Selection Guide

HOLTEK SEMICONDUCTOR INC.

Introduction

Continual growth and a persistent stream of new product releases onto the global market has been the hallmark of Holtek Semiconductor since the establishment of the company in 1983 to the present date. Although remaining focused in the area of microcontroller devices, Holtek has also made substantial inroads into a wide range of peripheral products. Behind these products developments are the company′s highly qualified engineering design teams, which have been extremely successful in providing Holtek customers with a wide range of high quality industrial grade semiconductor devices. This range of mature and high quality semiconductor devices can now be found among many of today′s well known consumer appliances and industrial products and stands as a witness to Holtek products being able to offer customers one of today′s best choices in the market in terms of both price and performance.

Product Device Range

Holtek continues to retain its product development focus in the area of microcontrollers and their peripheral products. The huge and continually expanding microcontroller range includes an extensive range of fully integrated digital and analog functions such as A/D converters, LCD drivers, PWM generators, high current LED drivers, touch switches, SPI/I^2C interfaces, USB drivers, Voice functions, RF functions, Telecom functions etc. Microcontroller devices meet with full industry specifications in having a wide voltage and temperature operating range and are provided in Mask, OTP and increasingly Flash type versions. Complementing its microcontrollers are Holtek many peripheral products such as Touch Switch ICs, LED driver ICs, Power Management ICs, etc. diversifying further the total product range and opening up the application areas into a wider market area.

Product Development Strategy

The commitment of Holtek to new product development and innovation can be seen through its increasing device functionality. With its years of development experience in the microcontroller arena, Holtek has relentlessly striven to include market and customer functional demands in its new device releases. The integration of features such as voice, touch key and power management functions into its microcontroller range show this commitment to an ever increasing functional integration. While being rightly proud of its existing and ever expanding array of industrial quality 8-bit MCU devices, as well as its new range of 32-bit MCU devices, the company also provides a comprehensive range of hardware and software development tools to ease the designer′s product development process. In addition to its 8-bit and 32-bit microcontroller device range, Holtek will also continue to develop and release other peripheral devices in the communication, remote control, computer peripheral, memory, touch switch, power management, display driver, video and other product areas. Holtek′s obligation to ISO compliance and its string of innovation awards and intellectual properties provide further evidence of the company′s commitment to product development excellence.

Marketing Service Network

The sustained commitment to research and development is fully complemented by the company′s strong global marketing focus giving the company a presence in most parts of the world. With an established large number of worldwide sales offices and agents, Holtek′s global marketing and promotional structure will see the company take an increasingly prominent role and be well placed to take advantage of any new market opportunities which may arise.

Selecting Your Holtek Device

As the range of both 8-bit and 32-bit microcontroller devices covers a vast range of types and functions, Holtek recommends that customers consult its on-line ″Product Selector″ to assist them in their selection of the best microcontroller for their specific application.

As Holtek is continually releasing new products, it should be noted that the website version, rather than the printed version of the selection guide, will contain the most up to date product information.

To use our MCU Product Selector, please visit : www.holtek.com

8-Bit OTP MCU

General Purpose MCU 4
Small Package MCU....6
Display MCU....6
TinyPower™ MCU 7
UART/USB Interface MCU 8
RF Remote MCU 10
IR Remote MCU 10
Phone MCU 11
Two Way Radio MCU 11
Voice & Music MCU....12
Mouse & Keyboard MCU 13

8-Bit Flash MCU

General Purpose MCU 14
Small Package MCU....16
Display MCU....16
1.5V Battery MCU....17
USB Interface MCU 17
RF Remote MCU 17
Touch Key MCU 18
Brushless DC Motor MCU 18
Voice MCU....18

8-Bit 8051 Flash MCU

General Purpose MCU 19
USB Audio MCU 19

32-Bit Flash MCU

General Purpose MCU 20

Display Driver

LCD Controller & Driver 21
LED Controller & Driver 21
VFD Controller & Driver 22

Memory

3-wire EEPROM 23
I²C EEPROM 23

Encoder/Decoder

Encoder/Decoder....24
RF Encoder....24
Learning Encoder....25
Learning RF Encoder....25
IR Remote Controller....25

Power Management

LDO & Detector 26
DC to DC Converter....29
AC to DC Converter....30
White LED Backlight Driver 30
Lighting Driver/Controller....30

Computer

Keyboard 31
Bridge Serials 31

Communication

Telecom Peripheral....32
Basic Dialer....32

Analog

D/A Converter....33
General OP Amplifier....33
Audio Amplifier....33

Video

CCD/CIS Analog Signal Processor....34
CCD Vertical Driver 34
Image Signal Processor....34

Miscellaneous

Touch Key Peripheral 35
Remote RF TX....35
PIR Controller 35
Timepiece 35
Motor Driver....35
Sound Effects 35

General Purpose MCU

Enhanced I/O Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		RTC	D/A	PWM	R-Type LCD	PFD	Inter-face	Stack	Package
							8-bit	16-bit								
HT48R063B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	1K×14	64×8	14	1	—	√	—	—	—	√	—	2	16DIP/NSOP
HT48R064B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	1K×14	64×8	22	1	—	√	—	—	4COM	√	—	4	16DIP/NSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT48R065B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	2K×15	96×8	26	1	—	√	—	—	4COM	√	—	4	16DIP/NSOP 20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP
HT48R066B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	128×8	26	2	—	√	—	—	4COM	√	—	4	16DIP/NSOP 20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP
HT48R0662	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	224×8	42	2	—	√ (*)	—	8-bit×2	4COM	√	—	6	24/28SKDIP/SOP/SSOP 44QFP
HT48R067	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	8K×16	384×8	42	3	—	√ (*)	—	8-bit×3	4COM	√	—	8	24/28SKDIP/SOP/SSOP 44QFP
HT48R068B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	16K×16	512×8	50	2	1	√ (*)	12-bit×1	8-bit×4	4COM	√	SPI/I^{2}C, SPI	8	28SKDIP/SOP/SSOP 44/52QFP
HT48R069B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	32K×16	1024×8	62	2	1	√ (*)	12-bit×1	8-bit×4	4COM	√	SPI/I^{2}C, SPI	8	44/52QFP 64LQFP

Note: 1. These devices are only available in OTP versions.
2. All devices include a fully integrated RC system oscillator.
3. * RTC is implemented by TinyPower structure.

Enhanced I/O Type MCU with OPA

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	8-bit Timer	RTC	OPA	Comparator	R-Type LCD	PFD	Stack	Package
HT48R064G	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	1K×14	64×8	18	1	√	2	1	—	√	4	16DIP/NSOP 20DIP/SOP/SSOP
HT48R065G	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	2K×15	96×8	22	1	√	2	1	4COM	√	4	16DIP/NSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT48R066G	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	128×8	26	2	√	2	1	4COM	√	4	20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP
HT48R0662G	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	224×8	42	2	√	2	1	4COM	√	6	24/28SKDIP/SOP/SSOP 44QFP

Note: These devices are only available in OTP versions.

Enhanced I/O Type MCU with High Current LED Driver

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LED Driver Output	LED Share I/O	Timer		R-Type LCD	PFD	Stack	Package
								8-bit	RTC				
HT48R064D	2.2V~ 5.5V	32kHz~ 12MHz	1K×14	64×8	18	8×4	12	1	√	—	√	4	16DIP/NSOP 20DIP/SOP
HT48R065D	2.2V~ 5.5V	32kHz~ 12MHz	2K×15	96×8	22	8×8	16	1	√	4COM	√	6	16DIP/NSOP 20DIP/SOP 24SKDIP/SOP
HT48R066D	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	128×8	26	8×8	16	2	√	4COM	√	6	20DIP/SOP 24/28SKDIP/SOP

Note: 1. These devices are only available in OTP versions.
2. The RTC can be used as the system clock giving a typical operating current of 20μA at 3V.
3. The standby current is 1μA at 3V with the RTC still running.

A/D Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	8-bit Timer	A/D	PWM	PFD	Stack	Package
HT46R51A	2.2V~5.5V	400kHz~8MHz	1K×15	96×8	14	1	12-bit×5	8-bit×1	√	6	16NSOP, 18DIP 20SOP/SSOP
HT46R52A	2.2V~5.5V	400kHz~8MHz	2K×15	128×8	14	1	12-bit×5	8-bit×1	√	6	16NSOP, 18DIP 20SOP/SSOP
HT46R53A	2.2V~5.5V	400kHz~8MHz	2K×15	192×8	22	1	12-bit×8	8-bit×1	√	6	28SKDIP/SOP
HT46R54A	2.2V~5.5V	400kHz~8MHz	4K×15	280×8	22	1	12-bit×8	8-bit×1	√	6	28SKDIP/SOP

Note: These devices are only available in OTP versions.

General Purpose MCU

Enhanced A/D Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		RTC	A/D	D/A	PWM	R-Type LCD	PFD	Inter-face	Stack	Package
							8-bit	16-bit									
HT46R064B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	1K×14	64×8	18	1	—	√	12-bit×4	—	8-bit×1	—	√	—	4	16DIP/NSOP 20DIP/SOP/SSOP
HT46R065B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	2K×15	96×8	22	2	—	√	12-bit×4	—	8-bit×1	4COM	√	—	6	16DIP/NSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT46R066B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	128×8	26	2	—	√	12-bit×8	—	8-bit×2	4COM	√	—	6	16DIP/NSOP 20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP
HT46R0662	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	224×8	42	2	—	√ (*)	12-bit×8	—	8-bit×2	4COM	√	—	6	24/28SKDIP/SOP/SSOP 44QFP
HT46R0664	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×16	224×8	42	2	—	√ (*)	12-bit×12	—	8-bit×2	19×8 23×4	—	—	6	44QFP
HT46R067	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	8K×16	384×8	42	3	—	√ (*)	12-bit×8	—	8-bit×3	4COM	√	—	8	24/28SKDIP/SOP/SSOP 44QFP
HT46R068B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	16K×16	512×8	50	2	1	√ (*)	12-bit×16	12-bit×1	8-bit×4	4COM	√	SPI/I²C, SPI	8	28SKDIP/SOP/SSOP 44/52QFP
HT46R069B	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	32K×16	1024×8	62	2	1	√ (*)	12-bit×16	12-bit×1	8-bit×4	4COM	√	SPI/I²C, SPI	8	44/52QFP 64LQFP

Note: 1. These devices are only available in OTP versions.
2. All devices include a fully integrated RC system oscillator.
3. * RTC is implemented by TinyPower structure.

Enhanced A/D Type MCU with OPA

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	8-bit Timer	RTC	A/D	PWM	R-Type LCD	OPA	Comp.	PFD	Stack	Package
HT46R064G	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	1K×14	64×8	18	1	√	12-bit×2	8-bit×1	—	2	1	√	4	16DIP/NSOP 20DIP/SOP/SSOP
HT46R065G	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	2K×15	96×8	22	1	√	12-bit×4	8-bit×1	4COM	2	1	√	4	16DIP/NSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT46R0662G	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	224×8	42	2	√	12-bit×8	8-bit×2	4COM	2	1	√	6	24/28SKDIP/SOP/SSOP 44QFP

Note: These devices are only available in OTP versions.

Enhanced A/D Type MCU with High Current LED Driver

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LED Driver Output	LED Share I/O	Timer		A/D	PWM	R-Type LCD	PFD	Stack	Package
								8-bit	RTC						
HT46R064D	2.2V~ 5.5V	32kHz~ 12MHz	1K×14	64×8	18	8×4	12	1	√	12-bit×4	8-bit×1	—	√	4	16DIP/NSOP 20DIP/SOP
HT46R065D	2.2V~ 5.5V	32kHz~ 12MHz	2K×15	96×8	22	8×8	16	2	√	12-bit×4	8-bit×1	4COM	√	6	16DIP/NSOP 20DIP/SOP 24SKDIP/SOP
HT46R066D	2.2V~ 5.5V	32kHz~ 12MHz	4K×15	128×8	26	8×8	16	2	√	12-bit×8	8-bit×2	4COM	√	6	20DIP/SOP 24/28SKDIP/SOP

Note: 1. These devices are only available in OTP versions.
2. The RTC can be used as the system clock giving a typical operating current of 20μA at 3V.
3. The standby current is 1μA at 3V with the RTC still running.

Dual Slope A/D Type MCU with Touch Key

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Timer			LCD Type		Dual Slope ADC	Touch Key	Vibration Amplifier	Stack	Package
							8-bit	16-bit	RTC	R	C					
HT46R73D-3	2.2V~ 5.5V	400kHz~ 8MHz	4K×15	128×8	16	16×4	1	2	√	√	—	√	4	√	4	52QFP
HT46R75D-3	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	8K×16	192×8	22	24×8 ~ 28×4	1	2	√	√	√	√	4	√	8	64LQFP

Note: These devices are only available in OTP versions.

Small Package MCU

Small Package Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	8-bit Timer	RTC	Time Base	A/D	PWM	PFD	Stack	Package
HT48R01B	4MHz 8MHz 12MHz	2.2V~5.5V	32kHz~12MHz	1K×15	96×8	8	2	√	√	—	—	√	6	10MSOP
HT48R02B	4MHz 8MHz 12MHz	2.2V~5.5V	32kHz~12MHz	2K×15	96×8	8	2	√	√	—	—	√	6	10MSOP
HT46R01B	4MHz 8MHz 12MHz	2.2V~5.5V	32kHz~12MHz	1K×15	96×8	8	2	√	√	12-bit×4	8-bit×1	√	6	10MSOP
HT46R02B	4MHz 8MHz 12MHz	2.2V~5.5V	32kHz~12MHz	2K×15	96×8	8	2	√	√	12-bit×4	8-bit×1	√	6	10MSOP

Note: 1. These devices are only available in OTP versions.
2. The internal clock in the table is a fully integrated RC oscillator requiring no external components which can be used as the system clock.

Display MCU

I/O Type MCU with 16x16 High Current LED Driver

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LED Driver Output	LED Share I/O	LED Share Output	Timer		PFD	Stack	Package
									8-bit	RTC			
HT48R52A	2.2V~5.5V	400kHz~8MHz or 32768Hz	2K×14	88×8	8	16×16	8	24	1	√	—	4	44/52QFP 44LQFP
HT48R54A	2.2V~5.5V	400kHz~8MHz or 32768Hz	4K×15	192×8	8	16×16	8	24	2	√	√	6	44/52QFP 44LQFP

Note: 1. These devices are only available in OTP versions.
2. The RTC can be used as the system clock giving a typical operating current of 20μA at 3V.
3. The standby current is 1μA at 3V with the RTC still running.

A/D Type MCU with 16x16 High Current LED Driver

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LED Driver Output	LED Share I/O	LED Share Output	Timer		A/D	PWM	R-Type LCD	PFD	Stack	Package
									8-bit	RTC						
HT46R92	2.2V~5.5V	400kHz~8MHz or 32768Hz	2K×14	88×8	8	16×16	8	24	1	√	12-bit×6	8-bit×2	4COM	—	6	44/52QFP
HT46R94	2.2V~5.5V	400kHz~8MHz or 32768Hz	4K×15	192×8	8	16×16	8	24	2	√	12-bit×8	8-bit×3	4COM	√	8	44/52QFP

Note: 1. These devices are only available in OTP versions.
2. The RTC can be used as the system clock giving a typical operating current of 20μA at 3V.
3. The standby current is 1μA at 3V with the RTC still running.
4. The LED driver output pins can also be used to drive LCDs with a 28×4, 1/2 bias drive type.

I/O Type MCU with LCD

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Input	LCD	Segment Share Output	Timer			PFD	UART	Stack	Package
									8-bit	16-bit	RTC				
HT49R10A-1 HT49C10-1	2.2V~5.5V	400kHz~8MHz or 32768Hz	1K×14	64×8	8	2	14×4 or 15×3	—	1	—	√	√	—	2	44QFP 44LQFP
HT49R30A-1 HT49C30-1	2.2V~5.5V	400kHz~8MHz or 32768Hz	2K×14	96×8	8	6	18×4 or 19×3	—	1	—	√	√	—	4	48SSOP
HT49C30L	1.2V~2.2V	400kHz~500kHz or 32768Hz													
HT49R50A-1 HT49C50-1	2.2V~5.5V	400kHz~8MHz or 32768Hz	4K×15	160×8	12	8	32×4 or 33×3	—	2	—	√	√	—	6	48SSOP 64LQFP 100LQFP
HT49C50L	1.2V~2.2V	400kHz~500kHz or 32768Hz													
HT49R70A-1 HT49C70-1	2.2V~5.5V	400kHz~8MHz or 32768Hz	8K×16	224×8	16	8	40×4 or 41×3	—	1	1	√	√	—	16	64LQFP 100LQFP
HT49C70L	1.2V~2.2V	400kHz~500kHz or 32768Hz													
HT49RU80 HT49CU80	2.2V~5.5V	400kHz~8MHz or 32768Hz	16K×16	576×8	16	8	47×4 or 48×3	7	1	2	√	√	√	16	64LQFP 100LQFP

Note: 1. Part numbers including a "C" are mask version devices, "R" are OTP devices, while part numbers suffixed with an "L" are low voltage mask version devices.
2. For the low voltage mask version devices, note that the HT49R30A-1, HT49R50A-1 and HT49R70A-1 devices can be used as corresponding OTP devices.

Display MCU

A/D Type MCU with LCD

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Timer			A/D	PWM	PFD	UART	SPI	Stack	Package
							8-bit	16-bit	RTC							
HT46R62 HT46C62	2.2V~ 5.5V	400kHz~ 8MHz or 32768Hz	2K×14	88×8	20	19×4 or 20×3	1	—	√	9-bit×6	8-bit×3	√	—	—	6	52QFP 56SSOP
HT46R64 HT46C64	2.2V~ 5.5V	400kHz~ 8MHz or 32768Hz	4K×15	192×8	24	32×4 or 33×3	1	1	√	10-bit×8	8-bit×4	√	—	—	8	52QFP 56SSOP 100LQFP
HT46R65 HT46C65	2.2V~ 5.5V	400kHz~ 8MHz or 32768Hz	8K×16	384×8	24	40×4 or 41×3	—	2	√	10-bit×8	8-bit×4	√	—	—	16	52QFP 56SSOP 100LQFP
HT46R652	2.2V~ 5.5V	400kHz~ 8MHz or 32768Hz	8K×16	384×8	32	40×4 or 41×3	—	2	√	12-bit×8	8-bit×16	√	—	—	16	100LQFP
HT46RU66 HT46CU66	2.2V~ 5.5V	400kHz~ 8MHz or 32768Hz	16K×16	576×8	32	46×4 or 47×3	1	2	√	12-bit×8	8-bit×4	√	√	—	16	52QFP 56SSOP 100LQFP
HT46RU67 HT46CU67	2.2V~ 5.5V	400kHz~ 8MHz or 32768Hz	32K×16	768×8	32	46×4 or 47×3	1	2	√	12-bit×8	8-bit×4	√	√	√	16	52QFP 56SSOP 100LQFP

Note: Part numbers including a "C" are mask version devices while "R" are OTP devices.

24V VFD MCU

Part No.	VCC	System Clock	Int. OSC	Program Memory	Data Memory	I/O	Timer		A/D	PWM	C/R-F	LDO	Segment/ Grid	Filament Driving	Buzzer Driving	Stack	Package
							8-bit	16-bit									
HT48R065V	12V~ 24V	400kHz~ 12MHz	√	2K×15	96×8	17	1	—	—	—	—	√	24	√	√	4	52QFP
HT46R065V	12V~ 24V	400kHz~ 12MHz	√	2K×15	96×8	17	2	—	12-bit×4	8-bit×1	—	√	24	√	√	6	52QFP

Note: These devices are only available in OTP versions.

TinyPower™ MCU

TinyPower™ A/D Type MCU with DAC

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	Timer			Inter-face	A/D	D/A	PWM	R-Type LCD	PFD	Stack	Package
							8-bit	16-bit	RTC								
HT56R22	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	2K×14	128×8	22	2	—	√	SPI/I²C, SPI	12-bit×8	12-bit×1	12-bit×3	4COM	√	6	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT56R23	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	4K×15	256×8	42	2	1	√	SPI/I²C, SPI	12-bit×8	12-bit×1	12-bit×4	4COM	√	12	28SKDIP/SOP/SSOP 44QFP
HT56R24	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	8K×16	640×8	42	2	1	√	SPI/I²C, SPI	12-bit×8	12-bit×1	12-bit×4	4COM	√	12	28SKDIP/SOP/SSOP 44QFP
HT56R25	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	16K×16	1152×8	50	3	1	√	SPI/I²C, SPI	12-bit×8	12-bit×1	12-bit×4	4COM	√	12	28SKDIP/SOP 28SSOP(209mil) 44/52QFP
HT56R26	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	32K×16	2304×8	50	3	1	√	SPI/I²C, SPI	12-bit×8	12-bit×1	12-bit×4	4COM	√	12	28SKDIP/SOP 28SSOP(209mil) 44/52QFP

Note: These devices are only available in OTP versions.

TinyPower™ A/D Type MCU with LCD

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Segment Share Output	Timer			A/D	PWM	PFD	Inter-face	Stack	Package
								8-bit	16-bit	RTC						
HT56R62	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	2K×14	128×8	20	24×4 or 25×3	16	2	—	√	12-bit×6	12-bit×3	√	SPI/I²C	6	52QFP 64LQFP
HT56R64	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	4K×15	192×8	24	32×4 or 33×3	24	1	1	√	12-bit×8	12-bit×4	√	SPI/I²C	8	52QFP 64LQFP 100LQFP
HT56R65	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	8K×16	576×8	24	40×4 or 41×3	24	2	1	√	12-bit×8	12-bit×4	√	SPI/I²C	12	52QFP 64LQFP 100LQFP
HT56R66	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	16K×16	1152×8	32	48×4 or 49×3	24	3	1	√	12-bit×8	12-bit×4	√	SPI/I²C	12	52QFP 64LQFP 100LQFP
HT56R67	2.2V~ 5.5V	400kHz~ 12MHz	32K×16	2304×8	32	48×4 or 49×3	24	3	1	√	12-bit×8	12-bit×4	√	SPI/I²C	12	52QFP 64LQFP 100LQFP

Note: These devices are only available in OTP versions.

TinyPower™ MCU

TinyPower™ A/D Type MCU with LCD

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Segment Share Output	Timer			A/D	PWM	PFD	Interface	Stack	Package
								8-bit	16-bit	RTC						
HT56R642	2.2V~5.5V	400kHz~12MHz or 32768Hz	4K×15	384×8	24	16×16 or 24×8	16	1	1	√	12-bit×8	12-bit×4	√	SPI/I²C	8	64LQFP
HT56R644	2.2V~5.5V	400kHz~12MHz or 32768Hz	4K×15	576×8	24	32×16 or 40×8	24	1	1	√	12-bit×8	12-bit×4	√	SPI/I²C	8	100LQFP
HT56R654			8K×16	1152×8				2							12	
HT56R656	2.2V~5.5V	400kHz~12MHz or 32768Hz	8K×16	1152×8	24	48×16 or 56×8	24	2	1	√	12-bit×8	12-bit×4	√	SPI/I²C	12	100LQFP
HT56R666			16K×16					3								
HT56R668 HT56C668	2.2V~5.5V	400kHz~12MHz	16K×16	2304×8	24	64×16 or 72×8	24	3	1	√	12-bit×8	12-bit×4	√	SPI/I²C	12	100LQFP 128QFP
HT56R678 HT56C678			32K×16													
HT56R688			48K×16													

Note: Part numbers including a "C" are mask version devices while "R" are OTP devices.

TinyPower™ A/D type MCU with USB & ISO7816 Interface

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	SEG. Shared Output	Timer			A/D	PWM	USB	LDO	ISO 7816	Audio DAC	Inter-face	Stack	Package
									8-bit	16-bit	RTC									
HT56RB27	4MHz 8MHz 12MHz	2.2V~5.5V	400kHz~12MHz or 32768Hz	48K×16	3840×8	24	—	—	3	1	√	12-bit×8	12-bit×4	√	1.8V 3.0V 5.0V	√	√	SPI/I²C ×2	12	40QFN 44QFP
HT56RB688	4MHz 8MHz 12MHz	2.2V~5.5V	400kHz~12MHz or 32768Hz	48K×16	3840×8	24	80×16 or 88×8	24	3	1	√	12-bit×8	12-bit×4	√	1.8V 3.0V 5.0V	√	√	SPI/I²C ×2	12	144LQFP

Note: These devices are only available in OTP versions.

UART/USB Interface MCU

A/D Type MCU with UART Interface

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		I²C	A/D	PWM	PFD	UART	SPI	Stack	Package
						8-bit	16-bit								
HT46RU22	2.2V~5.5V	400kHz~8MHz	2K×14	64×8	19	1	—	√	9-bit×8	8-bit×1	√	√	—	6	24SKDIP/SOP 24SSOP
HT46RU232	2.2V~5.5V	400kHz~8MHz	4K×16	192×8	40	1	2	√	12-bit×8	8-bit×4	√	√	—	8	28SKDIP/SOP 48SSOP
HT46RU24	2.2V~5.5V	400kHz~8MHz	8K×16	384×8	40	1	2	√	12-bit×8	8-bit×4	√	√	—	16	28SKDIP/SOP 48SSOP
HT46RU25 HT46CU25	2.2V~5.5V	400kHz~8MHz	16K×16	576×8	48	1	2	√	12-bit×8	8-bit×4	√	√	—	16	48/56SSOP
HT46RU26 HT46CU26	2.2V~5.5V	400kHz~8MHz	32K×16	768×8	48	1	2	√	12-bit×8	8-bit×4	√	√	√	16	48/56SSOP

Note: Part numbers including a "C" are mask version devices while "R" are OTP devices.

I/O Type MCU with USB Interface (USB 2.0 Low Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory		I/O	Timer		End-points	Stack	Package
				SRAM	EEPROM		8-bit	16-bit			
HT82M99E HT82M99A	3.3V~5.5V	6MHz or 12MHz	2K×14	96×8	—	12	—	1	2	4	16NSOP, 18DIP/SOP 20DIP/SOP/SSOP
HT82M99EE HT82M99AE					128×8						20SSOP
HT82M9AE HT82M9AA	3.3V~5.5V	6MHz or 12MHz	4K×15	224×8	—	16	—	1	3	4	20SOP/SSOP 24SSOP, 32QFN
HT82M9AEE HT82M9AAE					128×8						20/24SSOP
HT82M9BE HT82M9BA	3.3V~5.5V	6MHz or 12MHz	8K×16	224×8	—	20	1	1	4	8	24/28SSOP, 32QFN
HT82M9BEE HT82M9BAE					128×8						28SOP

Note: 1. Part numbers with a single "A" suffix are mask version devices, and with a single "E" suffix are OTP devices.
2. Part numbers with an "AE" suffix are mask version devices with EEPROM, and with an "EE" suffix are OTP devices with EEPROM.

UART/USB Interface MCU

I/O Type MCU with USB Interface (USB 2.0 Low Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory		I/O	Timer		End-points	Built-in OSC	LDO 70mA	I/O VDD Option	SPI	R-type LCD	Stack	Package
				SRAM	EEPROM		8-bit	16-bit								
HT82K94E HT82K94A	2.2V~ 5.5V	6MHz or 12MHz	6K×16	224×8	—	40	1	1	4	—	—	—	—	—	8	32QFN 48SSOP/LQFP
HT82K95E HT82K95A	3.3V~ 5.5V	6MHz or 12MHz	4K×15	160×8	—	32	1	1	3	—	—	—	—	—	8	28SOP, 32QFN 48SSOP/LQFP
HT82K95EE					128×8											20QFN
HT82K95AE																28SOP
HT82B40R HT82B40A	3.3V~ 5.5V	6MHz or 12MHz	4K×15	160×8	—	34	1	1	3	√	√	√	—	—	8	20/28SSOP 20/32QFN 48SSOP/LQFP
HT82B40RE					128×8											20QFN
HT82B42R*					—	15							1			16NSOP, 20SSOP
HT82B60R	3.3V~ 5.5V	6MHz or 12MHz	8K×16	216×8	—	42	1	1	4	√	√	√	1	4COM	8	20/28SSOP, 32QFN 48SSOP/LQFP

* Under development, available in 4Q, 2011.

Note: 1. Part numbers with a single "A" suffix are mask version devices, and with a single "E" and "R" suffix are OTP devices.
2. Part numbers with an "AE" suffix are mask version devices with EEPROM, and with an "EE" and "RE" suffix are OTP devices with EEPROM.

I/O Type USB MCU with SPI (USB 2.0 Full Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		End-points	Built-in OSC	LVR	PWM	I/O VDD Option	SPI	R-Type LCD	Stack	Package
						8-bit	16-bit									
HT82A525R	3.3V~ 5.5V	6MHz or 12MHz	4K×15	192×8	42	1	1	4	√	√	12-bit×3	√	2	4COM	6	24SSOP, 32QFN 48/64LQFP

Note: The device is only available in an OTP versions.

A/D Type USB MCU with SPI (USB 2.0 Full Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory	Flash Memory	I/O	Timer			End-points	A/D	PWM	I/O VDD Option	SPI	Stack	Package
							8-bit	16-bit	RTC							
HT46RB50	2.2V~ 5.5V	6MHz or 12MHz	4K×15	192×8	—	38	1	1	—	4	10-bit×8	8-bit×2	—	1	6	28SKDIP/SOP 48SSOP
HT46RB70	2.2V~ 5.5V	6MHz or 12MHz	8K×16	384×8	—	38	—	2	—	6	10-bit×8	8-bit×4	—	1	16	28SKDIP/SOP 48SSOP
HT82A620R	2.2V~ 5.5V	6MHz or 12MHz	4K×15	160×8	—	24	—	1	—	4	12-bit×16	12-bit×3	√	1	6	20/24/28SSOP 32QFN
HT82A623R	2.2V~ 5.5V	6MHz or 12MHz	4K×15	160×8	—	32	—	2	√	4	12-bit×16	8-bit×2	√	2	6	28SOP/SSOP 48QFN
HT82A6208	2.2V~ 5.5V	6MHz or 12MHz	4K×15	160×8	8M	32	—	2	√	4	12-bit×16	8-bit×2	√	2	6	44/52QFP
HT82A6216					16M											

Note: These devices are only available in OTP versions.

USB Audio MCU

Part No.	VDD	System Clock	End-points	Transfer	FIFO (Byte)	Program Memory	Data Memory	I/O	A/D	D/A	Power AMP	Other	Package
HT82A821R	3.3V~ 5.5V	6MHz or 12MHz	EP0	CTL	8	2K×15	192×8	8	—	48kHz 16-bit ×2	4Ω ×2	—	24SOP 24SSOP
			EP1	INT	8								
			EP2	ISO(O)	384								
HT82A822R	3.3V~ 5.5V	6MHz or 12MHz	EP0	CTL	8	4K×15	704×8 + 512×8(read only)	24	—	48kHz 16-bit ×2	4Ω ×2	—	48SSOP
			EP1	INT	8								
			EP2	ISO(O)	384								
HT82A824R	3.3V~ 5.5V	6MHz, 12MHz or 16MHz	EP0	CTL	8	8K×16	864×8 + 512×8(read only)	21	—	44.1/48kHz 16-bit ×2	32Ω ×2	ADC×6, SPI, PFD, UART, Attenuator×2, AUDIO_IN×2	48LQFP
			EP1, EP4	INT	8, 32								
			EP2	ISO(O)	384								
			EP5, EP6	BUK	32, 64								
HT82A834R	3.3V~ 5.5V	6MHz, 12MHz or 16MHz	EP0	CTL	8	4K×15	192×8	24	16kHz 16-bit	48kHz 16-bit ×2	4Ω ×2	SPI, PFD, MUSIC_IN	48SSOP 48LQFP
			EP1, EP4	INT	8, 32								
			EP2	ISO(O)	384								
			EP3	ISO(I)	64								
HT82A836R	3.3V~ 5.5V	6MHz, 12MHz or 16MHz	EP0	CTL	8	8K×16	384×8	44	16kHz 16-bit	48kHz 16-bit ×2	4Ω ×2	ADC×6, PWM×2, SPI, PFD, MUSIC_IN	80LQFP 100QFP
			EP1, EP4	INT	8, 32								
			EP2	ISO(O)	384								
			EP3	ISO(I)	64								
HT82A850R	3.3V~ 5.5V	6MHz, 12MHz or 16MHz	—	—	—	4K×15	384×8	24	8kHz 16-bit	8kHz 16-bit ×2	4Ω ×2	SPI, PFD, MUSIC_IN	48LQFP
HT82A851R	3.3V~ 5.5V	6MHz, 12MHz or 16MHz	EP0	CTL	8	4K×15	384×8	16	—	—	—	SPI, PFD	24SSOP
			EP1, EP4	INT	8, 32								
			EP2	ISO(O)	384								
			EP3	ISO(I)	32								

Note: These devices are only available in OTP versions.

RF Remote MCU

315MHz/433MHz Remote RF TX MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	8-bit Timer	A/D	PWM	PFD	Built-in RF Block		Stack	Package
										Carrier Frequency	Type		
HT48R01T3	2.2V~3.6V	32kHz~12MHz	1K×15	96×8	8	2	—	—	√	300MHz~450MHz	ASK TX	6	16NSOP
HT46R01T3	2.2V~3.6V	32kHz~12MHz	1K×15	96×8	8	2	12-bit×4	8-bit×1	√	300MHz~450MHz	ASK TX	6	16NSOP

Note: These devices are only available in OTP versions.

IR Remote MCU

Remote Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		IR Carrier	LVR	PFD	Stack	Package
							8-bit	16-bit					
HT48RA0-5	4095kHz	1.8V~3.6V	400kHz~4095kHz	1K×14	32×8	17	—	—	√	√	—	1	16NSOP, 20SSOP
HT48RA1 HT48CA1	—	2.0V~5.5V	400kHz~8MHz	8K×16	224×8	23	1	1	—	√	√	8	28SOP 28SSOP(209mil)
HT48RA3 HT48CA3	—	2.0V~3.6V	400kHz~8MHz	24K×16	224×8	23	1	1	—	√	√	8	28SOP 28SSOP(209mil)
HT48RA5 HT48CA5	—	2.0V~5.5V	400kHz~4MHz	40K×16	224×8	23	1	1	—	√	√	8	28SOP 28SSOP(209mil)

Note: Part numbers including a "C" are mask version devices while "R" are OTP devices.

Remote Type MCU with LCD

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	Input	LCD	Segment Share		Timer			IR Carrier	LVR	Stack	Package
									I/O	Output	8-bit	16-bit	RTC				
HT49RA0 HT49CA0	—	2.0V~3.6V	4MHz	2K×14	96×8	8	8	21×2 21×3 20×4	0	8	1	—	√	√	√	4	52QFP
HT49RA1 HT49CA1	—	2.0V~3.6V	4MHz	4K×15	160×8	8	8	32×4 33×3 33×2	4	8	1	1	√	√	√	4	52QFP 64LQFP
HT49RA0-5*	4095kHz	2.0V~3.6V	400kHz~4095kHz	2K×16	96×8	16	—	21×4	8	—	1	—	√	√	√	4	48LQFP

* Under development, available in 3Q, 2011.

Note: Part numbers including a "C" are mask version devices while "R" are OTP devices.

Remote Type MCU with EEPROM/OPA

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	8-bit Timer	RTC	OPA	Comparator	PFD	Stack	Package
HT45R22E	4095kHz	2.2V~3.6V	32kHz~4095kHz	4K×15	128×8	1K×8	22	2	√	2	1	√	4	20/24SOP

Note: The device is only available in an OTP version.

Phone MCU

Phone MCU

Part No.	VDD	Program Memory	Data Memory	General I/O	Timer	DTMF Generator	Stack	Package
HT95R22	2.2V~5.5V	4K×16	576×8	20	16-bit×2	√	8	28SOP
HT95R23	2.2V~5.5V	4K×16	1152×8	36	16-bit×2	√	8	48SSOP
HT95R24	2.2V~5.5V	8K×16	2112×8	36	16-bit×2	√	8	48SSOP
HT95R25	2.2V~5.5V	16K×16	2112×8	52	16-bit×2	√	8	64LQFP

Note: These devices are only available in OTP versions.

Part No.	VDD	Program Memory	Data Memory	General I/O	Timer	D/A	I²C/SPI	DTMF Generator	DTMF Receiver	Stack	Package
HT95R33	2.2V~5.5V	4K×16	1152×8	28	16-bit×2	—	—	√	√	8	48SSOP
HT95R34	2.2V~5.5V	8K×16	2112×8	28	16-bit×2	—	—	√	√	8	48SSOP
HT95R35	2.2V~5.5V	16K×16	2112×8	44	16-bit×3	12-bit×1	√	√	√	8	64LQFP

Note: These devices are only available in OTP versions.

Phone MCU with CPT

Part No.	VDD	Program Memory	Data Memory	General I/O	Timer	D/A	I²C/SPI	DTMF Generator	DTMF Receiver	CPT	Stack	Package
HT95R43	2.2V~5.5V	4K×16	1152×8	28	16-bit×2	—	—	√	√	√	8	64LQFP
HT95R44	2.2V~5.5V	8K×16	2112×8	28	16-bit×2	—	—	√	√	√	8	64LQFP
HT95R45	2.2V~5.5V	16K×16	2112×8	44	16-bit×3	12-bit×1	√	√	√	√	8	64/80LQFP

Note: These devices are only available in OTP versions.

Phone MCU with CID

Part No.	VDD	Program Memory	Data Memory	General I/O	Timer	R-Type LCD	I²C/SPI	D/A	DTMF Generator	DTMF Receiver	FSK Receiver	Stack	Package
HT95R54	2.2V~5.5V	8K×16	2112×8	40	16-bit×3	4SCOM	√	12-bit×1	√	√	√	8	64LQFP
HT95R55	2.2V~5.5V	16K×16	2112×8	40	16-bit×3	4SCOM	√	12-bit×1	√	√	√	8	64LQFP

Note: These devices are only available in OTP versions.

Phone MCU with CPT & CID

Part No.	VDD	Program Memory	Data Memory	General I/O	Timer	R-Type LCD	I²C/SPI	D/A	DTMF Generator	DTMF Receiver	FSK Receiver	CPT	Stack	Package
HT95R64	2.2V~5.5V	8K×16	2112×8	40	16-bit×3	4SCOM	√	12-bit×1	√	√	√	√	8	64/80LQFP
HT95R65	2.2V~5.5V	16K×16	2112×8	40	16-bit×3	4SCOM	√	12-bit×1	√	√	√	√	8	64/80LQFP

Note: These devices are only available in OTP versions.

Two Way Radio MCU

Two Way Radio MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		RTC	A/D	D/A	CTCSS/ DCS	Pre-emphasis/ De-emphasis	Compander	Stack	Package
							8-bit	16-bit								
HT98R068	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 12MHz	16K×16	1K×8	34	2	1	√	12-bit×8	8-bit×4	√	√	√	10	48/64LQFP

Voice & Music MCU

Enhanced Voice MCU

Part No.	VDD	Program Memory	Data Memory	Voice ROM	Voice Capacity	I/O	Timer		Audio Output		Stack	Package
							8-bit	16-bit	DAC	PWM		
HT86B03	2.2V~5.5V	4K×16	192×8	96K×8	36sec	12	3	—	12-bit×1	—	8	16NSOP 24SSOP(150/209mil)
HT86BR10	2.2V~5.5V	8K×16	192×8	192K×8	72sec	16	3	—	12-bit×1	√	8	24SSOP(209mil) 28SOP, 44QFP
HT86B10												24SSOP(150/209mil) 28SOP, 44QFP
HT86B20	2.2V~5.5V	8K×16	192×8	256K×8	96sec	16	3	—	12-bit×1	√	8	28SOP, 44QFP
HT86BR30	2.2V~5.5V	8K×16	192×8	384K×8	144sec	16	3	—	12-bit×1	√	8	28SOP, 44QFP
HT86B30												
HT86B40	2.2V~5.5V	8K×16	384×8	512K×8	192sec	20	3	1	12-bit×1	√	8	28SOP, 44QFP
HT86B50	2.2V~5.5V	8K×16	384×8	768K×8	288sec	20	3	1	12-bit×1	√	8	28SOP, 44QFP
HT86BR60	2.2V~5.5V	8K×16	384×8	1024K×8	384sec	20	3	1	12-bit×1	√	8	28SOP
HT86B60												28SOP, 44QFP
HT86B70	2.2V~5.5V	8K×16	384×8	1536K×8	576sec	24	3	1	12-bit×1	√	8	44QFP
HT86B80	2.2V~5.5V	8K×16	384×8	2048K×8	768sec	24	3	1	12-bit×1	√	8	44QFP
HT86B90	2.2V~5.5V	8K×16	384×8	3072K×8	1152sec	24	3	1	12-bit×1	√	8	100QFP

Note: 1. Part numbers including an "R" are OTP devices, all others are mask version devices.
2. Evaluation kits are available for product development and verification purposes, please contact Holtek for further information.
3. For the HT86B90, the operating voltage is 2.2V~5.5V at f_{SYS}=4MHz and 3.3V~5.5V at f_{SYS}=8MHz.
4. The quoted Voice Capacity is based on a 21Kbps data rate.

A/D Type Voice MCU

Part No.	VDD	Program Memory	Data Memory	Voice ROM	Voice Capacity	I/O	Timer		D/A	A/D	Power AMP	Stack	Package
							8-bit	RTC					
HT86A36	2.0V~5.5V	8K×16	384×8	96K×8	36sec	40	4	√	12-bit×1	12-bit×4	√	8	44QFP 64LQFP(10x10mm)
HT86AR72	2.2V~5.5V	8K×16	384×8	192K×8	72sec	40	4	√	12-bit×1	12-bit×4	√	8	44QFP 64LQFP(10x10mm)
HT86A72	2.0V~5.5V												

Note: 1. Part numbers including an "R" are OTP devices, all others are mask version devices.
2. Evaluation kits are available for product development and verification purposes, please contact Holtek for further information.
3. Built-in 1W power amplifier for 8Ω speaker.
4. The quoted Voice Capacity is based on a 21Kbps data rate.

Q-Voice™ MCU

Part No.	VDD	Program Memory	Data Memory	Voice ROM	Voice Capacity	I/O	D/A	Package
HT83004	2.4V~5.0V	2K×15	80×8	8K×8	3sec	12	PWM	28SOP, 20SSOP(150mil/209mil)
HT83007	2.4V~5.0V	2K×15	80×8	16K×8	6sec	12	PWM	28SOP, 20SSOP(150mil/209mil)
HT83010	2.4V~5.0V	2K×15	80×8	24K×8	9sec	12	PWM	28SOP, 20SSOP(150mil/209mil)
HT83020	2.4V~5.0V	2K×15	80×8	48K×8	18sec	12	PWM	28SOP, 20SSOP(150mil/209mil)
HT83038	2.4V~5.0V	2K×15	80×8	96K×8	36sec	12	PWM	28SOP, 20SSOP(150mil/209mil)
HT83050	2.4V~5.0V	2K×15	80×8	128K×8	48sec	12	PWM	28SOP, 20SSOP(150mil/209mil)
HT83R074	2.4V~5.0V	2K×15	80×8	192K×8	72sec	12	PWM	28SOP, 20SSOP(209mil)
HT83074								28SOP, 20SSOP(150mil/209mil)

Note: 1. Part numbers including an "R" are OTP devices, all others are mask version devices.
2. Evaluation kits are available for product development and verification purposes, please contact Holtek for further information.
3. The PWM output is capable of directly driving an 8Ω speaker.
4. Q-Voice™ is a trademark of Holtek Semiconductor Inc.
5. The quoted Voice Capacity is based on a 21Kbps data rate.

Enhanced Music MCU (4 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer		D/A	A/D	Speech	Power AMP	Package
					8-bit	16-bit					
HT37Q20	2.4V~5.5V	32K×16	320×8	16	2	1	16-bit×1	—	PCM/ADPCM	—	20/28SOP
HT37Q30	2.4V~5.5V	64K×16	320×8	20	2	1	16-bit×1	—	PCM/ADPCM	√	28SOP, 48SSOP
HT37Q40	3.3V~5.5V	96K×16	320×8	28	2	1	16-bit×1	—	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP
HT37Q50	3.3V~5.5V	128K×16	320×8	28	2	1	16-bit×1	—	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP
HT37Q60	3.6V~5.5V	192K×16	320×8	28	2	1	16-bit×1	—	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP
HT37Q70	3.6V~5.5V	256K×16	320×8	28	2	1	16-bit×1	—	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP

Note: The waveform data and program code share the same memory space.

Voice & Music MCU

Enhanced Music MCU (8 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer		D/A	A/D	Speech	Power AMP	Package
					8-bit	16-bit					
HT37A20	2.4V~5.5V	32K×16	320×8	16	2	1	16-bit×1	—	PCM/ADPCM	—	20/28SOP
HT37A30	2.4V~5.5V	64K×16	320×8	20	2	1	16-bit×2	—	PCM/ADPCM	√	28SOP, 48SSOP
HT37A40	3.3V~5.5V	96K×16	320×8	28	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP
HT37A50	3.3V~5.5V	128K×16	320×8	28	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP
HT37A60	3.6V~5.5V	192K×16	320×8	28	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP
HT37A70	3.6V~5.5V	256K×16	320×8	28	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	28SOP, 64QFP, 80LQFP

Note: The waveform data and program code share the same memory space.

Enhanced Music MCU (16 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer		D/A	A/D	Speech	Power AMP	Package
					8-bit	16-bit					
HT37B30	2.4V~5.5V	64K×16	640×8	32	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	28SOP, 80LQFP
HT37B50	2.4V~5.5V	128K×16	640×8	32	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	28SOP, 80LQFP
HT37B70	3.0V~5.5V	256K×16	640×8	40	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	80LQFP
HT37B90	3.0V~5.5V	512K×16	1280×8	40	2	1	16-bit×2	12-bit×8	PCM/ADPCM	√	100LQFP

Note: The waveform data and program code share the same memory space.

Enhanced ROMless Music MCU (16 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer		D/A	A/D	Speech	Power AMP	Package
					8-bit	16-bit					
HT37P00	2.4V~5.5V	—	4096×8	56	3	1	16-bit×2	12-bit×16	PCM/ADPCM	√	128QFP

Note: The waveform data and program code share the same memory space.

Mouse & Keyboard MCU

I/O Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	Interface	I/O	Timer		LVD for Battery-in	SPI	Stack	Package
							8-bit	16-bit				
HT82K68E-L HT82K68A-L	1.8V~5.5V	RC/Crystal	3K×16	160×8	PS/2	37	1	—	—	—	6	20/28SOP, 32QFN 48SSOP/LQFP
HT82K70E-L HT82K70A-L	1.8V~5.5V	RC/Crystal	4K×16	216×8	PS/2	43	—	2	√	√	8	28SSOP, 32QFN 48SSOP/LQFP
HT82K76E-L			8K×16									

Note: 1. Part numbers including an "A" are mask version devices, and including an "E" are OTP devices.
2. Part numbers including an "L" are low voltage devices.

Part No.	VDD	System Clock	Program Memory	Data Memory		I/O	16-bit Timer	Built-in DC/DC	SPI	Built-in OSC	Stack	Package
				SRAM	EEPROM							
HT82M75R	2.0V~3.6V	6MHz	4K×15	128×8	—	24	1	√	1	√	6	20/28SSOP 32QFN
HT82K75R	2.0V~3.6V	6MHz	4K×15	160×8	—	40	1	√	1	√	6	48SSOP
HT82M75RE	2.0V~3.6V	6MHz	4K×15	128×8	128×8	22	1	√	1	√	6	32QFN
HT82K75RE	2.0V~3.6V	6MHz	4K×15	160×8	128×8	36	1	√	1	√	6	48SSOP

Note: 1. These devices are only available in OTP versions.
2. Part numbers with an "E" suffix are devices with an EEPROM.

General Purpose MCU

I/O Flash Type MCU with EEPROM

Part No.	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	Timer		PFD	Stack	Package
							8-bit	16-bit			
HT48F06E	2.2V~5.5V	400kHz~12MHz	1K×14	64×8	128×8	13	1	—	√	2	16NSOP, 18DIP/SOP 20SSOP
HT48F10E	2.2V~5.5V	400kHz~12MHz	1K×14	64×8	128×8	19	1	—	√	4	24SKDIP/SOP/SSOP
HT48F30E	2.2V~5.5V	400kHz~12MHz	2K×14	96×8	128×8	23	1	—	√	4	24SKDIP/SOP/SSOP 28SKDIP/SOP/SSOP
HT48F50E	2.2V~5.5V	400kHz~12MHz	4K×15	160×8	256×8	33	1	1	√	6	28SKDIP/SOP/SSOP 48SSOP
HT48F70E	2.2V~5.5V	400kHz~12MHz	8K×16	224×8	256×8	56	—	2	√	16	48SSOP, 64LQFP

Enhanced I/O Flash Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	Timer Module	PFD	Stack	Package
HT68F13	4MHz 8MHz 12MHz	2.2V~5.5V	400kHz~ 20MHz or 32768Hz	1K×14	64×8	18	10-bit STM x 1	√	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP
HT68F14	4MHz 8MHz 12MHz	2.2V~5.5V	400kHz~ 20MHz or 32768Hz	2K×15	92×8	22	10-bit CTM×1 10-bit STM×1	√	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT68F15	4MHz 8MHz 12MHz	2.2V~5.5V	400kHz~ 20MHz or 32768Hz	4K×15	192×8	26	10-bit CTM×1 10-bit ETM×1	√	8	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP

Enhanced I/O Flash Type MCU with EEPROM

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	RTC	Timer Module	PFD	Comp.	Inter-face	Stack	Package *
HT68F20	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	1K×14	64×8	32×8	18	√	10-bit CTM×1 10-bit STM×1	√	2	SPI/I²C	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP
HT68F30	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	2K×14	96×8	64×8	22	√	10-bit CTM×1 10-bit ETM×1	√	2	SPI/I²C	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT68FU30												UART		
HT68FB30												USB		
HT68F40	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	4K×15	192×8	128×8	42	√	10-bit CTM×1 10-bit ETM×1 16-bit STM×1	√	2	SPI/I²C	8	24SKDIP/SOP/SSOP 28SKDIP/SOP/SSOP 32/40QFN, 44LQFP 48QFN/SSOP
HT68FU40												UART		
HT68FB40												USB		
HT68F50	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	8K×16	384×8	256×8	42	√	10-bit CTM×2 10-bit ETMx1 16-bit STM×1	√	2	SPI/I²C	8	28SKDIP/SOP/SSOP 40QFN, 44LQFP 48QFN/SSOP
HT68FU50												UART		
HT68FB50												USB		
HT68F60	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	12K×16	576×8	256×8	50	√	10-bit CTMx2 10-bit ETMx1 16-bit STMx1	√	2	SPI/I²C	12	40QFN, 44LQFP 48SSOP/LQFP/QFN 52QFP
HT68FU60												UART		
HT68FB60												USB		

Note: 1. Part numbers which include a "U" have an internal UART function; part numbers which include a "B" have a USB interface.
2. All devices include a fully integrated RC system oscillator.
3. Four I/O lines on each device can be configured as software LCD COM driver pins.
4. "*" As not all package types are available for the HT68FUx0 and HT68FBx0 devices, consult the datasheet for exact package details.

A/D Flash Type MCU with EEPROM

Part No.	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	8-bit Timer	A/D	PWM	PFD	Stack	Package
HT46F46E	2.2V~ 5.5V	400kHz~ 12MHz	1K×14	64×8	128×8	13	1	8-bit×4	8-bit×1	√	4	16NSOP 18DIP/SOP
HT46F47E	2.2V~ 5.5V	400kHz~ 12MHz	2K×14	64×8	128×8	13	1	9-bit×4	8-bit×1	√	6	16NSOP, 18DIP/SOP 20SSOP
HT46F48E	2.2V~ 5.5V	400kHz~ 12MHz	2K×14	88×8	128×8	19	1	9-bit×4	8-bit×1	√	6	24SKDIP/SOP/SSOP
HT46F49E	2.2V~ 5.5V	400kHz~ 12MHz	4K×15	128×8	256×8	23	1	9-bit×4	8-bit×2	√	6	24SKDIP/SOP/SSOP 28SKDIP/SOP/SSOP

Enhanced A/D Flash Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	A/D	Timer Module	PFD	Stack	Package
HT66F13	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	1K×14	64×8	18	12-bit×4	10-bit STM x 1	√	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP
HT66F14	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	2K×15	92×8	22	12-bit×4	10-bit CTM×1 10-bit STM×1	√	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT66F15	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	4K×15	192×8	26	12-bit×4	10-bit CTM×1 10-bit ETM×1	√	8	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP

General Purpose MCU

Enhanced A/D Flash Type MCU with High Current LED Driver

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	LED Driver Output	LED Share I/O	A/D	Timer Module	Stack	Package
HT66F23D*	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	1K×16	64×8	32×8	18	4	4	12-bit×4	10-bit STM×1	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP
HT66F24D*	4MHz 8MHz 12MHz	5.5V	400kHz~ 20MHz or 32768Hz	2K×16	96×8	64×8	22	8×6	14	12-bit×8	10-bit CTM×1 10-bit STM×1	8	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT66F25D*	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	4K×16	192×8	64×8	26	8×8	16	12-bit×8	10-bit CTM×1 10-bit STM×1	8	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP

* Under development, available in 4Q, 2011.

Enhanced A/D Flash Type MCU with EEPROM

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	RTC	A/D	Timer Module	PFD	Comp.	Inter-face	Stack	Package *
HT66F20	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	1K×14	64×8	32×8	18	√	12-bit×8	10-bit CTM×1 10-bit STM×1	√	2	SPI/I²C	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP
HT66F30 HT66FU30 HT66FB30	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	2K×14	96×8	64×8	22	√	12-bit×8	10-bit CTM×1 10-bit ETM×1	√	2	SPI/I²C UART USB	4	16DIP/NSOP/SSOP 20DIP/SOP/SSOP 24SKDIP/SOP/SSOP
HT66F40 HT66FU40 HT66FB40	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	4K×15	192×8	128×8	42	√	12-bit×8	10-bit CTM×1 10-bit ETM×1 16-bit STM×1	√	2	SPI/I²C UART USB	8	24SKDIP/SOP/SSOP 28SKDIP/SOP/SSOP 32/40QFN, 44LQFP 48QFN/SSOP
HT66F50 HT66FU50 HT66FB50	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	8K×16	384×8	256×8	42	√	12-bit×8	10-bit CTM×2 10-bit ETM×1 16-bit STM×1	√	2	SPI/I²C UART USB	8	28SKDIP/SOP/SSOP 40QFN, 44LQFP 48QFN/SSOP
HT66F60 HT66FU60 HT66FB60	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	12K×16	576×8	256×8	50	√	12-bit×12	10-bit CTMx2 10-bit ETMx1 16-bit STMx1	√	2	SPI/I²C UART USB	12	40QFN, 44LQFP 48SSOP/LQFP/QFN 52QFP

Note: 1. Part numbers which include a "U" have an internal UART function; part numbers which include a "B" have a USB interface.
2. All devices include a fully integrated RC system oscillator.
3. Four I/O lines on each device can be configured as software LCD COM driver pins.
4. "*" As not all package types are available for the HT66FUx0 and HT66FBx0 devices, consult the datasheet for exact package details.

TinyPower™ A/D Flash Type MCU with OPA

Part No.	Internal Clock	Input Voltage	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	Timer		RTC	A/D	PWM	PFD	OPA	Comp.	Inter-face	Stack	Package
								8-bit	16-bit									
HT45F23 HT45F43	910kHz 2MHz 4MHz 8MHz	2.2V~ 5.5V	400kHz~ 12MHz or 32768Hz	2K×15	128×8	64×8	22	1	1	√	12-bit×6	8-bit×2	√	2	2	SPI/I²C	6	16NSOP 20/24SSOP
HT45F42	32kHz 1MHz 2MHz 4MHz 8MHz	2.2V~ 5.5V	1~8MHz or 32768Hz	3K×15	256×8	32×8	11	2	—	—	12-bit×4	—	—	2	—	SPI/I²C	6	16DIP 16NSOP 16SSOP

Note: 1. The internal clock in the table is a fully integrated RC oscillator requiring no external components which can be used as the system clock.
2. The HT45F43 is functionally similar to the HT45F23, however its internal operational amplifiers and comparators are low power types.

Small Package MCU

Small Package I/O Flash Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	RTC	Timer Module	PFD	Comp.	Stack	Package
HT68F03	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 20MHz	1K×14	64×8	64×8	8	√	CTM 10-bit×1 STM 10-bit×1	√	1	4	10MSOP 16NSOP
HT68F04	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 20MHz	2K×15	96×8	64×8	8	√	CTM 10-bit×1 STM 10-bit×1	√	1	8	10MSOP 16NSOP

Note: The internal clock in the table is a fully integrated RC oscillator requiring no external components which can be used as the system clock.

Small Package A/D Flash Type MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	RTC	A/D	Timer Module	PFD	Comp.	Stack	Package
HT66F03	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 20MHz	1K×14	64×8	64×8	8	√	12-bit×4	CTM 10-bit×1 STM 10-bit×1	√	1	4	10MSOP 16NSOP
HT66F04	4MHz 8MHz 12MHz	2.2V~ 5.5V	32kHz~ 20MHz	2K×15	96×8	64×8	8	√	12-bit×4	CTM 10-bit×1 STM 10-bit×1 ETM 10-bit×1	√	1	8	10MSOP 16NSOP

Note: The internal clock in the table is a fully integrated RC oscillator requiring no external components which can be used as the system clock.

Display MCU

TinyPower™ A/D Flash Type MCU with LCD & EEPROM

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	LCD	Segment Shared I/O	Timer Module	RTC	A/D	PFD	Comp.	Inter-face	Stack	Package
HT67F30	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	2K×15	128×8	64×8	28	24×4 25×3	16	CTM 10-bit×1 ETM 10-bit×1	√	12-bit×8	√	2	SPI/I^{2}C SPI	4	48LQFP
HT67F40	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	4K×15	256×8	128×8	44	32×4 33×3	24	CTM 10-bit×1 ETM 10-bit×1 STM 16-bit×1	√	12-bit×8	√	2	SPI/I^{2}C SPI	8	48/64LQFP
HT67F50	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	8K×16	384×8	256×8	50	40×4 41×3	24	CTM 10-bit×2 ETM 10-bit×1 STM 16-bit×1	√	12-bit×8	√	2	SPI/I^{2}C SPI	8	48/64/80 LQFP
HT67F60	4MHz 8MHz 12MHz	2.2V~ 5.5V	400kHz~ 20MHz or 32768Hz	12K×16	640×8	256×8	64	56×4 57×3	32	CTM 10-bit×2 ETM 10-bit×1 STM 16-bit×1	√	12-bit×12	√	2	SPI/I^{2}C SPI	12	48/64/80 100 LQFP

1.5V Battery MCU

1.5V Battery Flash Type MCU

Part No.	Internal Clock	Input Voltage	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	RTC	A/D	Timer Module	PFD	Comp.	Stack	Package
HT68F03L*	4MHz 8MHz 12MHz	0.9V~ 1.8V	32kHz~ 12MHz	1K×15	64×8	64×8	11	√	—	CTM 10-bit×1 STM 10-bit×1	√	1	4	16NSOP
HT68F04L*	4MHz 8MHz 12MHz	0.9V~ 1.8V	32kHz~ 12MHz	2K×15	96×8	64×8	11	√	—	CTM 10-bit×1 STM 10-bit×1	√	1	8	16NSOP
HT66F03L*	4MHz 8MHz 12MHz	0.9V~ 1.8V	32kHz~ 12MHz	1K×15	64×8	64×8	11	√	12-bit×4	CTM 10-bit×1 STM 10-bit×1	√	1	4	16NSOP
HT66F04L*	4MHz 8MHz 12MHz	0.9V~ 1.8V	32kHz~ 12MHz	2K×15	96×8	64×8	11	√	12-bit×4	CTM 10-bit×1 STM 10-bit×1 ETM 10-bit×1	√	1	8	16NSOP

* Under development, available in 4Q, 2011.
Note: The internal clock in the table is a fully integrated RC oscillator requiring no external components which can be used as the system clock.

USB Interface MCU

I/O Flash Type USB MCU with SPI (USB 2.0 Full Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer	PWM	End-points	Built-in OSC	LDO 70mA	I/O VDD Option	Interface	Stack	Package
HT82F543*	2.2V~5.5V	32kHz~16MHz	4K×16	256×8	17	CTM 10-bit×2 STM 10-bit×1 STM 16-bit×1	√	4	√	√	√	SPI×1 (SPI+I²C)×1	8	16NSOP 20QFN 24SSOP
HT82F553*	2.2V~5.5V	32kHz~16MHz	8K×16	512×8	25	CTM 10-bit×2 STM 10-bit×1 STM 16-bit×1	√	6	√	√	√	SPI×1 (SPI+I²C)×1	8	24/28SSOP 32QFN
HT82F563*	2.2V~5.5V	32kHz~16MHz	16K×16	768×8	37	CTM 10-bit×2 STM 10-bit×1 STM 16-bit×1	√	8	√	√	√	SPI×1 (SPI+I²C)×1	12	28SSOP 32QFN 48LQFP

* Under development, available in 4Q, 2011.

A/D Flash Type USB MCU with SPI (USB 2.0 Full Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer	A/D	PWM	RTC	End-points	Built-in OSC	LDO 70mA	I/O VDD Option	Interface	Stack	Package
HT82F645*	2.2V~5.5V	32kHz~16MHz	4K×16	512×8	25	CTM 10-bit×2 STM 10-bit×1 STM 16-bit×1	12-bit×8	√	√	4	√	√	√	SPI×1 (SPI+I²C)×1	8	24/28SSOP 32QFN
HT82F655*	2.2V~5.5V	32kHz~16MHz	8K×16	768×8	37	CTM 10-bit×2 STM 10-bit×1 STM 16-bit×1	12-bit×16	√	√	6	√	√	√	SPI×1 (SPI+I²C)×1	8	28SSOP 32QFN 48LQFP
HT82F665*	2.2V~5.5V	32kHz~16MHz	16K×16	1024×8	45	CTM 10-bit×2 STM 10-bit×1 STM 16-bit×1	12-bit×24	√	√	8	√	√	√	SPI×1 (SPI+I²C)×1	12	32QFN 48/64LQFP

* Under development, available in 4Q, 2011.

RF Remote MCU

Remote RF Flash Type TX MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	10-bit Timer	A/D	PFD	Built-in RF Block		Stack	Package
										Carrier Frequency	Type		
HT68F03T3	2.2V~3.6V	32kHz~12MHz	1K×14	64×8	64×8	7	2	—	√	300MHz~450MHz	ASK TX	4	16NSOP
HT66F03T3	2.2V~3.6V	32kHz~12MHz	1K×14	64×8	64×8	7	2	12-bit×4	√	300MHz~450MHz	ASK TX	4	16NSOP

Touch Key MCU

Touch Key Flash MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	Timer		Touch Key	SPI/I²C	Stack	Package
								8-bit	16-bit				
BS83B08-3	8MHz 12MHz 16MHz	2.7V~5.5V	8MHz~16MHz	2K×15	160×8	64×8	13	1	—	8	1	4	16NSOP
BS83B12-3	8MHz 12MHz 16MHz	2.7V~5.5V	8MHz~16MHz	2K×15	288×8	64×8	17	1	—	12	1	4	20SOP/SSOP
BS83B16-3 BS83B16G-3	8MHz 12MHz 16MHz	2.7V~5.5V	8MHz~16MHz	2K×15	288×8	64×8	21	1	—	16	1	4	24SOP/SSOP Gold Bump
BS83C24-3*	8MHz 12MHz 16MHz	2.7V~5.5V	8MHz~16MHz	4K×16	512×8	128×8	41	1	1	24	1	8	28SOP/SSOP 44QFP

* Under development, available in 3Q, 2011.

Touch Key Flash MCU with LED/LCD Driver

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	LCD	10-bit Timer	Touch Key	High Current LED Output	SPI/I²C	Stack	Package
BS85B12-3	8MHz 12MHz 16MHz	2.7V~5.5V	32kHz~16MHz	2K×15	224×8	64×8	22	14×4	2	12	8×6	1	4	24/28SKDIP/SOP 24/28SSOP
BS85C20-3	8MHz 12MHz 16MHz	2.7V~5.5V	32kHz~16MHz	4K×15	384×8	128×8	38	22×4	3	20	14×8	1	6	28SKDIP/SOP 28SSOP, 44QFP

Brushless DC Motor MCU

Brushless DC Motor Flash Type MCU

Part No.	Internal Clock	VDD	Shunt Reg.	System Clock	Program Memory	Data Memory		I/O	Timer			A/D	PWM	PFD	OPA	Comp.	DAC	Stack	Package
						SRAM	EEPROM		8-bit	10-bit	16-bit								
HT45FM03B	12MHz 16MHz 20MHz	4.5V~ 5.5V	—	400kHz~ 20MHz	4K×15	192×8	—	26	1	—	1	12-bit×8	10-bit×3	√	1	1	—	8	28SOP
HT45FM30	16MHz	3.3V~ 5.5V	5V	16MHz	2K×16	192×8	64×8	18	—	STM 10-bit×1	CAPTM 16-bit×1, CTM 16-bit×1	10-bit×5	12-bit×3	—	1	8-bit×4	8-bit×1	8	16NSOP 16/20SSOP 16/20QFN

Voice MCU

Flash Type Voice MCU

Part No.	Internal Clock	VDD	Program Memory	Data Memory	I/O	RTC	A/D	Timer Module	I^2C/SPI	Audio Output			Stack	Package
										DAC	PWM	PA		
HT83F02	4MHz 8MHz 12MHz	2.4V~ 5.5V	2K×16	208×8	19	—	—	8-bit×2	√	12-bit×1	√	—	8	28SOP
HT83F22	4MHz 8MHz 12MHz	2.2V~ 5.5V	4K×16	384×8	24	√	12-bit×8	CTM 10-bit×1 ETM 10-bit×1	√	12-bit×1	—	√	8	48LQFP

Note: The HT83F02 is a voice playing MCU while the HT83F22 is both a voice playing and voice recording MCU.

General Purpose MCU

Standard 8051 Flash MCU

Part No.	Internal Clock	VDD	System Clock	Program Memory	Data Memory	I/O	16-bit Timer	A/D	PWM	D/A	Interface	Comparator	Package
HT85F221*	3.68MHz	2.2V~5.5V	3.68~25MHz	2K×8	512×8	17	2	12-bit×9	16-bit×4	12-bit×1	SPI/I²C/UART	1	16DIP/NSOP 20DIP/SOP/SSOP
HT85F222*	3.68MHz	2.2V~5.5V	3.68~25MHz	4K×8	512×8	17	2	12-bit×9	16-bit×4	12-bit×1	SPI/I²C/UART	1	16DIP/NSOP 20DIP/SOP/SSOP
HT85F223*	3.68MHz	2.2V~5.5V	3.68~25MHz	8K×8	512×8	25	2	12-bit×9	16-bit×4	12-bit×1	SPI/I²C/UART	1	20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP
HT85F224*	3.68MHz	2.2V~5.5V	3.68~25MHz	16K×8	512×8	25	2	12-bit×9	16-bit×4	12-bit×1	SPI/I²C/UART	1	20DIP/SOP/SSOP 24/28SKDIP/SOP/SSOP
HT85F225*	3.68MHz	2.2V~5.5V	3.68~25MHz	16K×8	1K×8	48	3	12-bit×9	16-bit×4	12-bit×1	SPI/I²C/UART	1	48LQFP
HT85F226*	3.68MHz	2.2V~5.5V	3.68~25MHz	32K×8	2K×8	48	3	12-bit×9	16-bit×4	12-bit×1	SPI/I²C/UART	2	48/64LQFP
HT85F227*	3.68MHz	2.2V~5.5V	3.68~25MHz	64K×8	2K×8	48	3	12-bit×9	16-bit×4	12-bit×1	SPI/I²C/UART	2	48/64LQFP

* Under development, available in 4Q, 2011.

USB Audio MCU

USB Audio Flash Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	A/D	16-bit Timer	Interface	End-points	Transfer	FIFO (Byte)	Package
HT85F566*	2.4V~3.6V	8~32MHz	32K×8	4K×8	48	12-bit×6	4	SPI/I²C/UART	EP0	CTL	8~64	32QFN 48/64LQFP
									EP1~5	INT/BULK	448~504	
									EP6~7	ISO(I/O)	768	

* Under development, available in 4Q, 2011.

General Purpose MCU

32-Bit Standard MCU

Part No.	Internal Clock	VDD	System Clock	Flash Memory	SRAM	I/O	RTC	A/D	16-Bit Timer	OP/CMP	PWM	Interface	LDO 1.8V	Package
HT32F1251B	32kHz 8MHz	2.7V~ 3.6V	Up to 72MHz	8K×8	2K×8	30	√	12-bit×8	GPTM×2	2	√	SPI/I²C/USART	√	48LQFP
HT32F1251						32								
HT32F1252	32kHz 8MHz	2.7V~ 3.6V	Up to 72MHz	16K×8	4K×8	32	√	12-bit×8	GPTM×2	2	√	SPI/I²C/USART	√	48LQFP
HT32F1253	32kHz 8MHz	2.7V~ 3.6V	Up to 72MHz	32K×8	8K×8	32	√	12-bit×8	GPTM×2	2	√	SPI/I²C/USART	√	48LQFP

LCD Controller & Driver

RAM Mapping LCD Controller & Driver

Part No.	VDD	Segment	Common	LCD Voltage	Duty	Bias	Gray Scale	Serial Data	Built-in OSC.	Ext. Crystal	Package
HT1620 HT1620G	2.4V~3.3V	32	4	3/2VDD	1/2, 1/3, 1/4	1/2, 1/3	—	1	—	√	64LQFP Gold Bump
HT1621 HT1621G	2.4V~5.2V	32	4	≤ VDD	1/2, 1/3, 1/4	1/2, 1/3	—	1	√	√	44QFP/LQFP 48SSOP/LQFP Gold Bump
HT1622 HT1622G	2.7V~5.2V	32	8	≤ VDD	1/8	1/4	—	1	√	—	44/52QFP, 44/64LQFP Gold Bump
HT16220 HT16220G	2.7V~5.2V	32	8	≤ VDD	1/8	1/4	—	1	—	√	64LQFP Gold Bump
HT1623 HT1623G	2.7V~5.2V	48	8	≤ VDD	1/8	1/4	—	1	√	√	100LQFP Gold Bump
HT1625	2.7V~5.2V	64	8	≤ VDD	1/8	1/4	—	1	√	√	100LQFP
HT1626	2.7V~5.2V	48	16	≤ VDD	1/16	1/5	—	1	√	√	100LQFP
HT1647	2.7V~5.2V	64	16	≤ VDD	1/16	1/4, 1/5	4	4	√	√	100LQFP
HT1647A							—				
HT1650	2.7V~5.2V	64	32	≤ 7V	1/16, 1/32	1/5, 1/6	—	4	√	√	128QFP
HT1660	2.7V~5.2V	96	32	≤ 7V	1/16, 1/32	1/5, 1/6	—	4	√	√	208QFP
HT1670	2.7V~5.2V	128	32	≤ 7V	1/16, 1/32	1/5, 1/6	—	4	√	√	208QFP

High Noise Immunity LCD Controller & Driver Series

Part No.	VDD	Segment	Common	LCD Voltage	Pixels	Duty	Bias	Interface	Built-in OSC.	Keyscan	Package
HT16C22 HT16C22G	2.4V~5.5V	44	4	≤ VDD	176	1/4	1/2, 1/3	I^2C	√	—	48LQFP, 52QFP Gold Bump
HT16C23 HT16C23G*	2.4V~5.5V	56	4	≤ VDD	224	1/4	1/3	I^2C	√	—	48/64LQFP Gold Bump
		52	8		416	1/8	1/3, 1/4				
HT16C24 HT16C24G*	2.4V~5.5V	72	4	≤ VDD	288	1/4	1/3	I^2C	√	—	80LQFP Gold Bump
		68	8		544	1/8	1/3, 1/4				
		60	16		960	1/16	1/4, 1/5				
HT16K23	2.4V~5.5V	20	4	= VDD	80	1/4	1/3	I^2C	√	16×1	28SOP
		16	8		128	1/8	1/4			20×1	

* Under development, available in 4Q, 2011.

Low Voltage LCD Controller & Driver Series

Part No.	VDD	Segment	Common	LCD Voltage	Pixels	Duty	Bias	Interface	Built-in OSC.	LED	Package
HT16L21	1.8V~3.6V	32	4	2.4V~5.5V	128	1/4	1/2, 1/3	I^2C/SPI 3-Wire	√	8	44QFP
HT16L23	1.8V~3.6V	52	4	2.4V~5.5V	208	1/4	1/3, 1/4	I^2C/SPI 3-Wire	√	8	64LQFP
		48	8		384	1/8	1/3, 1/4				

LED Controller & Driver

RAM Mapping LED Controller & Driver

Part No.	VDD	Segment	Common	Row Source Current	Com Source Current	Interface	Keyscan	Package
HT1632C	2.4V~5.5V	32	8	40mA	250mA	3-Wire	—	52QFP
		24	16					
HT16K33	4.5V~5.5V	16	8	30mA	200mA	I^2C	13×3	28SOP
		12	8				10×3	24SOP
		8	8				8×3	20SOP

Constant Current LED Driver

Part No.	VDD	Output	Constant Current Range	Min. $\overline{OE}$	Package
HT16D595	4.5V~5.5V	8	Fix. 48mA	200ns	16NSOP
HT16D723*	4.5V~5.5V	16	5~45mA	200ns	24SSOP

* Under development, available in 4Q, 2011.
Note: HT16D595 is pin-to-pin compatible with 74HC595 but provides constant current.

VFD Controller & Driver

VFD Controller & Driver

Part No.	VDD	Segment	Digit	Output Voltage	Key Matrix	General Input	LED Output	Dimming Step	Package
HT16511	5V	12~20	16~8	VDD–35V	12×4	4	5	8	52QFP
HT16512	5V	11~16	11~6	VDD–35V	6×4	4	4	8	44QFP/LQFP
HT16515	3.0V~5.5V	16~24	12~4	VDD–35V	16×2	—	4	8	44QFP/LQFP

Dot Character VFD Controller & Driver

Part No.	VDD	Segment	Digit	Output Voltage	Display RAM	CGROM	CGRAM	General Output	Package
HT16523	2.7V~5.5V	35+2AD	16	40V	16×8 bits	248×5×7 bits	8×5×7 bits	2	64LQFP
HT16525	2.7V~5.5V	40+2AD	24	60V	24×8 bits	248×5×8 bits	8×5×8 bits	2	80LQFP
HT16528	2.7V~5.5V	80	24	80V	80×8 bits	240×5×8 bits	8×5×8 bits	—	144LQFP

VFD Clock

Part No.	VDD	Function Description	IDD Max.	Package	Futaba VFD Panel Part No.
HT16561	4V~16V	1/1 Duty, 12Hr	2mA	44QFP	4BT68ZM, 4BT224GN
HT16562	4V~18V	1/2 Duty, 12Hr	1mA	30SSOP	2BT167GNM, 2BT428GN
HT16565	4V~16V	1/1 Duty, 24Hr	2mA	44QFP	Please contact Futaba
HT16566	4V~18V	1/2 Duty, 24Hr	1mA	30SSOP	Please contact Futaba

Segment VFD Driver

Part No.	VDD	Output Voltage	Output Driver	Output Current	Cascade	Package
HT16506	3.0V~5.5V	20V~80V	64	20mA	√	80LQFP

3-Wire EEPROM

3-wire EEPROM

Part No.	Capacity	VDD	Clock Rate (MHz)	Write Speed @2.4V (ms)	Operating Current @5V (mA)	Standby Current @5V (μA)	Package
HT93LC46	64×16/128×8	2.2V~5.5V	2	5	5	2	8DIP/SOP/TSSOP
HT93LC66	256×16/512×8	2.2V~5.5V	2	5	5	2	8DIP/SOP/TSSOP
HT93LC86	1024×16/2048×8	2.2V~5.5V	2	5	5	2	8DIP/SOP/TSSOP

Note: Operating temperature range –40°C ~ +85°C

I²C EEPROM

I²C EEPROM

Part No.	Capacity	VDD	Clock Rate (kHz)	Write Speed @2.4V (ms)	Operating Current @5V (mA)	Standby Current @5V (μA)	Package
HT24LC02	256×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP, SOT23-5
HT24LC04	512×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP
HT24LC08	1024×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP
HT24LC16	2048×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP
HT24LC32	4096×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP
HT24LC64	8192×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP
HT24LC128*	16384×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP
HT24LC256*	32768×8	2.2V~5.5V	400	5	5	2	8DIP/SOP/TSSOP

* Under development, available in 3Q, 2011.
Note: Operating temperature range –40°C ~ +85°C

Part No.	Capacity	VDD	Clock Rate (kHz)	Write Speed @2.4V (ms)	Operating Current @5V (mA)	Standby Current @5V (μA)	Package
HT2201	128×8	2.2V~5.5V	400	5	5	4	SIP-4, SOT23-5

Note: Operating temperature range –40°C ~ +85°C

Encoder/Decoder

2^{12} Encoder/Decoder

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Data No.	Data Type	Trig.	Check Times	Package	Pair
HT12E	Encoder	2.4V~12V	8	4	0	—	$\overline{TE}$	—	18DIP, 20SOP	HT12D/12F
HT12D	Decoder	2.4V~12V	8	0	4	Latch	—	3	18DIP, 20SOP	HT12A/12E
HT12F	Decoder	2.4V~12V	12	0	0	—	—	3	18DIP, 20SOP	HT12A/12E

3^{9} Encoder

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Trig.	Package
HT6026	Encoder	4V~18V	0	9	$\overline{TE}$	16DIP/NSOP

3^{12} Encoder/Decoder

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Data No.	Data Type	Trig.	Check Times	Package	Pair
HT6010	Encoder	2.4V~12V	8	4	0	—	$\overline{TE}$	—	18DIP, 20SOP	HT6030/32/34
HT6012	Encoder	2.4V~12V	10	0	2	—	Data	—	18DIP, 20SOP	HT6032
HT6014	Encoder	2.4V~12V	8	0	4	—	Data	—	18DIP, 20SOP	HT6034
HT6030	Decoder	2.4V~12V	12	0	0	—	—	2	18DIP, 20SOP	HT6010
HT6032	Decoder	2.4V~12V	10	0	2	Latch	—	2	18DIP, 20SOP	HT6010/12
HT6034	Decoder	2.4V~12V	8	0	4	Latch	—	2	18DIP, 20SOP	HT6010/14

3^{18} Encoder/Decoder

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Data No.	Data Type	Trig.	Check Times	Package	Pair
HT680	Encoder	2.4V~12V	8	4	0	—	TE	—	18DIP/SOP	HT692
HT600	Encoder	2.4V~12V	9	5	0	—	TE	—	20DIP/SOP	HT604L/614
HT6207	Encoder	2.4V~12V	10	0	4	—	Data	—	20DIP/SOP	HT604L/614
HT604L	Decoder	2.4V~12V	10	0	4	Latch	—	2	20DIP/SOP	HT600/6207
HT614	Decoder	2.4V~12V	10	0	4	Momentary	—	2	20DIP/SOP	HT600/6207
HT692	Decoder	2.4V~12V	10	0	2	Momentary	—	2	18DIP	HT680

RF Encoder

2^{12} RF Encoder

Part No.	VDD	Addr. No.	Data No.	Compound Data No.	Trig.	Frequency Band	RF Type	Package
HT12C2T3	2.0V~3.6V	6	6	2	Data	300MHz~365MHz	ASK TX	20SSOP
HT12E2T3	2.0V~3.6V	8	4	2	Data	300MHz~365MHz	ASK TX	20SSOP
HT12C2T4	2.0V~3.6V	6	6	2	Data	365MHz~450MHz	ASK TX	20SSOP
HT12E2T4	2.0V~3.6V	8	4	2	Data	365MHz~450MHz	ASK TX	20SSOP

2^{16} RF Encoder

Part No.	VDD	Addr. No.	Data No.	Trig.	Frequency Band	RF Type	Package
HT16C2T3	2.0V~3.6V	6	8	Data	300MHz~365MHz	ASK TX	20SSOP
HT16E2T3	2.0V~3.6V	8	6	Data	300MHz~365MHz	ASK TX	20SSOP
HT16G2T3	2.0V~3.6V	10	4	Data	300MHz~365MHz	ASK TX	20SSOP
HT16C2T4	2.0V~3.6V	6	8	Data	365MHz~450MHz	ASK TX	20SSOP
HT16E2T4	2.0V~3.6V	8	6	Data	365MHz~450MHz	ASK TX	20SSOP
HT16G2T4	2.0V~3.6V	10	4	Data	365MHz~450MHz	ASK TX	20SSOP

Learning Encoder

Learning Encoder

Part No.	VDD	Addr. No.	Data No.	Trig.	Package
HT6P20B2	2V~12V	22	2	Data	8SOP
HT6P20D2	2V~12V	20	4	Data	8SOP
HT6P20F2	2V~12V	19	5	Data	8SOP

Learning RF Encoder

Learning RF Encoder

Part No.	VDD	Addr. No.	Data No.	Trig.	Frequency Band	RF Type	Package
HT6P20B2T3	2.0V~3.6V	22	2	Data	300MHz~450MHz	ASK TX	16NSOP
HT6P20D2T3	2.0V~3.6V	20	4	Data	300MHz~450MHz	ASK TX	16NSOP
HT6P20F2T3	2.0V~3.6V	19	5	Data	300MHz~450MHz	ASK TX	16NSOP

IR Remote Controller

IR Remote Controller

Part No.	Encoder/Decoder	VDD	Addr. No.	Data No.	Key No.	38kHz Carrier	Package
HT62104*	Encoder	2.0V~3.6V	2	7	10	√	16DIP/NSOP
HT6220A	Encoder	2.0V~3.6V	16	8	6	√	8SOP
					30		16NSOP
HT6221A	Encoder	2.0V~3.6V	16	8	32	√	20SOP
HT6221B	Encoder	2.0V~3.6V	16	8	48	√	20SOP
HT6222A	Encoder	2.0V~3.6V	16	8	64	√	24SOP, Chip, Wafer

* Under development, available in 3Q, 2011.

LDO & Detector

HT71xx-1 TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT1015-1	12V	1.5V	18	2.2	±3%	TO92, SOT23-5, SOT89
HT7121-1	24V	2.1V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7123-1	24V	2.3V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7125-1	24V	2.5V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7127-1	24V	2.7V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7130-1	24V	3.0V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7133-1	24V	3.3V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7136-1	24V	3.6V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7144-1	24V	4.4V	30	2.5	±3%	TO92, SOT23-5, SOT89
HT7150-1	24V	5.0V	30	2.5	±3%	TO92, SOT23-5, SOT89

HT71xx-2 TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7130-2*	24V	3.0V	30	2.5	±1%	TO92, SOT23-5, SOT89
HT7133-2*	24V	3.3V	30	2.5	±1%	TO92, SOT23-5, SOT89
HT7136-2*	24V	3.6V	30	2.5	±1%	TO92, SOT23-5, SOT89
HT7144-2*	24V	4.4V	30	2.5	±1%	TO92, SOT23-5, SOT89
HT7150-2*	24V	5.0V	30	2.5	±1%	TO92, SOT23-5, SOT89

* Under development, available in 3Q, 2011.

HT75xx-1 TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7521-1	24V	2.1V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7523-1	24V	2.3V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7525-1	24V	2.5V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7527-1	24V	2.7V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7530-1	24V	3.0V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7533-1	24V	3.3V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7536-1	24V	3.6V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7540-1	24V	4.0V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7544-1	24V	4.4V	100	2.5	±3%	TO92, SOT23-5, SOT89
HT7550-1	24V	5.0V	150	2.5	±3%	TO92, SOT23-5, SOT89
HT7560-1	24V	6.0V	150	2.5	±3%	TO92, SOT23-5, SOT89
HT7570-1	24V	7.0V	150	2.5	±3%	TO92, SOT23-5, SOT89
HT7580-1	24V	8.0V	150	2.5	±3%	TO92, SOT23-5, SOT89
HT7590-1	24V	9.0V	150	2.5	±3%	TO92, SOT23-5, SOT89
HT75A0-1	24V	10.0V	150	2.5	±3%	TO92, SOT23-5, SOT89
HT75C0-1	24V	12.0V	150	2.5	±3%	TO92, SOT23-5, SOT89

HT75xx-2 TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7521-2	24V	2.1V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7523-2	24V	2.3V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7525-2	24V	2.5V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7527-2	24V	2.7V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7530-2	24V	3.0V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7533-2	24V	3.3V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7536-2	24V	3.6V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7540-2	24V	4.0V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7541-2	24V	4.15V	100	2.5	±1%	SOT23-5
HT7544-2	24V	4.4V	100	2.5	±1%	TO92, SOT23-5, SOT89
HT7550-2	24V	5.0V	150	2.5	±1%	TO92, SOT23-5, SOT89
HT7560-2	24V	6.0V	150	2.5	±1%	TO92, SOT23-5, SOT89
HT7570-2	24V	7.0V	150	2.5	±1%	TO92, SOT23-5, SOT89
HT7580-2	24V	8.0V	150	2.5	±1%	TO92, SOT23-5, SOT89
HT7590-2	24V	9.0V	150	2.5	±1%	TO92, SOT23-5, SOT89
HT75A0-2	24V	10.0V	150	2.5	±1%	TO92, SOT23-5, SOT89
HT75C0-2	24V	12.0V	150	2.5	±1%	TO92, SOT23-5, SOT89

LDO & Detector

HT73xx TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7318	12V	1.8V	150	3.5	±3%	TO92, SOT89
HT7325	12V	2.5V	180	3.5	±3%	TO92, SOT89
HT7327	12V	2.7V	200	3.5	±3%	TO92, SOT89
HT7330	12V	3.0V	250	3.5	±3%	TO92, SOT89
HT7333	12V	3.3V	250	3.5	±3%	TO92, SOT89
HT7335	12V	3.5V	250	3.5	±3%	TO92, SOT89
HT7350	12V	5.0V	250	3.5	±3%	TO92, SOT89

HT72xx TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7218	8V	1.8V	300	4	±2%	TO92, SOT23, SOT23-5, SOT89
HT7225	8V	2.5V	300	4	±2%	TO92, SOT23, SOT23-5, SOT89
HT7227	8V	2.7V	300	4	±2%	TO92, SOT23, SOT23-5, SOT89
HT7230	8V	3.0V	300	4	±2%	TO92, SOT23, SOT23-5, SOT89
HT7233	8V	3.3V	300	4	±2%	TO92, SOT23, SOT23-5, SOT89
HT7250	8V	5.0V	300	4	±2%	TO92, SOT23, SOT23-5, SOT89

HT78xx TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7818	8V	1.8V	500	4	±2%	TO92, SOT223, SOT23-5, SOT89
HT7825	8V	2.5V	500	4	±2%	TO92, SOT223, SOT23-5, SOT89
HT7827	8V	2.7V	500	4	±2%	TO92, SOT223, SOT23-5, SOT89
HT7830	8V	3.0V	500	4	±2%	TO92, SOT223, SOT23-5, SOT89
HT7833	8V	3.3V	500	4	±2%	TO92, SOT223, SOT23-5, SOT89
HT7850	8V	5.0V	500	4	±2%	TO92, SOT223, SOT23-5, SOT89

HT71Axxxx TinyPower™ LDO with Detector

Part No.	Maximum Input Voltage	Regulator Voltage	Detector Voltage	LDO Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT71A3324	12V	3.3V	2.4V	30	6	±3%	SOT89-5
HT71A3327	12V	3.3V	2.7V	30	6	±3%	SOT89-5
HT71A3344	12V	3.3V	4.4V	30	6	±3%	SOT89-5
HT71A5024	12V	5.0V	2.4V	30	6	±3%	SOT89-5
HT71A5027	12V	5.0V	2.7V	30	6	±3%	SOT89-5
HT71A5033	12V	5.0V	3.3V	30	6	±3%	SOT89-5
HT71A5042	12V	5.0V	4.2V	30	6	±3%	SOT89-5
HT71A5044	12V	5.0V	4.4V	30	6	±3%	SOT89-5

HT71D0x TinyPower™ LDO with Detector & Data Transceiver

Part No.	Maximum Input Voltage	Regulator Voltage	Detector Voltage	LDO Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Data Interface	Package
HT71D02	30V	3.3V	9.0V	60	30	±3%	√	8SOP
HT71D04	30V	5.0V	9.0V	60	30	±3%	√	8SOP

HT75Bxx High PSRR LDO (150mA)

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT75B15	7V	1.5V	150	20	±2%	SOT23, SOT23-5
HT75B18	7V	1.8V	150	20	±2%	SOT23, SOT23-5
HT75B25	7V	2.5V	150	20	±2%	SOT23, SOT23-5
HT75B28	7V	2.8V	150	20	±2%	SOT23, SOT23-5
HT75B30	7V	3.0V	150	20	±2%	SOT23, SOT23-5
HT75B33	7V	3.3V	150	20	±2%	SOT23, SOT23-5
HT75B50	7V	5.0V	150	20	±2%	SOT23, SOT23-5

LDO & Detector

HT72Bxx High PSRR LDO (300mA)

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT72B15	7V	1.5V	300	20	±2%	SOT23, SOT23-5, SOT89, TO92
HT72B18	7V	1.8V	300	20	±2%	SOT23, SOT23-5, SOT89, TO92
HT72B25	7V	2.5V	300	20	±2%	SOT23, SOT23-5, SOT89, TO92
HT72B28	7V	2.8V	300	20	±2%	SOT23, SOT23-5, SOT89, TO92
HT72B30	7V	3.0V	300	20	±2%	SOT23, SOT23-5, SOT89, TO92
HT72B33	7V	3.3V	300	20	±2%	SOT23, SOT23-5, SOT89, TO92
HT72B50	7V	5.0V	300	20	±2%	SOT23, SOT23-5, SOT89, TO92

HT78BXX High PSRR LDO (500mA)

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT78B15	7V	1.5V	500	20	±2%	SOT223, SOT23-5, SOT89, TO92
HT78B18	7V	1.8V	500	20	±2%	SOT223, SOT23-5, SOT89, TO92
HT78B25	7V	2.5V	500	20	±2%	SOT223, SOT23-5, SOT89, TO92
HT78B28	7V	2.8V	500	20	±2%	SOT223, SOT23-5, SOT89, TO92
HT78B30	7V	3.0V	500	20	±2%	SOT223, SOT23-5, SOT89, TO92
HT78B33	7V	3.3V	500	20	±2%	SOT223, SOT23-5, SOT89, TO92
HT78B50	7V	5.0V	500	20	±2%	SOT223, SOT23-5, SOT89, TO92

HT72Dxxxx High PSRR LDO (Dual Channel Output, 300mA+300mA)

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT72D1518	7V	1.5V + 1.8V	300 + 300	40	±2%	SOT23-6
HT72D1525	7V	1.5V + 2.5V	300 + 300	40	±2%	SOT23-6
HT72D1528	7V	1.5V + 2.8V	300 + 300	40	±2%	SOT23-6
HT72D1533	7V	1.5V + 3.3V	300 + 300	40	±2%	SOT23-6
HT72D1825	7V	1.8V + 2.5V	300 + 300	40	±2%	SOT23-6
HT72D1828	7V	1.8V + 2.8V	300 + 300	40	±2%	SOT23-6
HT72D1830	7V	1.8V + 3.0V	300 + 300	40	±2%	SOT23-6
HT72D1833	7V	1.8V + 3.3V	300 + 300	40	±2%	SOT23-6
HT72D2528	7V	2.5V + 2.8V	300 + 300	40	±2%	SOT23-6
HT72D2533	7V	2.5V + 3.3V	300 + 300	40	±2%	SOT23-6
HT72D2833	7V	2.8V + 3.3V	300 + 300	40	±2%	SOT23-6
HT72D3033	7V	3.0V + 3.3V	300 + 300	40	±2%	SOT23-6

HT1117 General Purpose LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (A)	Typical Current Consumption (mA)	Tolerance	Package
HT1117-ADJ	12V	Adj.	1	8	±2%	SOT223
HT1117-18	12V	1.8V	1	8	±2%	SOT223
HT1117-25	12V	2.5V	1	8	±2%	SOT223
HT1117-28	12V	2.85V	1	8	±2%	SOT223
HT1117-33	12V	3.3V	1	8	±2%	SOT223
HT1117-50	12V	5.0V	1	8	±2%	SOT223

HT1086 General Purpose LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (A)	Typical Current Consumption (mA)	Tolerance	Package
HT1086-ADJ	12V	Adj.	1.5	8	±2%	TO220, TO252, TO263, SOT223
HT1086-18	12V	1.8V	1.5	8	±2%	TO220, TO252, TO263, SOT223
HT1086-25	12V	2.5V	1.5	8	±2%	TO220, TO252, TO263, SOT223
HT1086-28	12V	2.85V	1.5	8	±2%	TO220, TO252, TO263, SOT223
HT1086-33	12V	3.3V	1.5	8	±2%	TO220, TO252, TO263, SOT223
HT1086-50	12V	5.0V	1.5	8	±2%	TO220, TO252, TO263, SOT223

LDO & Detector

TinyPower™ Voltage Detector

Part No.	Maximum Input Voltage	Detect Voltage	Hysteresis Width (V)	Typical Current Consumption (μA)	Tolerance	Package
HT7022A-1	24V	2.2V	0.11	4	±3%	TO92, SOT23-5, SOT89
HT7024A-1	24V	2.4V	0.12	4	±3%	TO92, SOT23-5, SOT89
HT7027A-1	24V	2.7V	0.135	4	±3%	TO92, SOT23-5, SOT89
HT7033A-1	24V	3.3V	0.165	4	±3%	TO92, SOT23-5, SOT89
HT7039A-1	24V	3.9V	0.195	4	±3%	TO92, SOT23-5, SOT89
HT7044A-1	24V	4.4V	0.22	4	±3%	TO92, SOT23-5, SOT89
HT7050A-1	24V	5.0V	0.25	4	±3%	TO92, SOT23-5, SOT89

TinyPower™ Voltage Detector

Part No.	Maximum Input Voltage	Detect Voltage	Hysteresis Width (V)	Typical Current Consumption (μA)	Tolerance	Package
HT7022A-2	24V	2.2V	0.11	4	±1%	TO92, SOT23-5, SOT89
HT7024A-2	24V	2.4V	0.12	4	±1%	TO92, SOT23-5, SOT89
HT7027A-2	24V	2.7V	0.135	4	±1%	TO92, SOT23-5, SOT89
HT7033A-2	24V	3.3V	0.165	4	±1%	TO92, SOT23-5, SOT89
HT7039A-2	24V	3.9V	0.195	4	±1%	TO92, SOT23-5, SOT89
HT7044A-2	24V	4.4V	0.22	4	±1%	TO92, SOT23-5, SOT89
HT7050A-2	24V	5.0V	0.25	4	±1%	TO92, SOT23-5, SOT89
HT7082A-2	24V	8.2V	0.41	4	±1%	TO92, SOT23-5, SOT89

DC to DC Converter

Step-Down DC to DC Converter

Part No.	Input Voltage	Output Current	Frequency	V_{OUT} Min.	V_{OUT} Max.	$I_{ShutDown}$	I_Q	Package
HT7465	24V	2A	380kHz	0.92V	20V	20μA	1.1mA	8SOP, 10MSOP
HT7466	24V	3A	380kHz	1.23V	20V	20μA	1.1mA	8SOP

PFM Asynchronous Step-up DC to DC Converter (100mA)

Part No.	Input Voltage	Output Voltage	Output Current	Switching Frequency (kHz)	Typical Current Consumption I_{DD2} (μA)	Typical Efficiency	Package
HT7718	0.7V~6.0V	1.8V	100mA	115	4	80%	TO92, SOT23, SOT23-5, SOT89
HT7722	0.7V~6.0V	2.2V	100mA	115	4	80%	TO92, SOT23, SOT23-5, SOT89
HT7727	0.7V~6.0V	2.7V	100mA	115	4	85%	TO92, SOT23, SOT23-5, SOT89
HT7730	0.7V~6.0V	3.0V	100mA	115	4	85%	TO92, SOT23, SOT23-5, SOT89
HT7733	0.7V~6.0V	3.3V	100mA	115	4	85%	TO92, SOT23, SOT23-5, SOT89
HT7737	0.7V~6.0V	3.7V	100mA	115	4	85%	TO92, SOT23, SOT23-5, SOT89
HT7750	0.7V~6.0V	5.0V	100mA	115	4	85%	TO92, SOT23, SOT23-5, SOT89

PFM Asynchronous Step-up DC to DC Converter (200mA)

Part No.	Input Voltage	Output Voltage	Output Current	Switching Frequency (kHz)	Typical Current Consumption I_{DD2} (μA)	Typical Efficiency	Package
HT7727A	0.7V~6.0V	2.7V	200mA	200	5	85%	TO92, SOT23, SOT23-5, SOT89
HT7730A	0.7V~6.0V	3.0V	200mA	200	5	85%	TO92, SOT23, SOT23-5, SOT89
HT7733A	0.7V~6.0V	3.3V	200mA	200	5	85%	TO92, SOT23, SOT23-5, SOT89
HT7750A	0.7V~6.0V	5.0V	200mA	200	5	85%	TO92, SOT23, SOT23-5, SOT89

PFM Synchronous Step-up DC to DC Converter

Part No.	Input Voltage	Output Voltage	Typical Output Current (V_{IN}=2.0V)	Typical Quiescent Consumption (μA)	Efficiency	Package
HT77S10	0.7V~5.5V	Adj. 3.3V, 5.0V	V_O=5.0V, I_O=230mA V_O=3.3V, I_O=350mA	20	91%	8MSOP/SOP
HT77S11	0.7V~5.5V	Adj. 3.3V, 5.0V	V_O=5.0V, I_O=160mA V_O=3.3V, I_O=300mA	20	91%	8MSOP/SOP

Charge Pump DC to DC Converter

Part No.	VDD	Conversion Voltage	Typical Output Current (mA)	Typical Standby Current (μA)	Output Impedance	Package
HT7660	3V~12V	VDD ~ −VDD	20	80	60Ω	8DIP/SOP

AC to DC Converter

AC to DC PWM Controller

Part No.	Max. Input Voltage	Start-up Current	Operating Current	Soft Start	UVLO		Green Mode	Switching Freq.	Internal Slop Comp.	Protection			LEB (ns)	Freq. Jitter	Package
					On	Off				Current Limit	OVP	SCP			
HT7A3942	30V	20μA	2mA	—	14.0V	8.0V	√	Programmable	√	√	—	√	350	—	8SOP
HT7A3943*	30V	20μA	2mA	—	8.4V	7.6V	Burst Mode	Programmable	√	√	—	—	350	—	8SOP
HT7A6003	30V	20μA	2mA	√	14.0V	8.0V	√	Programmable	√	√	√	√	350	√	8SOP

* Under development, available in 3Q, 2011.

White LED Backlight Driver

White LED Backlight Driver

Part No.	Topology	Input Voltage	Frequency	Output Voltage	Max. LED No.	Backlight Type	Brightness Control	Package
HT7936A	Charge Pump	2.8V~5.0V	1.0MHz	5.0V	4	Parallel	PWM	SOT23-6
HT7936B				4.5V	6			

Part No.	Topology	Input Voltage	Frequency	Typical OVP	Maximum Efficiency	Max. LED No.	Backlight Type	Dimming Frequency	Package
HT7937	boost	2.5V~5.5V	1.2MHz	28V	85%	6	Single Series WLED	—	SOT23-6
HT7938	boost	2.6V~5.5V	1.2MHz	39V	88%	10	Single Series WLED	< 1kHz	SOT23-6
HT7938A*	boost	2.6V~5.5V	1.2MHz	39V	88%	10	Single Series WLED	Up to 200kHz	SOT23-6
HT7939	boost	2.6V~5.5V	1.2MHz	32V	90%	40	Series/Parallel Mixed	< 1kHz	SOT23-6
HT7939A*	boost	2.6V~5.5V	1.2MHz	32V	90%	40	Series/Parallel Mixed	Up to 200kHz	SOT23-6

* Under development, available in 3Q, 2011.

Part No.	Topology	Input Voltage	Frequency	Protection	Maximum Efficiency	Max. LED No.	LED If	Backlight Type	Brightness Control	Package
HT7943*	boost	4.5V~26V	500kHz/1MHz	LED Open/Short OVP, OCP, OTP, VULO	88%	66	20mA	Up to 11 Series 6ch Constant Current Sink	PWM	20QFN
HT7945*	boost	4.5V~26V	500kHz/1MHz	LED Open/Short OVP, OCP, OTP, VULO	88%	88	20mA	Up to 11 Series 8ch Constant Current Sink	PWM	24QFN
HT7953*	boost	10V~26V	300kHz/600kHz	LED Open/Short OVP, OCP, OTP, VULO	88%	66	80mA	Up to 11 Series 6ch Constant Current Sink	PWM	48TQFP
HT7955*	boost	10V~26V	300kHz/600kHz	LED Open/Short OVP, OCP, OTP, VULO	88%	88	80mA	Up to 11 Series 8ch Constant Current Sink	PWM	48TQFP

* Under development, available in 3Q, 2011.

Lighting Driver/Controller

LED Lighting Driver

Part No.	Topology	Input Voltage	System Input Voltage	LED String Voltage	ILED	Jitter Control	Package
HT7L4091	AC/DC buck	16V~24V	AC 85V~277V	6V~220V	60mA~2A	√	8SOP

MCU Embedded Florescent Ballast Controller

Part No.	V_B Voltage	Half-Bridge Pre-Driver	Ballast Protection	System Clock	Program Memory	Data Memory	Data EEPROM	GPIO	Package
HT7B230*	700V	√	√	1~12MHz or 32KHz	2K×16	96×8	64×8	4/8	16NSOP 20SOP

* Under development, available in 4Q, 2011.

Keyboard

Keyboard

Part No.	Description	VDD	Oscillator	Interface	Package
HT82K628A	WIN2000 KB	4.75V~5.25V	RC	PS/2	40DIP, 48SSOP
HT82K629A	WIN2000 KB	4.75V~5.25V	Crystal	USB+PS/2	40DIP, 48SSOP

Bridge Serials

Bridge

Part No.	Description	VDD	System Clock	Interface	Package
HT45B0K	SPI to USB Bridge	3.3V~5.5V	6MHz or 12MHz	SPI, USB	16NSOP
HT45B0F	SPI to UART Bridge	2.0V~5.5V	4MHz~20MHz	SPI, UART	16NSOP

Telecom Peripheral

Telecom Peripheral

Part No.	Description	VDD	OSC Frequency	Package
HT9200A HT9200B	DTMF generator	2.5V~5.5V	3.58MHz	8DIP/SOP 14SOP
HT9170B HT9170D	DTMF receiver	2.5V~5.5V	3.58MHz	18DIP 18SOP
HT9172	DTMF receiver	2.5V~5.5V	3.58MHz	18DIP/SOP
HT9020B	Call progress tone detector	2.5V~5.5V	32768Hz	8DIP/SOP
HT9032C	FSK decoder	3.5V~5.5V	3.58MHz	16DIP/SOP

Note: The HT9172 has enhanced performance over the HT9170B/HT9170D devices.

Basic Dialer

Basic Dialer

Part No.	VDD	Mem. No.	Hand Free	Hold Line	LCD Interface	Key-tone	Flash Mode	Package	Remark
HT93214A	2.0V~5.5V	1	—	—	—	—	C	16DIP/NSOP	Minimum flash time=300ms
HT93214B	2.0V~5.5V	1	√	—	—	—	C	18DIP	Minimum flash time=300ms
HT93214AT	2.0V~5.5V	1	—	—	—	√	C	18DIP	Minimum flash time=300ms
HT9302G	2.0V~5.5V	1	—	—	—	—	D/C	16DIP/NSOP	—
HT9302A	2.0V~5.5V	2	—	—	—	—	D/C	18DIP	—
HT9302B	2.0V~5.5V	2	√	√	—	—	D/C	22SKDIP	—
HT9302C	2.0V~5.5V	2	—	—	√	—	D/C	20DIP	—
HT9302D	2.0V~5.5V	2	√	√	√	—	D/C	24SKDIP	—

D/A Converter

D/A Converter

Part No.	Description	VDD	Package
HT82V731	16-bit stereo audio D/A converter	2.4V~5.5V	8SOP
HT82V737	16-bit stereo audio D/A converter with earphone driver	2.4V~5.5V	16NSOP
HT82V738	24-bit stereo audio D/A converter	3V~5V	16NSOP

General OP Amplifier

General OP Amplifier

Part No.	Description	OP No.	VDD	BW (Hz)	Current (μA)/OP	Package
HT9231	220μA, 2.3MHz Single OP amplifier	1	2.0V~5.5V	2.3M	220	TSOT23-5
HT9232	220μA, 2.3MHz Dual OP amplifier	2	2.0V~5.5V	2.3M	220	8DIP/SOP
HT9234	220μA, 2.3MHz Qual OP amplifier	4	2.0V~5.5V	2.3M	220	14DIP/SOP
HT9251*	50μA, 550kHz Single OP amplifier	1	1.8V~5.5V	550K	50	TSOT23-5
HT9252*	50μA, 550kHz Dual OP amplifier	2	1.8V~5.5V	550K	50	8DIP/MSOP
HT9254*	50μA, 550kHz Qual OP amplifier	4	1.8V~5.5V	550K	50	14SOP/TSSOP
HT9274	Quad micropower OP amplifier	4	1.6V~5.5V	100K	3	14DIP/SOP
HT9291	TinyPower™ Single OP amplifier	1	1.4V~5.5V	11K	0.6	TSOT23-5
HT9292	TinyPower™ Dual OP amplifier	2	1.4V~5.5V	11K	0.6	8DIP/SOP
HT9294	TinyPower™ Qual OP amplifier	4	1.4V~5.5V	11K	0.6	14DIP/SOP

* Under development, available in 3Q, 2011.

Audio Amplifier

Audio Amplifier

Part No.	Description	VDD	Output Power	Mute/Shutdown Function	Package
HT82V732	Stereo audio power amplifier	3V~5.5V	60mW into 32Ω	—	8SOP
HT82V733	Mono audio power amplifier	2.4V~5.5V	400mW into 8Ω	√	8DIP/SOP
HT82V735	Stereo audio power amp with shutdown	2.4V~6V	330mW into 32Ω	√	8SOP
HT82V736	Stereo audio power amp with mute	2.4V~6V	65mW into 32Ω	√	8SOP
HT82V739	1200mW Mono audio power amp with shutdown	2.2V~5.5V	1200mW into 8Ω	√	8DIP/SOP

CCD/CIS Analog Signal Processor

CCD/CIS Analog Signal Processor

Part No.	Application Field	VDD	AVDD	Input Channel	A/D (Bit)	MSPS	A/D Full Scale	Power Consumption	Package
HT82V26A	CCD/CIS Scanner / MFP	3.0V~5.25V	4.75V~5.25V	3 (2/1)	16	30	2.0V	400mW	28SOP/SSOP(209mil)
HT82V36	Bus (USB) Power CIS Scanner	3.0V~3.6V	3.0V~3.6V	1	16	6	1.4V	56mW	28SSOP(209mil)
HT82V38	CCD/CIS Scanner / MFP	3.15V~3.45V	3.15V~3.45V	3 (2/1)	16	30	1.6V/2.0V	350mW	28SSOP(209mil)
HT82V42	CIS Scanner / MFP	3.0V~3.6V	3.0V~3.6V	1	16	15	2.0V	188mW	20TSSOP/SSOP(209mil)
HT82V46	CCD/CIS Scanner / MFP	3.0V~3.6V	3.0V~3.6V	3 (2/1)	16	45	1.2V/2.0V	400mW	28SSOP(209mil)
HT82V842A	CCD Surveillance/DSC System	2.7V~3.6V	2.7V~3.6V	1	10	20	1.0V	70mW	48LQFP
HT82V846*	Surveillance / DSC System	2.7V~3.6V	2.7V~3.6V	1	10	25	1.2V	79mW	32QFN

* Under development, available in 3Q, 2011.

CCD Vertical Driver

CCD Vertical Driver

Part No.	Application Field	VDD	VH	VL	VH–VL (Max.)	Channel Output			Package
						3-Level	2-Level	Shutter	
HT82V805A	CCD Surveillance/DSC System	3.0V ~ 5.5V	14.5V ~ 15.5V	–9.5V ~ –7.5V	24V	2	2	1	16SSOP/TSSOP

Image Signal Processor

Image Signal Processor

Part No.	Application Field	VDD	CCD Sensor Input	Major Function	Video Output	Package
HT82V862R	CCD Surveillance/ Vehicle Camera System	3.0V~ 3.6V	NTSC/PAL 270K/320K/410K/470K pixels	Color image signal processor, TV encoder, video DAC with 2 patents and 6 patents pending	NTSC/PAL CVBS	80LQFP
HT82V863R	CCD Surveillance/ Vehicle Camera System	3.0V~ 3.6V	NTSC/PAL 270K/320K/410K/470K pixels	Color image signal processor, TV encoder, video DAC, video amplifier, CCIR656 encoder with 2 patents pending	NTSC/PAL CVBS, CCIR656	64/80LQFP

Touch Key Peripheral

Touch Key

Part No.	Touch Key	Operating Current at 3V		Key Output Type	Package	Serial Interface	Auto Calibration
		One-key Wake-up	Any-key Wake-up				
BS8101	1-Key	2μA	—	Level-Hold or Toggle	SOT23-6	—	√
BS8102	2-Key	—	2.5μA	Level-Hold or Toggle	8SOP	—	√
BS8104	4-Key	2.5μA	4μA	—	8SOP	√	√
				Level-Hold or Toggle	16NSOP		
BS8106	6-Key	2.5μA	5μA	Level-Hold or Toggle	16NSOP	—	√
BS8108	8-Key	2.5μA	6μA	—	16NSOP	√	√
				Level-Hold	20SOP/SSOP	—	

Remote RF TX

Remote RF TX

Part No.	VDD	Description	Frequency Band	Output Power	Data Rate	Package
HT9831	2.0V~3.6V	ASK TX	300MHz~450MHz	9.5dBm at 3V	10Kbps	8SOP/TSSOP

PIR Controller

PIR Controller

Part No.	VDD	Operating Current	Standby Current	ZC Off/On for Override	Flash on Mode Auto-change	Comparator Window	Effective Trigger Width	Triac Drive	Relay Drive	LED	Buzzer	LVD	Package
HT7610A	5V~12V	100μA	—	2 times	Flash	$\frac{1}{16}(V_{DD}-V_{EE})$	>24ms	—	√	—	—	—	16DIP
HT7610B								√	—	—	—	—	
HT7611A	5V~12V	100μA	—	1 time	No flash	$\frac{1}{16}(V_{DD}-V_{EE})$	>24ms	—	√	—	—	—	16DIP
HT7611B								√	—	—	—	—	
HT7612	2.7V~5.5V	—	17μA	2 times	Flash	Vref×(1/2±1/6)	>24ms	√	√	√	√	√	16DIP/NSOP

Note: 1. Part numbers suffixed with an "A" are for Relay applications while those suffixed with a "B" are for Triac applications.
2. Operating and standby current values are typical values.

Timepiece

Timepiece

Part No.	VDD	Operating Current (μA)	Main Function	Standby Current (μA)	External X'tal Osc.	Package
HT1380 HT1381	2.0V~5.5V	1.2 at 5V	Time Keeper	0.1	32.768kHz	8DIP 8SOP
HT1382	2.0V~5.5V	1.2 at 3V	Time Keeper	0.1	32.768kHz	8DIP/SOP 8/10MSOP

Camera Peripheral

Motor Driver

Part No.	VDD	Drive Current	H Bridge RON	Standby Current	Package
HT6751A HT6751B	2.0V~6.0V	500mA	0.4Ω max.	<2μA at 5V	8SOP

Sound Effects

Sound Effects

Part No.	Description	VDD	Command Input	Built-in VCO	Built-in RAM	Delay Time (ms)	Package
HT8950 HT8950A	Voice Changer	2.4V~4.0V	Manual	√	—	—	16/18DIP
HT8970	Voice Echo	4.5V~5.5V	Manual	√	20kb	30~330	16DIP/SOP
HT8972	Voice Echo	4.5V~5.5V	Manual	√	40kb	30~330	16DIP/SOP

MCU Programming Tools

Holtek is fully aware that success of their microcontroller device range also depends upon the availability of high quality development tools. As a result Holtek has developed a full suite of professional hardware and software tools to provide designers with an excellent set of development resources to ensure their applications are designed and debugged as efficiently as possible. In this section can be found details regarding which set of tools should be used for each microcontroller device.

Hardware		
ICE		
Model	**Function**	**Support Software**
HT-ICE	LPT Type in-circuit emulator	HT-IDE3000
e-ICE	USB Type in-circuit emulator	HT-IDE3000
e-Link	On Chip Debug Support(OCDS) Type MCU debug adapter	HT-IDE3000
Programmer		
Model	**Function**	**Support Software**
e-WriterPro	Universal Writer for OTP/Flash MCU	HOPE3000
EIC-300	Slimmed-down ICP programmer for Flash MCU	HOPE3000

Software*		
Model	**Function**	**Support Hardware**
HT-IDE3000	Integrated development Environment software for all series of Holtek MCU	HT-ICE, e-ICE, e-Link
HOPE3000	Integrated software for Holtek e-Writer series Programmers.	e-WriterPro e-Writer plus

Note: * It is strongly recommended to download the latest version

HT-IDE3000 Development Environment

The HT-IDE3000 is a fully integrated development system for the Holtek range of microcontrollers. Working in conjunction with the Holtek ICE hardware emulator, the HT-IDE3000 system provides a user friendly workbench to ensure the process of application program development and debug is as efficient and trouble free as possible. By combining all software tools, such as editor, cross assembler, linker, library manager, symbolic debuggers as well as hardware tools, application designers have all the tools required at their disposal to ensure rapid development and debug of their new designs. An HT-IDE3000 User's Guide is available for download from the Holtek website, which provides much more detailed information on the HT-IDE3000 development system.

The HT-IDE3000 development system software is available for free download from the Holtek website. To ensure that users are provided with the latest modifications and enhancements to the system and to support new device releases, Service Packs are regularly provided.

HT-ICE — Holtek In-Circuit Emulator

The HT-ICEs are multi-featured hardware emulators to assist designers with the rapid development of their Holtek MCU applications. Their expansive integrated hardware and software features, provide designers with a full suite of tools for rapid and easy product development. At the heart of the system is the hardware emulator, which can fully emulate Holtek 8-bit MCU devices in real time as well as providing full debug and trace integrated functions. The HT-ICE package includes the hardware mainboard platform, CD, flat cables, power adapter, power cord and printer cable.

HT-ICE USB cable allowing customers to connect the HT-ICE LPT connector to the computer USB port. The part number of this USB cable is CUSBICECABLE4A. Please contact us for purchasing details.

HT-ICE — Holtek In-Circuit Emulator				
HT-ICE	**Device Type**	**Supported Part No.**	**Included IO Interface Card**	**Included OTP Adaptor**
CICE48U000006A	I/O Flash with EEPROM	HT48F06E, HT48F10E, HT48F30E, HT48F50E, HT48F70E	CPCB48E000004C	CADPDIP40A
	Remote	HT48RA1, HT48CA1, HT48RA3, HT48CA3, HT48RA5, HT48CA5		
CICE201A	Enhanced	HT48R0662, HT48R067, HT46R0662, HT46R067		
	Small Package I/O	HT48R01B, HT48R02B		
	Small Package A/D	HT46R01B, HT46R02B		
	24V VFD	HT48R065V, HT46R065V		
	315MHz/433MHz Remote RF TX	HT46R01T3, HT48R01T3		
CICE48R52A006A	I/O with 16×16 High Current LED Driver	HT48R52A, HT48R54A	CPCB48R52A006A	

HT-ICE — Holtek In-Circuit Emulator

HT-ICE	Device Type	Supported Part No.	Included IO Interface Card	Included OTP Adaptor
CICE49U000006A	LCD	HT49R10A-1, HT49C10-1, HT49R30A-1, HT49C30-1, HT49C30L, HT49R50A-1, HT49C50-1, HT49C50L, HT49R70A-1, HT49C70-1, HT49C70L, HT49RU80, HT49CU80	CPCB49C000001B	CADPDIP40A
CICE46F000007A	A/D	HT46R51A, HT46R52A, HT46R53A, HT46R54A	CPCB46SER0001D	CADPDIP40B
	A/D with UART	HT46RU22, HT46RU232, HT46RU24, HT46RU25, HT46CU25, HT46RU26, HT46CU26		
	A/D Flash with EEPROM	HT46F46E, HT46F47E, HT46F48E, HT46F49E		
CICE46L000007A	Cost-Effective A/D	HT46R51A, HT46R52A, HT46R53A, HT46R54A	CPCB46SER0001D	CADPDIP40B
	A/D with LCD	HT46R62, HT46C62, HT46R64, HT46C64, HT46R65, HT46C65, HT46R652, HT46RU66, HT46CU66, HT46RU67, HT46CU67		
	A/D with UART	HT46RU22, HT46RU232, HT46RU24, HT46RU25, HT46CU25, HT46RU26, HT46CU26		
CICE4XR06X009A	Enhanced	HT46R0662	CPCB4XR06X009A	
CICE46R940007A	A/D with 16×16 High Current LED Driver	HT46R92, HT46R94	CPCB46R940007A	
CICE56R620008B	TinyPowe™ A/D MCU with LCD	HT56R62	CPCB56R620008A	
CICE56R640007B		HT56R64	CPCB56R640007A	
CICE56R650008B		HT56R65	CPCB56R650008A	
CICE56R670008B		HT56R66, HT56R67	CPCB56R670008A	
CICE56R642008B		HT56R642	CPCB56R642008A	
CICE56R654008B		HT56R644, HT56R654	CPCB56R654008A	
CICE56R666008B		HT56R656, HT56R666	CPCB56R666008A	
CICE56R678008C		HT56R668, HT56R678, HT56R688	CPCB56R678008A	
CICE82A525R09B	I/O USB with SPI	HT82A525R	CPCB82A525R09B	
CICE46RB70005B	A/D USB	HT46RB50, HT46RB70	CPCB46RB70005B	CADP46RB7DI28A
CICE82A620008B		HT82A620R, HT82A623R, HT82A6208, HT82A6216	CPCB82A620008C	
CICE82K680004A	I/O	HT82K68E-L, HT82K68A-L	CPCB82K680004A	CADPDIP40A
CICE82K960004A	I/O with USB Interface	HT82K94E, HT82K94A, HT82K95E, HT82K95A, HT82K95EE, HT82K95AE, HT82B40R, HT82B40A	CPCB82K960004D	CADP82K96DI40A
CICE82B60R009A	I/O with USB Interface	HT82B40R, HT82B40A, HT82B60R	CPCB82B60R009B	
CICE82M990004B	I/O with USB Interface	HT82M99E, HT82M99A, HT82M99EE, HT82M99AE, HT82M9AE, HT82M9AA, HT82M9AEE, HT82M9AAE, HT82M9BE, HT82M9BA, HT82M9BEE, HT82M9BAE	CPCB82M990004D	CADP82J97DI28A
CICE82K760008C	I/O	HT82K70A-L, HT82K70E-L, HT82K76E-L	CPCB82K760008D	
	I/O Type MCU	HT82M75R, HT82M75RE, HT82K75R, HT82K75RE		
CICE49RA00006A	Remote with LCD	HT49RA0, HT49CA0	CPCB49RA00006A	
CICE49RA10007A		HT49RA1, HT49CA1	CPCB49RA10007A	
CICE82A822005A	USB Audio	HT82A821R, HT82A822R	CPCB82A822005A	CADPDIP40A
CICE82A832005A		HT82A834R, HT82A850R, HT82A851R	CPCB82A832005A	CADPDIP40A
CICE82A836007A		HT82A836R	CPCB82A836007A	
CICE95R3X0008B	Phone	HT95R22, HT95R23, HT95R24	CPCB95R3X0008C	
		HT95R33, HT95R34		
	Phone with CPT	HT95R43, HT95R44		
CICE95R350008B	Phone	HT95R25	CPCB95R350008B	
		HT95R35		
	Phone with CPT	HT95R45		
CICE95R550009A	Phone with CID	HT95R54, HT95R55	CPCB95R550009B	
	Phone with CPT & CID	HT95R64, HT95R65		
CICE86AR72007A	A/D Voice	HT86A36, HT86AR72, HT86A72	CPCB86AR72007A	
CICE86B000008A	Enhanced Voice	HT86B10, HT86B20, HT86B30, HT86B40, HT86B50, HT86B60, HT86B70, HT86B80, HT86B90, HT86BR10, HT86BR30, HT86BR60	CPCB86B000008A	
CICE860000004A	Q-Voice™	HT83004, HT83007, HT83010, HT83020, HT83038, HT83050, HT83R074, HT83074	CPCB860000004A	CADPDIP40A
CICE45FM03B08A	Brushless DC Motor Flash	HT45FM03B		

HT-ICE Interface Card

For Holtek's MCU development, dedicated HT-ICEs and their associated HT-ICE Interface Cards are provided. Please check the HT-ICE Interface Card Reference Manual for overall Interface Card information.

HT-ICE Interface Card

I/O Interface Card	Supported Part No.	HT-ICE (MEV Board)
CPCB48E000004C	HT48F06E, HT48F10E, HT48F30E, HT48F50E, HT48F70E, HT48RA1, HT48CA1, HT48RA3, HT48CA3, HT48RA5, HT48CA5	CICE48U000006A
CPCB48R52A006A	HT48R52A, HT48R54A	CICE48R52A006A
CPCB49C000001B	HT49R10A-1, HT49C10-1, HT49R30A-1, HT49C30-1, HT49C30L, HT49R50A-1, HT49C50-1, HT49C50L, HT49R70A-1, HT49C70-1, HT49C70L, HT49RU80, HT49CU80	CICE49U000006A
CPCB46SER0001D	HT46R51A, HT46R52A, HT46R53A, HT46R54A, HT46R62, HT46C62, HT46R64, HT46C64, HT46R65, HT46C65, HT46R652, HT46RU22, HT46RU232, HT46RU24, HT46RU25, HT46CU25, HT46RU26, HT46CU26, HT46RU66, HT46CU66, HT46CU67, HT46RU67	CICE46L000007A
	HT46RU22, HT46RU232, HT46RU24, HT46RU25, HT46CU25, HT46RU26, HT46CU26, HT46R51A, HT46R52A, HT46R53A, HT46R54A, HT46F46E, HT46F47E, HT46F48E, HT46F49E	CICE46F000007A
CPCB46R940007A	HT46R92, HT46R94	CICE46R940007A
CPCB56R620008A	HT56R62	CICE56R620008B
CPCB56R640007A	HT56R64	CICE56R640007B
CPCB56R650008A	HT56R65	CICE56R650008B
CPCB56R670008A	HT56R66, HT56R67	CICE56R670008B
CPCB56R642008A	HT56R642	CICE56R642008B
CPCB56R654008A	HT56R644, HT56R654	CICE56R654008B
CPCB56R666008A	HT56R656, HT56R666	CICE56R666008B
CPCB56R678008A	HT56R668, HT56R678, HT56R688	CICE56R678008C
CPCB4XR06X009A	HT48R01B, HT48R02B, HT46R01B, HT46R02B, HT48R065V, HT46R662, HT46R065V, HT46R01T3, HT48R01T3	CICE201A
CPCB82A525R09B	HT82A525R	CICE82A525R09B
CPCB46RB70005B	HT46RB50, HT46RB70	CICE46RB70005B
CPCB82A620008C	HT82A623R, HT82A6208, HT82A6216, HT82A620R	CICE82A620008B
CPCB82B60R009B	HT82B40R, HT82B40A, HT82B60R	CICE82B60R009A
CPCB82K680004A	HT82K68E-L, HT82K68A-L	CICE82K680004A
CPCB82K760008D	HT82K70A-L, HT82K70E-L, HT82K76E-L, HT82M75R, HT82M75RE, HT82K75R, HT82K75RE	CICE82K760008C
CPCB82K960004D	HT82K94E, HT82K94A, HT82K95E, HT82K95A, HT82K95EE, HT82K95AE, HT82B40R, HT82B40A	CICE82K960004A
CPCB82M990004D	HT82M99E, HT82M99A, HT82M99EE, HT82M99AE, HT82M9AE, HT82M9AA, HT82M9AEE, HT82M9AAE, HT82M9BE, HT82M9BA, HT82M9BEE, HT82M9BAE	CICE82M990004B
CPCB49RA00006A	HT49RA0, HT49CA0	CICE49RA00006A
CPCB49RA10007A	HT49RA1, HT49CA1	CICE49RA10007A
CPCB82A822005A	HT82A821R, HT82A822R	CICE82A822005A
CPCB82A832005A	HT82A834R, HT82A850R, HT82A851R	CICE82A832005A
CPCB82A836007A	HT82A836R	CICE82A836007A
CPCB95R3X0008C	HT95R22, HT95R23, HT95R24, HT95R33, HT95R34, HT95R43, HT95R44	CICE95R3X0008B
CPCB95R350008B	HT95R25, HT95R35, HT95R45	CICE95R350008B
CPCB95R550009B	HT95R54, HT95R55, HT95R64, HT95R65	CICE95R550009A
CPCB45FM03B08A	HT45FM03B	CICE45FM03B08A
CPCB86AR72007A	HT86A36, HT86AR72, HT86A72	CICE86AR72007A
CPCB860000004A	HT83004, HT83007, HT83010, HT83020, HT83038, HT83050, HT83R074, HT83074	CICE860000004A
CPCB86B000008A	HT86B10, HT86B20, HT86B30, HT86B40, HT86B50, HT86B60, HT86B70, HT86B80, HT86B90, HT86BR10, HT86BR30, HT86BR60	CICE86B000008A

e-ICE

The e-ICE is Holtek's new generation of MCU in-circuit emulators that uses a real chip EV for device emulation. In this way a more accurate emulation of device function and characteristics can be implemented. Together with the HT-IDE3000 software development system the user is provided with a suite of development tools for rapid MCU product development.

e-ICE

MEV

MEV Board	Device Type	Supported Part No.
M1001C	Enhanced Type	HT46R068B, HT46R069B, HT46R064D, HT46R065D, HT46R066D, HT46R064G, HT46R065G, HT46R0662, HT46R0662G, HT48R068B, HT48R069B, HT48R064D, HT48R065D, HT48R066D, HT48R064G, HT48R065G, HT48R066G, HT48R0662G
	Dual Slope A/D Type with Touch Key	HT46R73D-3
	TinyPower™ A/D Type with DAC	HT56R22, HT56R23, HT56R24, HT56R25, HT56R26
	Remote Type	HT48RA0-5
	Remote Type with EEPROM/OPA	HT45R22E
	Two Way Radio	HT98R068
	Touch Key Flash	BS83B08-3, BS83B12-3, BS83B16-3, BS85B12-3, BS85C20-3
	Enhanced I/O Flash Type with EEPROM	HT66F20, HT66F30, HT66F40, HT66F50, HT66F60, HT66FB30, HT66FB40, HT66FB50, HT66FB60, HT66FU30, HT66FU40, HT66FU50, HT66FU60, HT68F20, HT68F30, HT68F40, HT68F50, HT68F60, HT68FB30, HT68FB40, HT68FB50, HT68FB60, HT68FU30, HT68FU40, HT68FU50, HT68FU60
	Enhanced Flash Type	HT66F13, HT66F14, HT66F15, HT68F13, HT68F14, HT68F15
	TinyPower™ A/D Flash Type with OPA	HT45F23, HT45F43
	Small Package Flash Type	HT66F03, HT66F04, HT68F03, HT68F04
	TinyPower™ A/D Flash Type with LCD & EEPROM	HT67F30, HT67F40, HT67F50, HT67F60
	Remote RF Flash Type TX	HT66F03T3, HT68F03T3
	Flash Type Voice	HT83F02

DEV

DEV Board	Supported Part No.	MEV Board
D1001C	HT66F30, HT66FB30, HT66FU30, HT68F30, HT68FB30, HT68FU30	M1001C
D1002C	HT66F40, HT66FB40, HT66FU40, HT68F40, HT68FB40, HT68FU40	
D1003C	HT66F50, HT66FB50, HT66FU50, HT68F50, HT68FB50, HT68FU50	
D1004B	HT68F15, HT66F15	
D1005A	HT66F20, HT68F20	
D1006A	HT66F03, HT66F04, HT68F03, HT68F04, HT66F03T3, HT68F03T3	
D1007B	HT68F13, HT66F13	
D1008B	HT68F14, HT66F14	
D1009B	HT66F60, HT66FB60, HT66FU60, HT68F60, HT68FB60, HT68FU60	
D1010A	HT56R22, HT56R23, HT56R24, HT56R25, HT56R26	
D1012A	HT46R73D-3	
D1015A	HT48R066G, HT45R22E	
D1018A	HT48RA0-5	
D1023A	BS83B08-3, BS83B12-3, BS83B16-3	
D1030A	HT48R0662G, HT46R0662G	
D1034A	HT45F23, HT45F43	
D1035A	BS85B12-3	
D1036A	BS85C20-3	
D1037B	HT48R064D, HT48R065D, HT48R066D, HT46R064D, HT46R065D, HT46R066D	
D1044A	HT98R068	
D1045B	HT48R064G, HT48R065G, HT46R064G, HT46R065G	
D2004B	HT67F30, HT67F40, HT67F50, HT67F60	
D2005A	HT46R0662, HT46R068B, HT46R069B, HT48R068B, HT48R069B	

PEV

PEV Board	Supported Part No.	MEV Board
P1001B	HT66FB30, HT66FB40, HT66FB50, HT66FB60, HT66FU30, HT66FU40, HT66FU50, HT66FU60, HT68FB30, HT68FB40, HT68FB50, HT68FB60, HT68FU30, HT68FU40, HT68FU50, HT68FU60	M1001C

Holtek New Universal Writer – e-WriterPro

The e-WriterPro can be used not only as a programming tool for all of Holtek's OTP and Flash devices during the development stage but can also be used for small to medium volume production purposes.

The e-WriterPro must be used together with a corresponding e-Socket according to the package type of the MCU that is to be programmed. Devices with the same package type require only a single e-Socket, thus reducing the problem of changing different adaptors for different IC part numbers.

For all available Holtek devices, the following e-Socket table shows which one should be used with which device package type.

e-WriterPro

No.	Product Name	Supported Package	Programming Times Limit
1	ESKT40DIPA	8DIP, 16DIP, 18DIP, 20DIP, 40DIP, 22SKDIP, 24SKDIP, 28SKDIP	60,000
2	ESKT16NSOPA	8SOP, 16NSOP	50,000
3	ESKT28SSOPA	16SSOP(150mil), 20SSOP(150mil), 24SSOP(150mil), 28SSOP(150mil)	40,000
4	ESKT28SOPA	28SOP, 24SOP, 20SOP, 16SOP, 18SOP	50,000
5	ESKT20QFN4A	20QFN(4mm×4mm)	40,000
6	ESKT30SSOPA	28SSOP(209mil), 20SSOP(209mil), 24SSOP(209mil)	40,000
7	ESKT10MSOPA	10MSOP, 8MSOP	40,000
8	ESKT32LQFPA	32LQFP	40,000
9	ESKT44QFPA	44QFP, 44LQFP(FP 3.2mm)	40,000
10	ESKT56SSOPA	48SSOP, 56SSOP	40,000
11	ESKT32QFNA	32QFN	40,000
12	ESKT52QFPA	52QFP	40,000
13	ESKT64LQFP10A	64LQFP(10mm×10mm)	40,000
14	ESKT48QFNA	48QFN	40,000
15	ESKT128QFPA	128QFP	40,000
16	ESKT40QFN6A	40QFN(6mm×6mm)	40,000
17	ESKT100LQFPA	100LQFP	40,000
18	ESKT80LQFPA	80LQFP	40,000
19	ESKT64LQFP7A	64LQFP(7mm×7mm)	40,000
20	ESKT48LQFPA	48LQFP	40,000
21	ESKT20QFN5A	20QFN(5mm×5mm)	40,000

Note: Data in parentheses next to each package type shows the actual width of the IC package.

MCU Tools Indexing Table

The following table allows the correct tools to be quickly located against a device part number. In instances where tools are not listed for specific devices, this may infer that such tools are not required.

MCU Tools Indexing Table

Enhanced I/O Type MCU		
Device Part No.	**HT-ICE**	**I/O Interface Card**
HT48R0662	CICE201A	CPCB4XR06X009A
HT48R067	CICE201A	CPCB4XR06X009A
Device Part No.	**MEV Board**	**DEV Board**
HT48R068B	M1001C	D2005A
HT48R069B	M1001C	D2005A
Enhanced I/O Type MCU with OPA		
Device Part No.	**MEV Board**	**DEV Board**
HT48R064G	M1001C	D1045B
HT48R065G	M1001C	D1045B
HT48R066G	M1001C	D1015A
HT48R0662G	M1001C	D1030A
Enhanced I/O Type MCU with High Current LED Driver		
Device Part No.	**MEV Board**	**DEV Board**
HT48R064D	M1001C	D1037B
HT48R065D	M1001C	D1037B
HT48R066D	M1001C	D1037B

MCU Tools Indexing Table

A/D Type MCU

Device Part No.	HT-ICE	I/O Interface Card
HT46R51A	CICE46F000007A or CICE46L000007A	Included in HT-ICE
HT46R52A	CICE46F000007A or CICE46L000007A	Included in HT-ICE
HT46R53A	CICE46F000007A or CICE46L000007A	Included in HT-ICE
HT46R54A	CICE46F000007A or CICE46L000007A	Included in HT-ICE

Enhanced I/O Type MCU

Device Part No.	HT-ICE	I/O Interface Card
HT46R0662	CICE201A or CICE4XR06X009A	CPCB4XR06X009A
HT46R067	CICE201A or CICE4XR06X009A	CPCB4XR06X009A
Device Part No.	**MEV Board**	**DEV Board**
HT46R0662	M1001C	D2005A
HT46R067	M1001C	D2005A
HT46R068B	M1001C	D2005A
HT46R069B	M1001C	D2005A

Enhanced A/D Type MCU with OPA

Device Part No.	MEV Board	DEV Board
HT46R064G	M1001C	D1045B
HT46R065G	M1001C	D1045B
HT46R0662G	M1001C	D1030A

Enhanced A/D Type MCU with High Current LED Driver

HT46R064D	M1001C	D1037B
HT46R065D	M1001C	D1037B
HT46R066D	M1001C	D1037B

Dual Slope A/D Type MCU with Touch Key

Device Part No.	MEV Board	DEV Board
HT46R73D-3	M1001C	D1012A

Small Package Type MCU

Device Part No.	HT-ICE	I/O Interface Card
HT48R01B	CICE201A	CPCB4XR06X009A
HT48R02B	CICE201A	CPCB4XR06X009A
HT46R01B	CICE201A	CPCB4XR06X009A
HT46R02B	CICE201A(HT-IDE3000)	CPCB4XR06X009A

I/O Type MCU with 16×16 High Current LED Driver

Device Part No.	HT-ICE	I/O Interface Card
HT48R52A	CICE48R52A006A	Included in HT-ICE
HT48R54A	CICE48R52A006A	Included in HT-ICE

A/D Type MCU with 16×16 High Current LED Driver

Device Part No.	HT-ICE	I/O Interface Card
HT46R92	CICE46R940007A	Included in HT-ICE
HT46R94	CICE46R940007A	Included in HT-ICE

I/O Type MCU with LCD

Device Part No.	HT-ICE	I/O Interface Card
HT49R10A-1/HT49C10-1	CICE49U000006A	Included in HT-ICE
HT49R30A-1/HT49C30-1/HT49C30L	CICE49U000006A	Included in HT-ICE
HT49R50A-1/HT49C50-1/HT49C50L	CICE49U000006A	Included in HT-ICE
HT49R70A-1/HT49C70-1/HT49C70L	CICE49U000006A	Included in HT-ICE
HT49RU80/HT49CU80	CICE49U000006A	Included in HT-ICE

A/D Type MCU with LCD

Device Part No.	HT-ICE	I/O Interface Card
HT46R62/HT46C62	CICE46L000007A	Included in HT-ICE
HT46R64/HT46C64	CICE46L000007A	Included in HT-ICE
HT46R65/HT46C65	CICE46L000007A	Included in HT-ICE
HT46R652	CICE46L000007A	Included in HT-ICE
HT46RU66/HT46CU66	CICE46L000007A	Included in HT-ICE
HT46RU67/HT46CU67	CICE46L000007A	Included in HT-ICE

MCU Tools Indexing Table

24V VFD MCU

Device Part No.	HT-ICE	I/O Interface Card	PEV Board
HT48R065V	CICE201A	CPCB4XR06X009A	EJ-QFP52E
HT46R065V	CICE201A	CPCB4XR06X009A	EJ-QFP52F

TinyPower™ A/D Type MCU with DAC

Device Part No.	MEV Board	DEV Board
HT56R22	M1001C	D1010A
HT56R23	M1001C	D1010A
HT56R24	M1001C	D1010A
HT56R25	M1001C	D1010A
HT56R26	M1001C	D1010A

TinyPower™ A/D Type MCU with LCD

Device Part No.	HT-ICE	I/O Interface Card
HT56R62	CICE56R620008B	Included in HT-ICE
HT56R64	CICE56R640007B	Included in HT-ICE
HT56R65	CICE56R650008B	Included in HT-ICE
HT56R66	CICE56R670008B	Included in HT-ICE
HT56R67	CICE56R670008B	Included in HT-ICE
HT56R642	CICE56R642008B	Included in HT-ICE
HT56R644	CICE56R654008B	Included in HT-ICE
HT56R654	CICE56R654008B	Included in HT-ICE
HT56R656	CICE56R666008B	Included in HT-ICE
HT56R666	CICE56R666008B	Included in HT-ICE
HT56R668/HT56C668	CICE56R678008C	Included in HT-ICE
HT56R678/HT56C678	CICE56R678008C	Included in HT-ICE
HT56R688	CICE56R678008C	Included in HT-ICE

A/D Type MCU with UART

Device Part No.	HT-ICE	I/O Interface Card
HT46RU22	CICE46F000007A or CICE46L000007A	Included in HT-ICE
HT46RU232	CICE46F000007A or CICE46L000007A	Included in HT-ICE
HT46RU24	CICE46F000007A or CICE46L000007A	Included in HT-ICE
HT46RU25/HT46CU25	CICE46F000007A or CICE46L000007A	Included in HT-ICE
HT46RU26/HT46CU26	CICE46F000007A or CICE46L000007A	Included in HT-ICE

I/O Type MCU with USB Interface

Device Part No.	HT-ICE	I/O Interface Card
HT82M99E/HT82M99A	CICE82M990004B	Included in HT-ICE
HT82M99EE/HT82M99AE	CICE82M990004B	Included in HT-ICE
HT82M9AE/HT82M9AA	CICE82M990004B	Included in HT-ICE
HT82M9AEE/HT82M9AAE	CICE82M990004B	Included in HT-ICE
HT82M9BE/HT82M9BA	CICE82M990004B	Included in HT-ICE
HT82M9BEE/HT82M9BAE	CICE82M990004B	Included in HT-ICE
HT82K94E/HT82K94A	CICE82K960004A	Included in HT-ICE
HT82K95E/HT82K95A	CICE82K960004A	Included in HT-ICE
HT82K95EE/HT82K95AE	CICE82K960004A	Included in HT-ICE
HT82B40R/HT82B40A	CICE82K960004A or CICE82B60R009A	Included in HT-ICE
HT82B60R	CICE82B60R009A	Included in HT-ICE

I/O Type USB MCU with SPI

Device Part No.	HT-ICE	I/O Interface Card
HT82A525R	CICE82A525R09B	Included in HT-ICE

A/D Type USB MCU with SPI

Device Part No.	HT-ICE	I/O Interface Card
HT46RB50	CICE46RB70005B	Included in HT-ICE
HT46RB70	CICE82A620008B	Included in HT-ICE
HT82A620R	CICE82A620008B	Included in HT-ICE
HT82A623R	CICE82A620008B	Included in HT-ICE
HT82A6208	CICE82A620008B	Included in HT-ICE
HT82A6216	CICE82A620008B	Included in HT-ICE

MCU Tools Indexing Table

USB Audio MCU

Device Part No.	HT-ICE	I/O Interface Card
HT82A821R	CICE82A822005A	Included in HT-ICE
HT82A822R	CICE82A822005A	Included in HT-ICE
HT82A834R	CICE82A832005A	Included in HT-ICE
HT82A836R	CICE82A836007A	Included in HT-ICE
HT82A850R	CICE82A832005A	Included in HT-ICE
HT82A851R	CICE82A832005A	Included in HT-ICE

315MHz/433MHz Remote RF TX

Device Part No.	HT-ICE	I/O Interface Card	PEV Board
HT46R01T3	CICE201A	CPCB4XR06X009A	CPCB983131509A CPCB983143309A
HT48R01T3	CICE201A	CPCB4XR06X009A	CPCB983131509A CPCB983143309A

Remote Type MCU

Device Part No.	MEV Board	I/O Interface Card	DEV Board
HT48RA0-5	M1001C	Included in HT-ICE	D1018A

Device Part No.	HT-ICE	I/O Interface Card
HT48RA1/HT48CA1	CICE48U000006A	Included in HT-ICE
HT48RA3/HT48CA3	CICE48U000006A	Included in HT-ICE
HT48RA5/HT48CA5	CICE48U000006A	Included in HT-ICE

Remote Type MCU with LCD

Device Part No.	HT-ICE	I/O Interface Card
HT49RA0/HT49CA0	CICE49RA00006A	Included in HT-ICE
HT49RA1/HT49CA1	CICE49RA10007A	Included in HT-ICE

Remote Type MCU with EEPROM/OPA

Device Part No.	MEV Board	I/O Interface Card	DEV Board	PEV Board
HT45R22E	M1001C	Included in HT-ICE	D1015A	P1002A

Phone MCU

Device Part No.	HT-ICE	I/O Interface Card
HT95R22	CICE95R3X0008B	Included in HT-ICE
HT95R23	CICE95R3X0008B	Included in HT-ICE
HT95R24	CICE95R3X0008B	Included in HT-ICE
HT95R33	CICE95R3X0008B	Included in HT-ICE
HT95R34	CICE95R3X0008B	Included in HT-ICE
HT95R25	CICE95R350008B	Included in HT-ICE
HT95R35	CICE95R350008B	Included in HT-ICE

Phone MCU with CPT

Device Part No.	HT-ICE	I/O Interface Card
HT95R43	CICE95R3X0008B	Included in HT-ICE
HT95R44	CICE95R3X0008B	Included in HT-ICE
HT95R45	CICE95R350008B	Included in HT-ICE

Phone MCU with CID

Device Part No.	HT-ICE	I/O Interface Card
HT95R54	CICE95R550009A	Included in HT-ICE
HT95R55	CICE95R550009A	Included in HT-ICE

Phone MCU with CPT & CID

Device Part No.	HT-ICE	I/O Interface Card
HT95R64	CICE95R550009A	Included in HT-ICE
HT95R65	CICE95R550009A	Included in HT-ICE

Two Way Radio MCU

Device Part No.	MEV Board	DEV Board
HT98R068	M1001C	D1044A

MCU Tools Indexing Table

Enhanced Voice MCU

Device Part No.	HT-ICE	I/O Interface Card	Demo Board
HT86B03, HT86B10, HT86B20, HT86B30, HT86B40, HT86B50, HT86B60, HT86B70, HT86B80, HT86B90, HT86BR10, HT86BR30, HT86BR60	CICE86B000008A	Included in HT-ICE	VMF03A

A/D Type Voice MCU

Device Part No.	HT-ICE	I/O Interface Card	Demo Board
HT86A36	CICE86AR72007A	Included in HT-ICE	VMF03A
HT86AR72	CICE86AR72007A	Included in HT-ICE	VMF03A
HT86A72	CICE86AR72007A	Included in HT-ICE	VMF03A

Q-Voice™

Device Part No.	HT-ICE	I/O Interface Card	Demo Board
HT83004, HT83007, HT83010, HT83020, HT83038, HT83050 HT83R074, HT83074	CICE860000004A	Included in HT-ICE	VMF02A

Enhanced Music MCU

Device Part No.	Software	SRAM Download Board	Demo Board
HT37Q20, HT37Q30, HT37Q40, HT37Q50, HT37Q60, HT37Q70	HT-MDS	HT-VMS-MB	HT37P06
HT37A20, HT37A30, HT37A40, HT37A50, HT37A60, HT37A70	HT-MDS	HT-VMS-MB	HT37P06
HT37B30, HT37B50, HT37B70	HT-MDS	HT-VMS-MB	HT37P06

I/O Type MCU

Device Part No.	HT-ICE	I/O Interface Card
HT82K68E-L/HT82K68A-L	CICE82K680004A	Included in HT-ICE
HT82K70E-L/HT82K70A-L	CICE82K760008C	Included in HT-ICE
HT82K76E-L	CICE82K760008C	Included in HT-ICE
HT82M75R	CICE82K760008C	Included in HT-ICE
HT82M75RE	CICE82K760008C	Included in HT-ICE
HT82K75R	CICE82K760008C	Included in HT-ICE
HT82K75RE	CICE82K760008C	Included in HT-ICE

I/O Flash Type MCU with EEPROM

Device Part No.	HT-ICE	I/O Interface Card
HT48F06E	CICE48U000006A	Included in HT-ICE
HT48F10E	CICE48U000006A	Included in HT-ICE
HT48F30E	CICE48U000006A	Included in HT-ICE
HT48F50E	CICE48U000006A	Included in HT-ICE
HT48F70E	CICE48U000006A	Included in HT-ICE

Enhanced I/O Flash Type MCU

Device Part No.	MEV Board	DEV Board
HT68F13	M1001C	D1007B
HT68F14	M1001C	D1008B
HT68F15	M1001C	D1004B

Enhanced I/O Flash Type MCU with EEPROM

Device Part No.	MEV Board	DEV Board	PEV Board
HT68F20	M1001C	D1005A	—
HT68F30	M1001C	D1001C	—
HT68F40	M1001C	D1002C	—
HT68F50	M1001C	D1003C	—
HT68F60	M1001C	D1009B	—
HT68FB30	M1001C	D1001C	P1001B
HT68FB40	M1001C	D1002C	P1001B
HT68FB50	M1001C	D1003C	P1001B
HT68FB60	M1001C	D1009B	P1001B
HT68FU30	M1001C	D1001C	P1001B
HT68FU40	M1001C	D1002C	P1001B
HT68FU50	M1001C	D1003C	P1001B
HT68FU60	M1001C	D1009B	P1001B

A/D Flash Type MCU with EEPROM

Device Part No.	HT-ICE	I/O Interface Card
HT46F46E	CICE46F000007A	Included in HT-ICE
HT46F47E	CICE46F000007A	Included in HT-ICE
HT46F48E	CICE46F000007A	Included in HT-ICE
HT46F49E	CICE46F000007A	Included in HT-ICE

MCU Tools Indexing Table

Enhanced A/D Flash Type MCU

Device Part No.	MEV Board	DEV Board
HT66F13	M1001C	D1007B
HT66F14	M1001C	D1008B
HT66F15	M1001C	D1004B

Enhanced A/D Flash Type MCU with EEPROM

Device Part No.	MEV Board	DEV Board	PEV Board
HT66F20	M1001C	D1005A	—
HT66F30	M1001C	D1001C	—
HT66F40	M1001C	D1002C	—
HT66F50	M1001C	D1003C	—
HT66F60	M1001C	D1009B	—
HT66FB30	M1001C	D1001C	P1001B
HT66FB40	M1001C	D1002C	P1001B
HT66FB50	M1001C	D1003C	P1001B
HT66FB60	M1001C	D1009B	P1001B
HT66FU30	M1001C	D1001C	P1001B
HT66FU40	M1001C	D1002C	P1001B
HT66FU50	M1001C	D1003C	P1001B
HT66FU60	M1001C	D1009B	P1001B

TinyPower™ A/D Flash Type MCU with OPA

Device Part No.	MEV Board	DEV Board
HT45F23	M1001C	D1034A
HT45F43	M1001C	D1034A

Small Package I/O Flash Type MCU

Device Part No.	MEV Board	DEV Board
HT68F03	M1001C	D1006A
HT68F04	M1001C	D1006A

Small Package A/D Flash Type MCU

Device Part No.	MEV Board	DEV Board
HT66F03	M1001C	D1006A
HT66F04	M1001C	D1006A

TinyPower™ A/D Flash Type MCU with LCD & EEPROM

Device Part No.	MEV Board	DEV Board
HT67F30	M1001C	D2004B
HT67F40	M1001C	D2004B
HT67F50	M1001C	D2004B
HT67F60	M1001C	D2004B

Remote RF Flash Type TX MCU

Device Part No.	MEV Board	DEV Board	PEV Board
HT68F03T3	M1001C	D1006A	P1001B
HT66F03T3	M1001C	D1006A	P1001B

Touch Key Flash MCU

Device Part No.	MEV Board	DEV Board
BS83B08-3	M1001C	D1023A
BS83B12-3	M1001C	D1023A
BS83B16-3	M1001C	D1023A

Touch Key Flash MCU with LED/LCD Driver

Device Part No.	MEV Board	DEV Board
BS85B12-3	M1001C	D1035A
BS85C20-3	M1001C	D1036A

Brushless DC Motor Flash Type MCU

Device Part No.	HT-ICE	I/O Interface Card
HT45FM03B	CICE45FM03B08A	Included in HT-ICE

Flash Type Voice MCU

Device Part No.	MEV Board	DEV Board
HT83F02	M1001C	D1026A

Part Number Index

BS8101 35
BS8102 35
BS8104 35
BS8106 35
BS8108 35
BS83B08-3 18
BS83B12-3 18
BS83B16-3 18
BS83B16G-3 18
BS83C24-3* 18
BS85B12-3 18
BS85C20-3 18
HT1015-1 26
HT1086-18 28
HT1086-25 28
HT1086-28 28
HT1086-33 28
HT1086-50 28
HT1086-ADJ 28
HT1117-18 28
HT1117-25 28
HT1117-28 28
HT1117-33 28
HT1117-50 28
HT1117-ADJ 28
HT12C2T3 24
HT12C2T4 24
HT12D 24
HT12E 24
HT12E2T3 24
HT12E2T4 24
HT12F 24
HT1380 35
HT1381 35
HT1382 35
HT1620 21
HT1620G 21
HT1621 21
HT1621G 21
HT1622 21
HT16220 21
HT16220G 21
HT1622G 21
HT1623 21
HT1623G 21
HT1625 21
HT1626 21
HT1632C 21
HT1647 21
HT1647A 21
HT1650 21
HT16506 22
HT16511 22
HT16512 22
HT16515 22
HT16523 22
HT16525 22
HT16528 22
HT16561 22
HT16562 22
HT16565 22
HT16566 22
HT1660 21
HT1670 21
HT16C22 21
HT16C22G 21
HT16C23 21
HT16C23G* 21
HT16C24 21
HT16C24G* 21
HT16C2T3 24
HT16C2T4 24
HT16D595 21
HT16D723* 21
HT16E2T3 24
HT16E2T4 24
HT16G2T3 24
HT16G2T4 24
HT16K23 21
HT16K33 21
HT16L21 21
HT16L23 21
HT2201 23
HT24LC02 23
HT24LC04 23
HT24LC08 23
HT24LC128* 23
HT24LC16 23
HT24LC256* 23
HT24LC32 23
HT24LC64 23
HT32F1251 20
HT32F1251B 20
HT32F1252 20
HT32F1253 20
HT37A20 13
HT37A30 13
HT37A40 13
HT37A50 13
HT37A60 13
HT37A70 13
HT37B30 13
HT37B50 13
HT37B70 13
HT37B90 13
HT37P00 13
HT37Q20 12
HT37Q30 12
HT37Q40 12
HT37Q50 12
HT37Q60 12
HT37Q70 12
HT45B0F 31
HT45B0K 31
HT45F23 15
HT45F42 15
HT45F43 15
HT45FM03B 18
HT45FM30 18
HT45R22E 10
HT46C62 7
HT46C64 7
HT46C65 7
HT46CU25 8
HT46CU26 8
HT46CU66 7
HT46CU67 7
HT46F46E 14
HT46F47E 14
HT46F48E 14
HT46F49E 14
HT46R01B 6
HT46R01T3 10
HT46R02B 6
HT46R064B 5
HT46R064D 5
HT46R064G 5
HT46R065B 5
HT46R065D 5
HT46R065G 5
HT46R065V 7
HT46R0662 5
HT46R0662G 5
HT46R0664 5
HT46R066B 5
HT46R066D 5
HT46R067 5
HT46R068B 5
HT46R069B 5
HT46R51A 4
HT46R52A 4
HT46R53A 4
HT46R54A 4
HT46R62 7
HT46R64 7
HT46R65 7
HT46R652 7
HT46R73D-3 5
HT46R75D-3 5
HT46R92 6
HT46R94 6
HT46RB50 9

Part Number Index (Continued)

HT46RB70 9
HT46RU22 8
HT46RU232 8
HT46RU24 8
HT46RU25 8
HT46RU26 8
HT46RU66 7
HT46RU67 7
HT48CA1 10
HT48CA3 10
HT48CA5 10
HT48F06E 14
HT48F10E 14
HT48F30E 14
HT48F50E 14
HT48F70E 14
HT48R01B 6
HT48R01T3 10
HT48R02B 6
HT48R063B 4
HT48R064B 4
HT48R064D 4
HT48R064G 4
HT48R065B 4
HT48R065D 4
HT48R065G 4
HT48R065V 7
HT48R0662 4
HT48R0662G 4
HT48R066B 4
HT48R066D 4
HT48R066G 4
HT48R067 4
HT48R068B 4
HT48R069B 4
HT48R52A 6
HT48R54A 6
HT48RA0-5 10
HT48RA1 10
HT48RA3 10
HT48RA5 10
HT49C10-1 6
HT49C30-1 6
HT49C30L 6
HT49C50-1 6
HT49C50L 6
HT49C70-1 6
HT49C70L 6
HT49CA0 10
HT49CA1 10
HT49CU80 6
HT49R10A-1 6
HT49R30A-1 6
HT49R50A-1 6
HT49R70A-1 6
HT49RA0 10
HT49RA0-5* 10
HT49RA1 10
HT49RU80 6
HT56C668 8
HT56C678 8
HT56R22 7
HT56R23 7
HT56R24 7
HT56R25 7
HT56R26 7
HT56R62 7
HT56R64 7
HT56R642 8
HT56R644 8
HT56R65 7
HT56R654 8
HT56R656 8
HT56R66 7
HT56R666 8
HT56R668 8
HT56R67 7
HT56R678 8
HT56R688 8
HT56RB27 8
HT56RB688 8
HT600 24
HT6010 24
HT6012 24
HT6014 24
HT6026 24
HT6030 24
HT6032 24
HT6034 24
HT604L 24
HT614 24
HT6207 24
HT62104* 25
HT6220A 25
HT6221A 25
HT6221B 25
HT6222A 25
HT66F03 16
HT66F03L* 17
HT66F03T3 17
HT66F04 16
HT66F04L* 17
HT66F13 14
HT66F14 14
HT66F15 14
HT66F20 15
HT66F23D* 15
HT66F24D* 15
HT66F25D* 15
HT66F30 15
HT66F40 15
HT66F50 15
HT66F60 15
HT66FB30 15
HT66FB40 15
HT66FB50 15
HT66FB60 15
HT66FU30 15
HT66FU40 15
HT66FU50 15
HT66FU60 15
HT6751A 35
HT6751B 35
HT67F30 16
HT67F40 16
HT67F50 16
HT67F60 16
HT680 24
HT68F03 16
HT68F03L* 17
HT68F03T3 17
HT68F04 16
HT68F04L* 17
HT68F13 14
HT68F14 14
HT68F15 14
HT68F20 14
HT68F30 14
HT68F40 14
HT68F50 14
HT68F60 14
HT68FB30 14
HT68FB40 14
HT68FB50 14
HT68FB60 14
HT68FU30 14
HT68FU40 14
HT68FU50 14
HT68FU60 14
HT692 24
HT6P20B2 25
HT6P20B2T3 25
HT6P20D2 25
HT6P20D2T3 25
HT6P20F2 25
HT6P20F2T3 25
HT7022A-1 29
HT7022A-2 29
HT7024A-1 29

Part Number Index (Continued)

HT7024A-2 29
HT7027A-1 29
HT7027A-2 29
HT7033A-1 29
HT7033A-2 29
HT7039A-1 29
HT7039A-2 29
HT7044A-1 29
HT7044A-2 29
HT7050A-1 29
HT7050A-2 29
HT7082A-2 29
HT7121-1 26
HT7123-1 26
HT7125-1 26
HT7127-1 26
HT7130-1 26
HT7130-2* 26
HT7133-1 26
HT7133-2* 26
HT7136-1 26
HT7136-2* 26
HT7144-1 26
HT7144-2* 26
HT7150-1 26
HT7150-2* 26
HT71A3324 27
HT71A3327 27
HT71A3344 27
HT71A5024 27
HT71A5027 27
HT71A5033 27
HT71A5042 27
HT71A5044 27
HT71D02 27
HT71D04 27
HT7218 27
HT7225 27
HT7227 27
HT7230 27
HT7233 27
HT7250 27
HT72B15 28
HT72B18 28
HT72B25 28
HT72B28 28
HT72B30 28
HT72B33 28
HT72B50 28
HT72D1518 28
HT72D1525 28
HT72D1528 28
HT72D1533 28
HT72D1825 28
HT72D1828 28
HT72D1830 28
HT72D1833 28
HT72D2528 28
HT72D2533 28
HT72D2833 28
HT72D3033 28
HT7318 27
HT7325 27
HT7327 27
HT7330 27
HT7333 27
HT7335 27
HT7350 27
HT7465 29
HT7466 29
HT7521-1 26
HT7521-2 26
HT7523-1 26
HT7523-2 26
HT7525-1 26
HT7525-2 26
HT7527-1 26
HT7527-2 26
HT7530-1 26
HT7530-2 26
HT7533-1 26
HT7533-2 26
HT7536-1 26
HT7536-2 26
HT7540-1 26
HT7540-2 26
HT7541-2 26
HT7544-1 26
HT7544-2 26
HT7550-1 26
HT7550-2 26
HT7560-1 26
HT7560-2 26
HT7570-1 26
HT7570-2 26
HT7580-1 26
HT7580-2 26
HT7590-1 26
HT7590-2 26
HT75A0-1 26
HT75A0-2 26
HT75B15 27
HT75B18 27
HT75B25 27
HT75B28 27
HT75B30 27
HT75B33 27
HT75B50 27
HT75C0-1 26
HT75C0-2 26
HT7610A 35
HT7610B 35
HT7611A 35
HT7611B 35
HT7612 35
HT7660 29
HT7718 29
HT7722 29
HT7727 29
HT7727A 29
HT7730 29
HT7730A 29
HT7733 29
HT7733A 29
HT7737 29
HT7750 29
HT7750A 29
HT77S10 29
HT77S11 29
HT7818 27
HT7825 27
HT7827 27
HT7830 27
HT7833 27
HT7850 27
HT78B15 28
HT78B18 28
HT78B25 28
HT78B28 28
HT78B30 28
HT78B33 28
HT78B50 28
HT7936A 30
HT7936B 30
HT7937 30
HT7938 30
HT7938A* 30
HT7939 30
HT7939A* 30
HT7943* 30
HT7945* 30
HT7953* 30
HT7955* 30
HT7A3942 30
HT7A3943* 30
HT7A6003 30
HT7B230* 30
HT7L4091 30
HT82A525R 9

Part Number Index (Continued)

HT82A6208 9
HT82A620R 9
HT82A6216 9
HT82A623R 9
HT82A821R 9
HT82A822R 9
HT82A824R 9
HT82A834R 9
HT82A836R 9
HT82A850R 9
HT82A851R 9
HT82B40A 9
HT82B40R 9
HT82B40RE 9
HT82B42R* 9
HT82B60R 9
HT82F543* 17
HT82F553* 17
HT82F563* 17
HT82F645* 17
HT82F655* 17
HT82F665* 17
HT82K628A 31
HT82K629A 31
HT82K68A-L 13
HT82K68E-L 13
HT82K70A-L 13
HT82K70E-L 13
HT82K75R 13
HT82K75RE 13
HT82K76E-L 13
HT82K94A 9
HT82K94E 9
HT82K95A 9
HT82K95AE 9
HT82K95E 9
HT82K95EE 9
HT82M75R 13
HT82M75RE 13
HT82M99A 8
HT82M99AE 8
HT82M99E 8
HT82M99EE 8
HT82M9AA 8
HT82M9AAE 8
HT82M9AE 8
HT82M9AEE 8
HT82M9BA 8
HT82M9BAE 8
HT82M9BE 8
HT82M9BEE 8
HT82V26A 34
HT82V36 34
HT82V38 34
HT82V42 34
HT82V46 34
HT82V731 33
HT82V732 33
HT82V733 33
HT82V735 33
HT82V736 33
HT82V737 33
HT82V738 33
HT82V739 33
HT82V805A 34
HT82V842A 34
HT82V846* 34
HT82V862R 34
HT82V863R 34
HT83004 12
HT83007 12
HT83010 12
HT83020 12
HT83038 12
HT83050 12
HT83074 12
HT83F02 18
HT83F22 18
HT83R074 12
HT85F221* 19
HT85F222* 19
HT85F223* 19
HT85F224* 19
HT85F225* 19
HT85F226* 19
HT85F227* 19
HT85F566* 19
HT86A36 12
HT86A72 12
HT86AR72 12
HT86B03 12
HT86B10 12
HT86B20 12
HT86B30 12
HT86B40 12
HT86B50 12
HT86B60 12
HT86B70 12
HT86B80 12
HT86B90 12
HT86BR10 12
HT86BR30 12
HT86BR60 12
HT8950 35
HT8950A 35
HT8970 35
HT8972 35
HT9020B 32
HT9032C 32
HT9170B 32
HT9170D 32
HT9172 32
HT9200A 32
HT9200B 32
HT9231 33
HT9232 33
HT9234 33
HT9251* 33
HT9252* 33
HT9254* 33
HT9274 33
HT9291 33
HT9292 33
HT9294 33
HT9302A 32
HT9302B 32
HT9302C 32
HT9302D 32
HT9302G 32
HT93214A 32
HT93214AT 32
HT93214B 32
HT93LC46 23
HT93LC66 23
HT93LC86 23
HT95R22 11
HT95R23 11
HT95R24 11
HT95R25 11
HT95R33 11
HT95R34 11
HT95R35 11
HT95R43 11
HT95R44 11
HT95R45 11
HT95R54 11
HT95R55 11
HT95R64 11
HT95R65 11
HT9831 35
HT98R068 11

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