, a 3-channel 10-bit complementary PWM output driver which include a dead-time function as well as a hardware rapid shutdown PWM protection mechanism.

Three internal comparators are provided for rotor position detection in either Hall sensor or sensor-less solutions. The device contains a back EMF noise suppression filter circuit which provides improved stability for square wave sensor-less start-up and low speed conditions. The hardware cycle-by-cycle current protection control function can directly set an output current limit allowing the motor to continue running at its maximum protection current value. The device is supplied in a 32-pin QFN (4mm×4mm) package type which will suit a large range of product application requirements.

More about BD66FM8452F

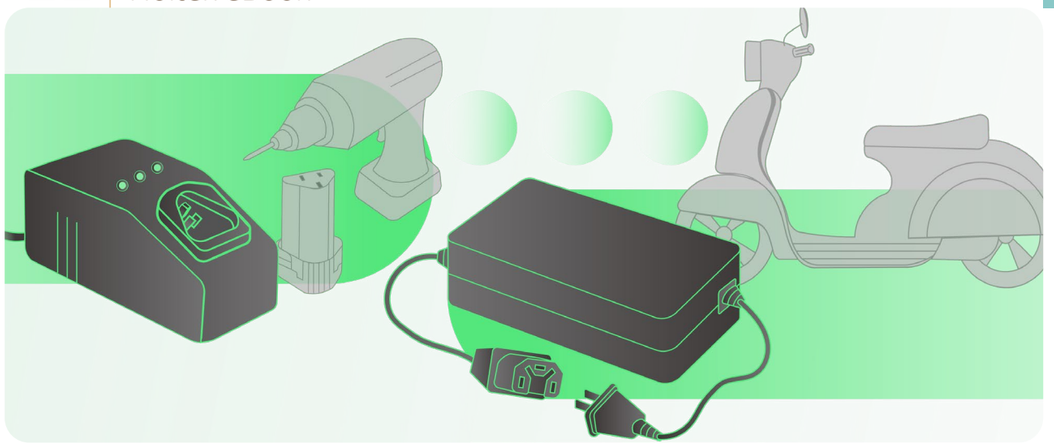
Holtek has released its new HT7Q2552 8-cell analog front end device for Li-battery protection. This device provides an I²C interface to control system configuration and MCU communication as well as supporting short-current discharge protection, high-voltage wake-up and interrupt return for over-temperature chip protection. This device has been specifically designed for use in a wide range of products such as handheld electronic tools, gardening tools, handheld vacuum cleaners etc.

The HT7Q2552 integrates a battery balance circuitry, a 5V high accuracy regulator, an accurate 2.5V reference voltage output, an individual cell voltage monitor, two discharge N-type MOSFET gate drivers, a charge N-type MOSFET gate driver, a charge/discharge differential current monitor, a discharge short-current protection, two high-voltage wake-up pins and an over-temperature chip protection function. The internal battery balance circuitry provides a balanced cell current without the need for external transistors. Each monitored battery cell voltage can be observed sequentially from VBAT1 to VBAT8. The device has a regulator with a fixed 5V supply and a 50mA driving current which has ±1% accuracy. The device has a 2.5V A/D converter reference voltage output which has high accuracy and low temperature drift. This has a maximum voltage variation of 15mV within a temperature range of Ta=-40℃~85℃. The cell voltage monitor is designed to monitor each battery cell voltage individually, with ±7.5mV accuracy. The current monitor channel provides charge and discharge current monitoring and short-current protection and also provides multiple thresholds for selection. The product requirements can be selected using external I²C interface control. The device can control both charge and discharge using a charge and two discharge N-type MOSFET gate drivers. The voltage regulator, cell voltage monitor, current monitor and gate drivers can be shut down after which the device will have an ultra-low standby current of 0.1μA when the device is in the sleep mode.

With regard to packaging, the HT7Q2552 is supplied in a 32 QFN (4mm×4mm) package type and provides two high-voltage wake-up and sense pins which can be configured according to the product requirements.

More about HT7Q2552

← Back to contents



PRODUCT NEWS

HT45F5Q-6 Charger MCU

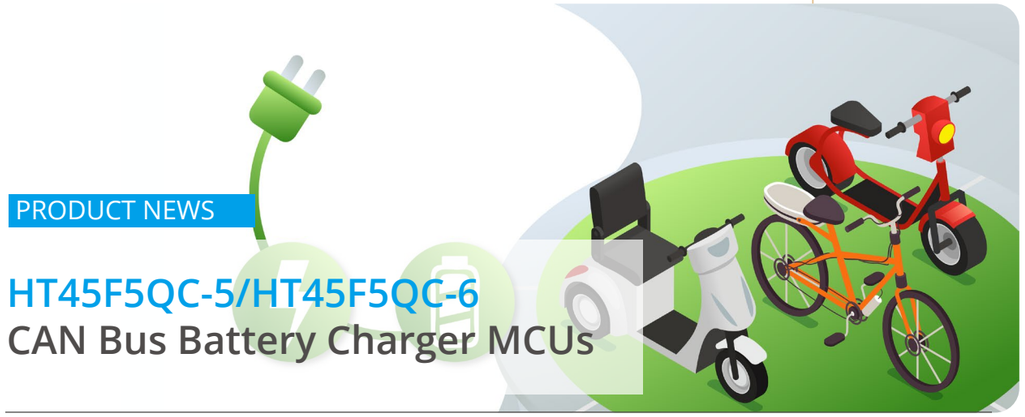
Holtek continues its development of battery charger MCUs with this new Flash MCU release, the HT45F5Q-6. It is pin compatible with the predecessor device, the HT45F5Q-5, however this new device provides an operating frequency of up to 20MHz and increased internal ROM, RAM and EEPROM memory capacity. When used together with the charger volume production tools, customers have a means of rapid volume production thus reducing production line effort. This new device is suitable for use in lithium battery and lead acid battery chargers for electric motorcycles, power tools etc.

The device contains a 16K×16 Flash Program Memory, a 1024×8 Data Memory and 27 multi-function I/O ports. The multi-channel 12-bit A/D converter is used to measure voltage, temperature and other signals. There is also a group of OPAs with a gain of either 20 or 40, which allows lower values of current detection resistors to be used. This improves the conversion efficiency and increases the measured current accuracy.

The device supports various software self-detect features, which allows it to meet a range of safety requirements. There are also a fully integrated range of communication interfaces including I²C, SPI and UART. As for packaging, the HT45F5Q-6 is supplied in 24/28-pin SSOP and 32-pin QFN package types. When used together with the charger development platform, users are able to easily select the required charging voltage/current and other specifications. This development platform will also be able to generate MCU code which will contain generic lithium battery and lead acid battery charging programs, resulting in greatly reduced product development times.

More about HT45F5Q-6

More about HT45F5Q-5



PRODUCT NEWS

HT45F5QC-5/HT45F5QC-6
CAN Bus Battery Charger MCUs

Holtek is delighted to announce the release of two new dedicated CAN Bus battery charger MCUs, the HT45F5QC-5 and HT45F5QC-6. Both devices include an integrated CAN Bus controller which supports the CAN 2.0A/B protocol specifications and conforms to ISO11898-1:2003 standards. The devices are for chargers used by two and three wheeled electric vehicles, electrically-assisted bicycles, etc. The devices can communicate with the vehicle host, instruments, BMS and other functional units to obtain battery characteristics, charging status updates as well as other functions. The devices include two 14-bit DACs and two OPAs as well as a reference voltage source which has a tolerance of ±1% and which can accurately control the charger voltage and current. The devices are suitable for use by different battery types that are used by different types of vehicle.

With regards to other functions there are 8K/16K×16 Flash Program Memory, 512/1024 ×8 RAM and 16 multi-function I/O pins. The multi-channel 12-bit A/D converter is used to measure voltage, temperature and other signals. There is also a group of OPAs with a gain of either 20 or 40 which allows lower values of current detection resistors to be used. This improves the conversion efficiency and increases the measured current accuracy.

The devices support various software self-detect features, which allow them to meet a range of safety requirements. The HT45F5QC-5 and HT45F5QC-6 are supplied in 28-pin SSOP and 32-pin QFN package types. When used together with Holtek's charger workshop, users are able to easily select their required charging voltage and current values as well as other specifications. This workshop will also be able to generate MCU code for generic lithium battery and lead acid battery charging functions, a platform which will help designers greatly reduce their product development times. When used together with charger volume production tools, customers have a means of rapid volume production thus reducing production line effort.

More about HT45F5QC-6

More about HT45F5QC-5

← Back to contents

PRODUCT NEWS

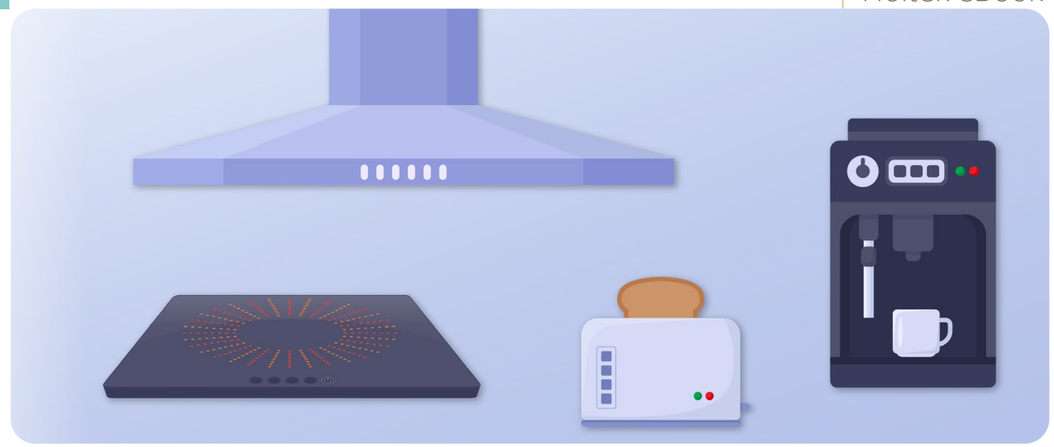
BS21xC-x Series New Touch Key Peripheral ICs

Holtek is delighted to announce the release of its new Touch Key peripheral ICs, the BS21xC-x series. One of the main features of these new devices is in their excellent cost/performance ratio. When compared with the previous BS81xC-x series, these new devices have resilient anti-power noise interference capabilities, have no external component requirements, have low power consumption and a high level of development convenience. These features combine to make the devices suitable for a huge variety of touch key product applications.

The BS21xC-x series includes the BS211C-1, BS212C-1, BS213C-1, BS214C-1, BS214C-2, BS216C-1, BS218C-2 and BS218C-3, all of which have excellent development convenience. This allows developers to apply them for use directly and rapidly in touch key product applications without having to invest effort in understanding touch key technology. The device's internal circuits are able to implement automatic calibration according to environmental changes which further enhances their touch detection accuracy and stability. In addition, the BS211C-1, BS216C-1, BS218C-2 and BS218C-3 devices include a pin option for an IRQ function providing another level of application flexibility.

The BS21xC-x series provides 1~8 touch keys. With appropriate packaging and output interface design, these devices can meet various electronic product applications requirements. All are pin-compatible with the predecessor BS81xC-x series which will permit easy upgrades and thus shorten the product development cycle resulting in lower overall costs.

More about BS21xC-x



PRODUCT NEWS

BS45F2345 Touch A/D MCU

Holtek wishes to announce its new Touch A/D Flash MCU, the BS45F2345. The device includes a high accuracy oscillator, an accurate A/D reference voltage, 8 touch keys and a software controlled LCD driver. The touch keys have passed the CS (Conductive Susceptibility) 10V dynamic test and optimally use the ROM area. The device is suitable for various touch key electronic products such as touch small household products, smoke exhaust ventilators, electric ceramic stoves, coffee machines, etc.

The BS45F2345 device provides a 4K×16 of Flash Program Memory, a 256×8 RAM and a 128×8 EEPROM. With regards to peripheral features, the device includes 8 touch keys, a 12-bit A/D converter, a comparator as well as an SPI, I2C and UART interfaces, etc. The integrated high accuracy HIRC oscillator has a frequency of 8, 12 or 16MHz with an accuracy of up to ±1%. The A/D converter reference voltage is 1.2V with an accuracy of up to ±1%.

To assist users with their development process, Holtek has professional teams ready to provide any required technical support. Together with a full set of touch key function libraries as well as software and hardware development tools, these resources combine to offer customers a means of rapid application development. The device is supplied in 28-pin SOP/SSOP package types, providing users with options for their application requirements.

More about BS45F2345

← Back to contents

PRODUCT NEWS

BS65F2042 NFC Reader Touch MCU

Holtek has released its new Touch Flash MCU with NFC reader, the BS65F2042. This new device comes with an abundant set of system resources and can reduce the number of connections to the master MCU using I²C communication control. It also provides detection timing control function to avoid interference caused by touch keys and NFC. This new device is suitable for applications such as smart door locks, access control, smart homes, toys, etc.

This new device provides 16 touch keys and has excellent noise immunity. It has passed the CS (Conductive Susceptibility) 10V dynamic testing. The device has up to 26 I/O pins which can be used for buzzer driving and for LED display functions. The NFC reader provides a 13.56MHz RFID function and supports both ISO14443A and ISO14443B protocols. The NFC reader also has an RF output current of up to 230mA which can increase the sensing distance and also support card detection with low power consumption.

To assist users with their product development, Holtek provides a complete set of libraries as well as software and hardware development tools with which customers can rapidly develop their various applications. The device is supplied in a 46-pin QFN package type.

More about BS65F2042

PRODUCT NEWS

BS67F2432 Touch A/D MCU with LCD Driver

Holtek is delighted to announce its new touch Flash MCU, the BS67F2432. The device includes a high accuracy 4MHz HIRC oscillator, 8 touch keys and an LCD driver which supports up to 4COM×15SEG LCD display dimensions, making the device suitable for applications which require a touch key interface, accurate signal outputs and LCD displays, such as touch switch bathroom ceiling heaters and ventilator remote controls, touch switch LCD remote controls, touch switch LCD timers, etc.

The BS67F2432 provides a 2K×16 of Flash Program Memory, a 128×8 RAM, a 32×16 EEPROM and 8 touch keys. Under a temperature range of -10℃ to 50℃ and an operating voltage range of 2.0V to 3.6V, the internal integrated high accuracy high frequency 4MHz RC oscillator has a tolerance of less than ±0.8%. The device includes a 9-bit carrier counter which can be used to generate infrared signals with specific specifications and its internal UART interface can be used to communicate with external RF modules.

The device is supplied in 28-pin SSOP and 32-pin QFN package types which meets the requirements for small profile electronic products. To assist users with their development process, Holtek has professional teams to provide any required technical support. Together with a full set of touch key function libraries as well as software and hardware development tools, these resources combine to offer customers a means of rapid application development.

More about BS67F2432

← Back to contents

PRODUCT NEWS

BS84D20CA Touch A/D MCU

Holtek is delighted to announce the release of its new Touch Key A/D Flash MCU, the BS84D20CA. This new device continues to incorporate all the benefits of predecessor devices such as excellent anti-interference characteristics but includes an expanded range of system resources such as an 8×8 LED controller and up to 46 I/Os. These features combine to ensure the device is suitable for use in applications which require multiple touch keys and other complex functions for home appliances such as air fryers, air purifiers, kitchen scales and coffee machines, etc.

This new device provides 20 touch keys which have an automatic detection function. All of the touch keys have passed the conductivity susceptibility dynamic 10V test. It has a wide 1.8V~5.5V operating voltage and with regards to memory has 8K×16 of Flash Program Memory, 768×8 of Data Memory and a 512×8 EEPROM. Other functions include a 12-bit A/D converter with a high accuracy reference voltage up to ±1%, a high speed UART interface and additional SPI/I²C interfaces.

The device is suitable for use as a master MCU, which when used together with a suitable power board can implement full product applications. Holtek also fully supports the device with a comprehensive suite of hardware and software development tools as well as a touch key function library which will assist designers with their rapid product development. The device is supplied in 28-pin SOP/SSOP and 48-pin LQFP package types.

More about BS84D20CA

PRODUCT NEWS

BC68R2123 Sub-1GHz RF Transmitter OTP MCU

Holtek is delighted to announce the release of its new Sub-1GHz RF OOK/FSK Transmitter OTP MCU, the BC68R2123. This new device expands the coverage of Holtek's Sub-1GHz Tx series of MCUs providing customers with increased competitive advantages in wireless control products. It is suitable for various wireless control products such as rolling gates, electrically operated gates, lamp controls, ceiling fans, ceiling fan lamps, switches, sockets, security products, doorbells, integrated ceilings and other products.

The device has an operating voltage range of 2.2V~3.6V. With regard to memory, it contains 1K×14 of OTP Program Memory, 64×8 of RAM and two Timers. The RF transmission power can be up to +13dBm and the RF characteristics are fully compliant with ETSI/FCC specifications. The RF receiver supports OOK/FSK modulation types with a transmission rate ranging from 0.5kbps to 50kbps. The device is supplied in a 16-pin NSOP-EP package type and contains 9 GPIO pins.

More about BC68R2123

← Back to contents

PRODUCT NEWS

HT32F67575 Dual-Core BLE 5.3 MCU

Holtek is delighted to announce the release of its new Arm® Cortex® dual-core (M33 & M0+) Bluetooth Low Energy MCU, the HT32F67575. This new device, which has passed the Bluetooth SIG BT5.3 certification, has an ultra-low power receiver with a current consumption of only 4.0mA at a data rate of 1Mbps and a receiving sensitivity of -96dBm. At a transmission power of +0dBm, the current consumption is only 3.8mA. The device supports a transmission power up to +10dBm and is suitable for a wide range of sports, fitness, health monitoring and other wearable and handheld product applications.

The device has an operating temperature range of -40°C~ +85°C and an operating voltage range of 1.8V~3.6V. The M33 core has a maximum operating speed of 64MHz. With regards to system resources, these include a 512KB Flash memory, a 256KB SRAM, two 14-bit A/D Converters, an integrated DC-DC converter to provide low power operation modes as well as abundant peripheral interfaces, including USB, QSPI, HSQSPI, UART, I²C, SCI, IrDA, I2S, etc. The device is supplied in a 40-pin QFN (5×5mm2) package type and contains 22 GPIO pins, all of which have a wake-up function. All of these features combine to ensure that developers have a functionally rich MCU for BLE product development.

To aid designers with their product development, Holtek provides a BLE evaluation board, standard and general firmware libraries and application examples to ensure a rapid and efficient development process.

More about HT32F67575

PRODUCT NEWS

BA45F6760/66 CO/GAS Detector MCUs

Holtek wishes to announce the release of its new CO/GAS detector MCUs, the BA45F6760 and BA45F6766. Compared with the previous BA45F67x0/67x6 series, these new devices have an increased Flash ROM and RAM memory capacity and include a 16-bit Voice DAC and an RTC to meet the needs of more diverse CO/GAS detection product applications. The BA45F6760 is suitable for use in LED display voice alarms and the BA45F6766 is suitable for LCD display voice alarms.

The devices contain a 16K×16 Flash Program Memory, a 2048×8 RAM and a 256×8 EEPROM. With regards to peripheral features, the devices also include a 10-bit PTM, a 10-bit STM, a multi-channel 12-bit A/D converter as well as SPI/I²C and UART communication interfaces. The fully integrated CO/GAS detection AFE circuit integrates the self-test and amplification circuits required by CO/GAS sensors. The devices also include a temperature sensor which can be used for CO sensor temperature compensation. The 16-bit Voice DAC is able to implement a voice alarm function. The integrated LCD/LED drive function can be used to display the present CO/GAS concentration level and the RTC can be used to calculate the sensor lifetime which greatly reduce the peripheral circuit components normally required for display driving, thus simplifying the product design.

The devices are supplied in 28-pin SSOP and 48-pin LQFP package types and their pin assignment is compatible with the BA45F67x0/67x6 devices.

More about BA45F6760

More about BA45F6766

← Back to contents

PRODUCT NEWS

BA45F25250/25260 Smoke Detector MCUs

Holtek is delighted to announce the release of its new Smoke Detector dedicated Flash MCUs, the BA45F25250/25260. The devices include a fully integrated dual-channel smoke detector AFE and an IR LED driving circuit. These new devices are pin-compatible with the previously released BA45F5250/5260, supporting blue LED transmission and include an LXT oscillator which can be used to calculate the service life of sensors. The aforementioned features make the devices suitable for use in smoke detection alarms.

The devices contain 8K×16/16K×16 of Flash Program Memory, 1024×8/2048×8 of Data Memory and 128×8/256×8 of EEPROM. Each device includes an IAP function, several multi-function timer modules and a multi-channel 12-bit A/D converter. The integrated dual-channel smoke detector detection AFE together with a dual-channel LED constant current driving circuit can increase the smoke detection accuracy and reduce the possibility of false alarms. The low power internal LIRC can increase the service time of battery powered products. The integrated temperature sensor can be used for temperature compensation and the integrated 16-bit voice D/A converter can be used to implement voice alarm functions.

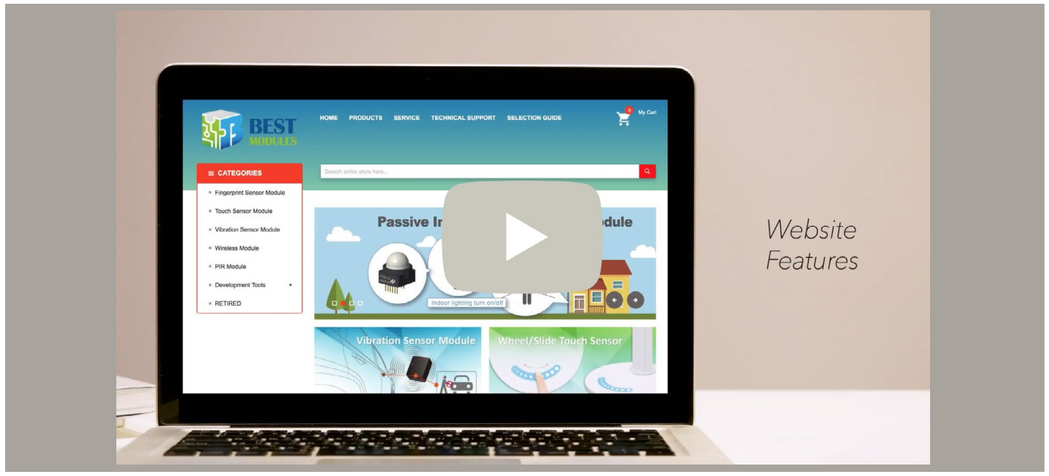
The BA45F25250/25260 are supplied in a choice of 16-pin NSOP, 20-pin SSOP and 48-pin LQFP package types, depending on the part number.

More about BA45F25250

More about BA45F25260

About Best Modules

https://www.bestmodulescorp.com/



Best Modules is a wholly-owned subsidiary of Holtek. Our company was established in 2016, and is headquartered in the Hsinchu Science Park in Taiwan. As a professional open source hardware vendor, we provide not only a range of high-quality electronic products and complete datasheets, but also technical services for you.

Your Best Choice.

Our products are all developed and designed by Holtek and related companies. The product categories are as following :

Microcontrollers (MCU) :
8-bit MCU, 32-bit MCU and peripheral IC.

Modules :
Temperature and Humidity Sensor, Gas Detector Sensor, Environment Sensor, Infrared Sensor, Vibration Sensor, Fingerprint Sensor,Water Atomization Module, LED Module, Wireless Module etc.

Development Tools :
MCU Development Boards, ICE and Starter Kits, Programmers, 8-bit Adaptors, 32-bit Adaptors etc.

Let's make something great together.

We are pleased to share the experience and expertise to you. If you have different requirement, please contact us to customize modules.

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← Back to contents

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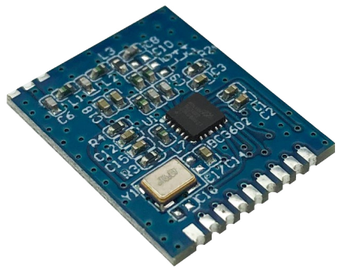


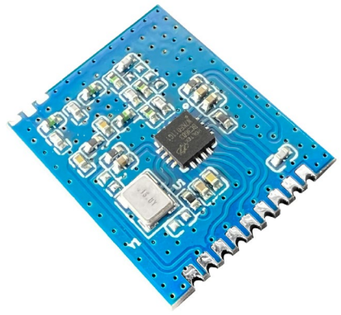
433MHz Low RX Current Transceiver Module
BM3602-04-1

The BC3602 is a high performance and low cost FSK/GFSK RF transceiver IC from Holtek that operates in the license-free 315MHz, 433MHz, 470MHz, 868MHz, and 915MHz ISM (Industrial, Scientific and Medical) bands. It features low RX current that makes it suitable for battery-powered products.

This module BM3602-04-1 is a BC3602 based FSK/GFSK RF transceiver module operating at 433MHz. It communicates with the host MCU via a 3-wire or 4-wire SPI interface.

If you need a higher power version, please refer to BC3601 and BM3601-04-1. The BC3601 and BM3601-04-1 have higher maximum output power but the RX current consumption is also higher.

Read more



433MHz Sub-1GHz OOK/ GFSK Transceiver Module
BM3603-04-1

The BM3603-04-1 is a RF transceiver module with 433.92MHz frequency. It has a built-in IC, the BC3603, and support SPI communication interface. The module has passed the FCC and ETSI pre-test.

You can use the development board, BCE-GENTrx32-002, and the breakout board, BCT-3603-X01, to evaluate the module's functions.

It is easy to use. Just connect the breakout board to the development board, program the module's example program into the development board by e-Link32 Pro, and supply power.

Read more

← Back to contents

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