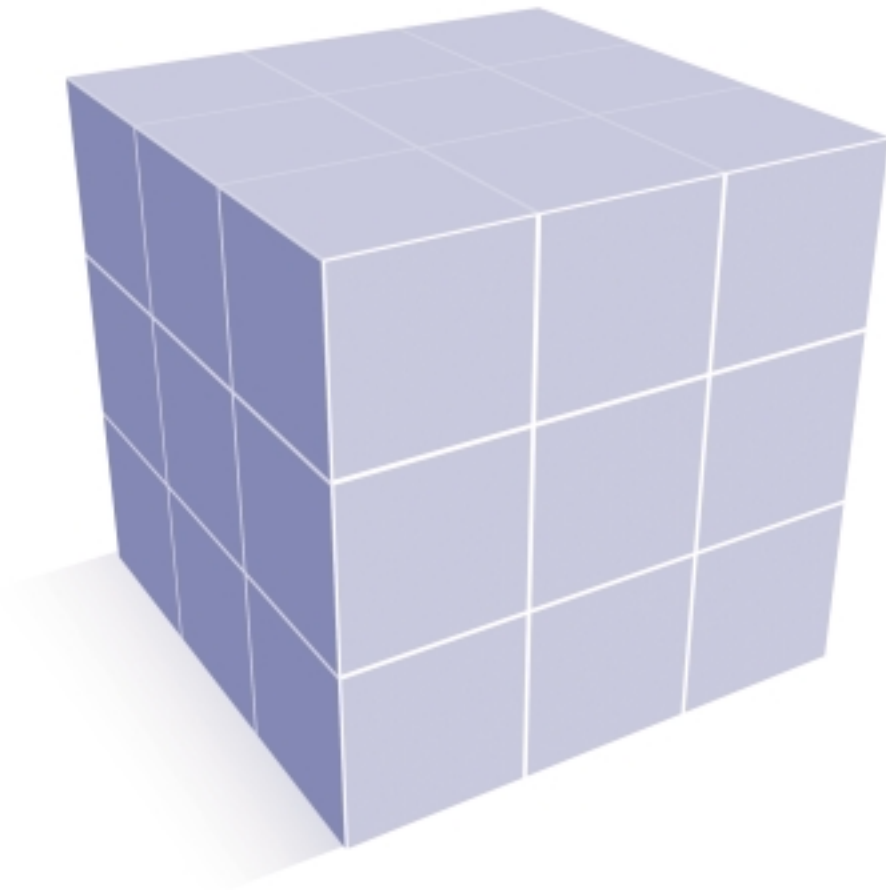


Selection Guide



盛群半導體股份有限公司
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Universal 8-Bit MCU	Embedded 8-Bit MCU	Display Driver
Cost-Effective I/O Type MCU I/O Type MCU I/O Type MTP MCU with EEPROM LCD Type MCU Cost-Effective A/D Type MCU A/D Type MCU A/D with LCD Type MCU A/D with VFD Type MCU R-F Type MCU	Remote Type MCU A/D Type USB MCU LCD Type USB MCU I/O Type USB MCU USB Speaker MCU USB Phone MCU I/O Type Phone MCU LCD Type Phone MCU CID Type Phone MCU Dot Matrix LCD MCU Voice MCU Music MCU	RAM Mapping LCD Controller & Driver Telephony LCD Driver VFD Controller & Driver Dot Character VFD Controller & Driver OLED Driver
Memory	Remote Controller	Power Management
OTP EPROM SPI OTP EPROM 3-wire EEPROM I ² C EEPROM	Remote Type MCU 2 ¹² Encoder/Decoder 3 ⁹ Encoder 3 ¹² Encoder/Decoder 3 ¹⁸ Encoder/Decoder Learning Encoder TV Remote Controller RFID	TinyPower™ LDO General Purpose LDO TinyPower™ Voltage Detector PFM Step-up DC/DC Converter Charge Pump DC/DC Converter
Voice/Music	Computer	Communication
Voice MCU Music MCU Q-Voice™ EasyVoice™ Sound Effects Piano	Keyboard/Mouse/Joystick MCU Mouse Keyboard	I/O Type Phone MCU LCD Type Phone MCU CID Type Phone MCU Dual Mode Caller ID Phone Single Chip Telecom Peripheral Basic Dialer
Analog	Video	Miscellaneous
D/A Converter Amplifier	CCD/CIS Analog Signal Processor CCD Vertical Driver	Timepiece Clinical Thermometer Camera Peripheral PIR Controller Alphanumeric Recognition

Universal 8-Bit MCU

Cost-Effective I/O Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	8-bit Timer	Interrupt		PFD	Stack	Package
							Ext.	Int.			
HT48R05A-1 HT48C05	2.2V~5.5V	400kHz~8MHz	0.5K×14	32×8	13	1	1	1	√	2	16SSOP, 18DIP/SOP
HT48R06A-1 HT48C06	2.2V~5.5V	400kHz~8MHz	1K×14	64×8	13	1	1	1	√	2	16SSOP, 18DIP/SOP
HT48R07A-1*	2.2V~5.5V	400kHz~8MHz	1K×14	64×8	19	1	1	1	√	2	24SKDIP/SOP/SSOP

* Under development, available in 4Q, 2005.

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

I/O Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer			Interrupt		PFD	UART	Stack	Package
						8-bit	16-bit	RTC	Ext.	Int.				
HT48R10A-1 HT48C10-1	2.2V~5.5V	400kHz~8MHz	1K×14	64×8	21	1	—	√	1	1	√	—	4	24SKDIP/SOP
HT48R30A-1 HT48C30-1	2.2V~5.5V	400kHz~8MHz	2K×14	96×8	25	1	—	√	1	1	√	—	4	24SKDIP/SOP, 28SKDIP/SOP
HT48R50A-1 HT48C50-1	2.2V~5.5V	400kHz~8MHz	4K×15	160×8	35	1	1	√	1	2	√	—	6	28SKDIP/SOP, 48SSOP
HT48R70A-1 HT48C70-1	2.2V~5.5V	400kHz~8MHz	8K×16	224×8	56	—	2	√	1	2	√	—	16	48SSOP, 64QFP
HT48RU90* HT48CU90*	2.2V~5.5V	400kHz~8MHz	16K×16	576×8	56	1	2	√	2	4	√	√	16	48SSOP, 64QFP

* Under development, available in 4Q, 2005.

Note: 1. Part numbers including "C" are mask version devices while "R" are OTP devices.

2. RTC is available when internal RC oscillator is selected as system clock.

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		Interrupt		Buzzer Output	Stack	Package
						8-bit	RTC	Ext.	Int.			
HT48R52	2.2V~5.5V	400kHz~8MHz or 32768Hz	2K×14	88×8	36	1	√	1	1	√	4	52QFP
HT48R53	2.2V~5.5V	400kHz~8MHz or 32768Hz	4K×15	88×8	36	1	√	1	1	√	4	52QFP

Note: 1. These devices are only available in OTP versions.

2. RTC can be used as the system clock, the typical operation current is 300μA at 3V.

3. Standby current is 0.8μA at 3V during RTC still running.

I/O Type MTP MCU with EEPROM

Part No.	VDD	System Clock	Program Memory	Data Memory	Data EEPROM	I/O	Timer		Interrupt		PFD	Stack	Package
							8-bit	16-bit	Ext.	Int.			
HT48E06	2.2V~5.5V	400kHz~8MHz	1K×14	64×8	128×8	13	1	—	1	1	√	2	18DIP/SOP, 20SSOP
HT48E10	2.2V~5.5V	400kHz~8MHz	1K×14	64×8	128×8	19	1	—	1	1	√	4	24SKDIP/SOP
HT48E30	2.2V~5.5V	400kHz~8MHz	2K×14	96×8	128×8	23	1	—	1	1	√	4	24SKDIP/SOP, 28SKDIP/SOP
HT48E50	2.2V~5.5V	400kHz~8MHz	4K×15	160×8	256×8	33	1	1	1	2	√	6	28SKDIP/SOP, 48SSOP
HT48E70	2.2V~5.5V	400kHz~8MHz	8K×16	224×8	256×8	56	—	2	1	2	√	16	48SSOP, 64QFP

Universal 8-Bit MCU
LCD Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Timer			Interrupt		PFD	UART	Stack	Package
							8-bit	16-bit	RTC	Ext.	Int.				
HT49R30A-1 HT49C30-1	2.2V~5.5V	400kHz~8MHz or 32768Hz	2K×14	96×8	14	18×4 or 19×3	1	—	√	2	3	√	—	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	20	32×4 or 33×3	2	—	√	2	4	√	—	6	48SSOP, 100QFP
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	24	40×4 or 41×3	1	1	√	2	4	√	—	16	100QFP
HT49C70L	1.2V~2.2V	400kHz~500kHz or 32768Hz													
HT49RU90* HT49CU90*	2.2V~5.5V	400kHz~8MHz or 32768Hz	16K×16	576×8	31	47×4 or 48×3	1	2	√	2	6	√	√	16	100QFP

* Under development, available in 4Q, 2005.

Note: 1. Part numbers including "C" are mask version devices, "R" are OTP devices, while part numbers suffixed with "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.

Cost-Effective A/D Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory		I/O	8-bit Timer	Interrupt		A/D	PWM	PFD	Stack	Package
				SRAM	EEPROM			Ext.	Int.					
HT46R46 HT46C46	2.2V~5.5V	400kHz~8MHz	1K×14	64×8	—	13	1	1	2	8-bit×4	8-bit×1	√	4	18DIP/SOP, 20SSOP
HT46R47 HT46C47	2.2V~5.5V	400kHz~8MHz	2K×14	64×8	—	13	1	1	2	9-bit×4	8-bit×1	√	6	18DIP/SOP, 20SSOP
HT46R48*	2.2V~5.5V	400kHz~8MHz	2K×14	64×8	—	19	1	1	2	9-bit×4	8-bit×1	√	6	24SKDIP/SOP, 24SSOP
HT46R46E HT46C46E	2.2V~5.5V	400kHz~8MHz	1K×14	64×8	128×8	13	1	1	2	8-bit×4	8-bit×1	√	4	18DIP/SOP
HT46R47E HT46C47E	2.2V~5.5V	400kHz~8MHz	2K×14	64×8	128×8	13	1	1	2	9-bit×4	8-bit×1	√	6	18DIP/SOP
HT46R48E*	2.2V~5.5V	400kHz~8MHz	2K×14	64×8	128×8	19	1	1	2	9-bit×4	8-bit×1	√	6	24SKDIP/SOP, 24SSOP

* Under development, available in 4Q, 2005.

Note: 1. Part numbers including "C" are mask version devices while "R" are OTP devices.

2. Part numbers including an "E" suffix contain EEPROM Data Memory.

A/D Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		Interrupt		I ² C	A/D	PWM	PFD	UART	Stack	Package
						8-bit	16-bit	Ext.	Int.							
HT46R22 HT46C22	2.2V~5.5V	400kHz~8MHz	2K×14	64×8	19	1	—	1	3	√	9-bit×8	8-bit×1	√	—	6	24SKDIP/SOP
HT46R23 HT46C23	2.2V~5.5V	400kHz~8MHz	4K×15	192×8	23	—	1	1	3	√	10-bit×8	8-bit×2	√	—	8	24SKDIP/SOP, 28SKDIP/SOP
HT46R232 HT46C232	2.2V~5.5V	400kHz~8MHz	4K×16	192×8	40	—	2	1	4	√	10-bit×8	8-bit×4	√	—	8	28SKDIP/SOP, 48SSOP
HT46R24 HT46C24	2.2V~5.5V	400kHz~8MHz	8K×16	384×8	40	—	2	1	4	√	10-bit×8	8-bit×4	√	—	16	28SKDIP/SOP, 48SSOP
HT46RU25* HT46CU25*	2.2V~5.5V	400kHz~8MHz	16K×16	576×8	48	1	2	1	5	√	12-bit×8	8-bit×4	√	√	16	48/56SSOP

* Under development, available in 4Q, 2005.

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

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	8-bit Timer	Interrupt		A/D	PWM	PFD	Stack	Package
							Ext.	Int.					
HT46R51	2.2V~5.5V	400kHz~8MHz	1K×14	88×8	14	1	1	2	12-bit×5	8-bit×1	√	6	18DIP, 20SOP/SSOP
HT46R52	2.2V~5.5V	400kHz~8MHz	2K×14	88×8	14	1	1	2	12-bit×5	8-bit×1	√	6	18DIP, 20SOP/SSOP
HT46R53	2.2V~5.5V	400kHz~8MHz	2K×14	88×8	22	1	1	2	12-bit×8	8-bit×1	√	6	28SKDIP/SOP
HT46R54	2.2V~5.5V	400kHz~8MHz	4K×15	88×8	22	1	1	2	12-bit×8	8-bit×1	√	6	28SKDIP/SOP

Note: These devices are only available in OTP versions.

Universal 8-Bit MCU

A/D with LCD Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Timer			Interrupt		A/D	PWM	PFD	UART	Stack	Package
							8-bit	16-bit	RTC	Ext.	Int.						
HT46R62 HT46C62	2.2V~5.5V	400kHz~8MHz or 32768Hz	2K×14	88×8	20	19×4 or 20×3	1	—	√	2	3	9-bit×6	8-bit×3	√	—	6	52QFP, 56SSOP
HT46R63 HT46C63	2.2V~5.5V	400kHz~8MHz	4K×15	208×8	32	19×4 or 20×3	—	1	√	2	4	8-bit×8	8-bit×4	—	—	8	56SSOP, 100QFP
HT46R64 HT46C64	2.2V~5.5V	400kHz~8MHz or 32768Hz	4K×15	192×8	24	32×4 or 33×3	1	1	√	2	4	10-bit×8	8-bit×4	√	—	8	52QFP, 56SSOP, 100QFP
HT46R65 HT46C65	2.2V~5.5V	400kHz~8MHz or 32768Hz	8K×16	384×8	24	40×4 or 41×3	—	2	√	2	4	10-bit×8	8-bit×4	√	—	16	52QFP, 56SSOP, 100QFP
HT46RU66* HT46CU66*	2.2V~5.5V	400kHz~8MHz or 32768Hz	16K×16	576×8	32	46×4 or 47×3	1	2	√	2	4	12-bit×8	8-bit×4	√	√	16	52QFP, 56SSOP, 100QFP

* Under development, available in 4Q, 2005.

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

A/D with VFD Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	SEG	Grid	Timer			Interrupt		SIO	A/D	PWM	Stack	Package
								16-bit	RTC	RMT	Ext.	Int.					
HT49RV3 HT49CV3	2.2V~5.5V	400kHz~8MHz	2K×16	96×8	17	11~16	11~4	2	√	√	2	5	√	—	—	6	52QFP
HT49RV5 HT49CV5	2.2V~5.5V	400kHz~8MHz	4K×16	192×8	20	11~16	11~4	2	√	√	2	5	√	8-bit×4	8-bit×2	8	56SSOP
HT49RV7 HT49CV7	2.2V~5.5V	400kHz~8MHz	8K×16	384×8	32	11~16	11~4	2	√	√	2	5	√	10-bit×8	8-bit×4	16	100QFP
HT49RV9 HT49CV9	2.2V~5.5V	400kHz~8MHz	16K×16	768×8	32	12~20	16~8	2	√	√	2	5	√	10-bit×8	8-bit×4	16	100QFP

Note: 1. Part numbers including "C" are mask version devices while "R" are OTP devices.
2. The OTP is available in a small quantity and only for sample.

R-F Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Timer			Interrupt		R-F	IR Carrier	PFD	Stack	Package
							16-bit	RTC	Ext.	Int.						
HT47R10A-1* HT47C10-1*	2.2V~5.5V	400kHz~8MHz	1K×16	32×8	8	9×4	1	—	—	2	1ch	—	—	2	44QFP	
HT47C10L	1.2V~2.2V	32768Hz					1	√	1	3	2ch	√	√	4	64QFP	
HT47R20A-1 HT47C20-1	2.2V~5.5V	400kHz~8MHz	2K×16	64×8	12	19×4 or 20×3	1	√	1	3	2ch	—	—	4	64QFP	
HT47C20L	1.2V~2.2V	32768Hz					1	√	1	3	2ch	—	—	4	64QFP	

* Under development, available in 1Q, 2006.

Note: 1. Part numbers including "C" are mask version devices, "R" are OTP devices, while part numbers suffixed with "L" are low voltage mask version devices.
2. For the low voltage mask version devices, note that the HT47R20A-1 device can be used as corresponding OTP devices.

Embedded 8-Bit MCU

Remote Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		Interrupt		IR Carrier	LVR	PFD	Stack	Package
						8-bit	16-bit	Ext.	Int.					
HT48RA0-2 HT48CA0-2	2.0V~3.6V	400kHz~4MHz	1K×14	32×8	15	—	—	—	—	√	√	—	1	20SOP/SSOP
HT48RA0-1 HT48CA0-1	2.0V~3.6V	400kHz~4MHz	1K×14	32×8	17	—	—	—	—	√	√	—	1	24SOP/SSOP
HT48RA1 HT48CA1	2.0V~5.5V	400kHz~8MHz	8K×16	224×8	23	1	1	1	2	—	√	√	8	28SOP/SSOP
HT48RA3 HT48CA3	2.0V~5.5V	400kHz~8MHz	24K×16	224×8	23	1	1	1	2	—	√	√	8	28SOP/SSOP
HT48RA5 HT48CA5	2.0V~5.5V	400kHz~8MHz	40K×16	224×8	23	1	1	1	2	—	√	√	8	28SOP/SSOP

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

A/D Type USB MCU (USB 1.1 Full Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		Interrupt		End Points	A/D	PWM	SIO	Stack	Package
						8-bit	16-bit	Ext.	Int.						
HT46RB50*	4.4V~5.5V	6MHz or 12MHz	4K×15	192×8	38	1	1	1	5	4	10-bit×8	8-bit×2	√	6	28SKDIP/SOP, 48SSOP
HT46RB70*	4.4V~5.5V	6MHz or 12MHz	8K×16	384×8	38	—	2	1	5	6	10-bit×8	8-bit×4	√	16	28SKDIP/SOP, 48SSOP

* Under development, available in 4Q, 2005.

LCD Type USB MCU (USB 1.1 Low Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	LCD	Timer			Interrupt		End Points	Stack	Package
							8-bit	16-bit	RTC	Ext.	Int.			
HT49RB50*	4.4V~5.5V	6MHz or 12MHz	4K×15	160×8	24	33×3 or 32×4	1	1	√	2	4	4	8	56SSOP, 100QFP
HT49RB70*	4.4V~5.5V	6MHz or 12MHz	8K×16	208×8	24	41×3 or 40×4	—	2	√	2	4	4	16	56SSOP, 100QFP

* Under development, available in 2Q, 2006.

I/O Type USB MCU (USB 1.1 Low Speed)

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		A/D	PWM	Stack	Package
						8-bit	16-bit				
HT82K94E* HT82K94A**	2.2V~5.5V	6MHz or 12MHz	6K×16	224×8	40	1	1	—	—	8	20SOP, 48SSOP
HT82K95E HT82K95A	4.2V~5.5V	6MHz or 12MHz	4K×15	160×8	32	1	1	—	—	8	20/28SOP, 20/48SSOP
HT82K96E HT82K96A	4.4V~5.5V	6MHz or 12MHz	4K×15	160×8	32	1	1	8-bit×6ch	—	8	20/28SOP, 20/48SSOP
HT82J97E HT82J97A	4.0V~5.5V	6MHz or 12MHz	2K×14	96×8	20	—	1	8-bit×6ch	8-bit×2	4	20/28SOP
HT82M99E HT82M99A	4.0V~5.5V	6MHz or 12MHz	2K×14	96×8	12	—	1	—	—	4	18/20DIP, 18/20SOP

* Under development, available in 4Q, 2005.

** Under development, available in 1Q, 2006.

Note: Part numbers suffixed with "A" are mask version devices while "E" are OTP devices.

USB Speaker MCU

Part No.	Description	Endpoint	Transfer	FIFO (Byte)	Program Memory	Data Memory	I/O	D/A S.R.	SPK Drv.	Package
HT82A821R*	Basic USB Speaker MCU	EP0	CTL	8	2K×15	192×8	8	48kHz	4Ω	24SOP/SSOP
		EP1	INT	8						
		EP2	ISO(O)	384						
HT82A822R*	USB Speaker MCU	EP0	CTL	8	4K×15	512×8 + 512×8 (read only)	32	48kHz	4Ω	48SSOP
		EP1	INT	8						
		EP2	ISO(O)	384						

* Under development, available in 4Q, 2005.

Embedded 8-Bit MCU

USB Phone MCU

Part No.	Description	Endpoint	Transfer	FIFO (Byte)	Program Memory	Data Memory	I/O	A/D S.R.	D/A S.R.	SPK Drv.	Package
HT82A832R*	Basic USB Phone MCU	EP0	CTL	8	4K×15	192×8	24	8kHz	48kHz	4Ω	48SSOP
		EP1, EP4	INT	8, 8							
		EP2	ISO(O)	384							
		EP3	ISO(I)	32							

* Under development, available in 1Q, 2006.

I/O Type Phone MCU

Part No.	VDD	Program Memory	Data Memory	General I/O	Dialer I/O	Timer	External Interrupt	Stack	DTMF Generator	Package
HT95A100 HT95A10P	2.4V~5.5V	4K×16	384×8	20	6	16-bit×2	3	4	√	28SSOP
HT95A200 HT95A20P	2.4V~5.5V	4K×16	1152×8	28	8	16-bit×2	4	8	√	48SSOP
HT95A300 HT95A30P	2.4V~5.5V	8K×16	2112×8	28	8	16-bit×2	4	8	√	48SSOP
HT95A400 HT95A40P	2.4V~5.5V	16K×16	2880×8	44	8	16-bit×2	4	12	√	64QFP

Note: Part numbers suffixed with "P" are OTP devices, all others are mask version devices.

LCD Type Phone MCU

Part No.	VDD	Program Memory	Data Memory	General I/O	Dialer I/O	LCD	Timer	External Interrupt	Stack	DTMF Generator	Package
HT95L000 HT95L00P	2.4V~5.5V	4K×16	384×8	14~18	6	12×8~16×8	16-bit×2	3	4	√	56SSOP
HT95L100 HT95L10P	2.4V~5.5V	4K×16	1152×8	16~20	8	16×8~20×8	16-bit×2	4	8	√	64QFP
HT95L200 HT95L20P	2.4V~5.5V	8K×16	1152×8	20~28	8	24×8~24×16	16-bit×2	4	8	√	100QFP
HT95L300 HT95L30P	2.4V~5.5V	8K×16	2112×8	16~28	8	36×16~48×16	16-bit×2	4	8	√	100QFP
HT95L400 HT95L40P	2.4V~5.5V	16K×16	2880×8	28~40	8	36×16~48×16	16-bit×2	4	12	√	128QFP

Note: Part numbers suffixed with "P" are OTP devices, all others are mask version devices.

CID Type Phone MCU

Part No.	VDD	Program Memory	Data Memory	General I/O	Dialer I/O	LCD	Timer	External Interrupt	Stack	DTMF Generator	FSK Receiver	Package
HT95C200 HT95C20P	2.4V~5.5V	8K×16	1152×8	20~28	8	24×8~24×16	16-bit×2	4	8	√	√	128QFP
HT95C300 HT95C30P	2.4V~5.5V	8K×16	2112×8	16~28	8	36×16~48×16	16-bit×2	4	8	√	√	128QFP
HT95C400 HT95C40P	2.4V~5.5V	16K×16	2880×8	28~40	8	36×16~48×16	16-bit×2	4	12	√	√	128QFP

Note: Part numbers suffixed with "P" are OTP devices, all others are mask version devices.

Dot Matrix LCD MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	Data ROM	I/O	LCD	Timer			Interrupt		D/A	Stack	Package
								8-bit	16-bit	RTC	Ext.	Int.			
HT23B60 HT23B60R	2.4V~5.5V	32KHz/3.58MHz	32K×16	2.3K×8	—	30	60×11	—	2	√	1	4	PWM	8	100QFP

Note: Part numbers suffixed with "0" is mask version device, while "R" is OTP device.

Embedded 8-Bit MCU

Voice MCU

Part No.	VDD	Program Memory	Data Memory	Voice ROM	Voice Capacity	I/O	Timer		D/A	Stack	Package
							16-bit	RTC			
HT86030	2.4V~5.2V	8K×16	208×8	96K×8	36sec	16	2	—	12-bit×1ch	8	28SOP
HT86070	2.4V~5.2V	8K×16	208×8	192K×8	72sec	16	2	—	12-bit×1ch	8	28SOP
HT86072	2.4V~5.2V	8K×16	208×8	192K×8	72sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86144	2.4V~5.2V	8K×16	208×8	384K×8	144sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86192	2.4V~5.2V	8K×16	208×8	512K×8	192sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86384	2.4V~5.2V	8K×16	208×8	1024K×8	384sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86576	2.4V~5.2V	8K×16	208×8	1536K×8	576sec	23	3	√	12-bit×1ch	8	32SOP, 100QFP
HT86768	2.4V~5.2V	8K×16	208×8	2048K×8	768sec	23	3	√	12-bit×1ch	8	32SOP, 100QFP

Note: 1. All listed devices are mask version MCUs.

2. Evaluation kits are available for product development and verification purposes, please contact us for further information.

Music MCU (4 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer	D/A	Package
HT36F2	2.4V~5.0V	32K×16	208×8	16	8-bit×2	16-bit×1	16SOP, 28SOP
HT36F6	2.4V~5.0V	64K×16	208×8	20	8-bit×2	16-bit×2	20SOP, 32SOP
HT36FA	3.6V~5.0V	128K×16	208×8	24	8-bit×2	16-bit×2	20SOP, 32SOP

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

Music MCU (8 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer	D/A	Package
HT36RA4* HT36A4	3.6V~5.0V 2.4V~5.0V	32K×16	208×8	8	8-bit×2	16-bit×1	16DIP, 20SOP
HT36A3	2.4V~5.0V	32K×16	208×8	20	8-bit×2	16-bit×1	28SOP, 48SSOP
HT36A2	2.4V~5.0V	64K×16	208×8	20	8-bit×2	16-bit×1	28SOP, 48SSOP
HT36A1	2.4V~5.0V	64K×16	208×8	24	8-bit×2	16-bit×2	48SSOP

* Under development, available in 4Q, 2005.

Note: 1. Part numbers including "R" are OTP devices, all others are mask version devices.
2. The waveform data and program code share the same memory space.

Music MCU (16 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer	D/A	Package
HT36RM4* HT36M4	3.6V~5.0V 2.6V~5.0V	64K×16	384×8	12	16-bit×2	16-bit×1	20SOP/TSSOP
HT36A0	3.6V~5.0V	64K×16	208×8	28	16-bit×2	16-bit×2	48SSOP
HT36B2	3.6V~5.0V	128K×16	512×8	32	16-bit×2	16-bit×2	28SOP, 56SSOP
HT36B0	3.6V~5.0V	256K×16	768×8	36	16-bit×2	16-bit×2	28SOP, 64QFP

* Under development, available in 4Q, 2005.

Note: 1. Part numbers including "R" are OTP devices, all others are mask version devices.
2. The waveform data and program code share the same memory space.

Display Driver

RAM Mapping LCD Controller & Driver

Part No.	Common	Segment	VDD	LCD Voltage	Duty	Bias	Serial Data	Built-in OSC.	Ext. Crystal	Package
HT1620	4	32	2.4V~3.3V	3/2VDD	1/2, 1/3, 1/4	1/2, 1/3	1	—	√	64QFP
HT1621	4	32	2.4V~5.2V	3V~VDD	1/2, 1/3, 1/4	1/2, 1/3	1	√	√	28SKDIP, 48SSOP/LQFP, Gold Bump
HT1622	8	32	2.7V~5.2V	3V~VDD	1/8	1/4	1	√	—	64QFP
HT16220	8	32	2.7V~5.2V	3V~VDD	1/8	1/4	1	—	√	64QFP
HT1623	8	48	2.7V~5.2V	3V~VDD	1/8	1/4	1	√	√	100QFP
HT1625	8	64	2.7V~5.2V	3V~VDD	1/8	1/4	1	√	√	100QFP
HT1626	16	48	2.7V~5.2V	3V~VDD	1/16	1/5	1	√	√	100QFP
HT1647	16	64	2.7V~5.2V	3V~VDD	1/16	1/4, 1/5	4	√	√	100QFP
HT1650	32	64	2.7V~5.2V	3V~VDD	1/16, 1/32	1/5, 1/6	4	√	√	128QFP
HT1660	32	96	2.7V~5.2V	3V~VDD	1/16, 1/32	1/5, 1/6	4	√	√	160QFP
HT1670	32	128	2.7V~5.2V	3V~VDD	1/16, 1/32	1/5, 1/6	4	√	√	208QFP
HT0610	33	120	2.4V~3.5V	3×VDD~10.5V	1/16, 1/32, 1/33	1/5, 1/7	—	√	—	TCP

Telephony LCD Driver

Part No.	Digit	VDD	LCD Voltage	Duty	Bias	RTC Display
HT1611C	8, 10	1.2V~1.7V	3V	1/3	1/2	√
HT1613C	8, 10	1.2V~1.7V	3V	1/3	1/2	√
HT1616C	12, 16	1.2V~1.7V	3V	1/3	1/2	√

Note: For the HT1613C, the RTC Display function can be deselected by a pad bonding option.

VFD Controller & Driver

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

Dot Character VFD Controller & Driver

Part No.	Segment	Digit	VDD	Output Voltage	Key Matrix	Display RAM	CGROM	CGRAM	Package
HT16514	80	24	5V	50V	12×4	80×8 bits	248×5×8 bits	8×5×8 bits	144LQFP

OLED Driver

Part No.	VDD	Display Size (SEG×COM)	Description	Status	Package
HT16A102	2.7V~3.6V	96×64	16 gray scale	—	Gold Bump/COF
HT16A103*	2.7V~3.6V	96×48	4 gray scale + 10 hard icon	Sample Stage	Gold Bump/COF
HT16A105*	2.7V~3.6V	132×64	32 gray scale	Sample Stage	Gold Bump/COF

* Under development, available in 4Q, 2005.

Memory

OTP EPROM

Part No.	Capacity	VDD	Programming Voltage	Access Time (ns)	Operating Current (mA)	Standby Current (μ A)	Package
HT27C512 HT27LC512	64K \times 8	5.0V \pm 10%	12.2V \pm 0.2V	70	30	1	28DIP/SOP, 32PLCC
		3.3V \pm 10%		90	15		28DIP/SOP, 32PLCC
HT27C010 HT27LC010	128K \times 8	5.0V \pm 10%	12.5V \pm 0.2V	70	30	1	32DIP/SOP/PLCC
		3.3V \pm 10%		90	15		32DIP/SOP/TSOP/PLCC
HT27C020 HT27LC020	256K \times 8	5.0V \pm 10%	12.5V \pm 0.2V	70	30	1	32DIP/SOP/PLCC
		3.3V \pm 10%		90	15		32DIP/SOP/TSOP/PLCC
HT27C040 HT27LC040	512K \times 8	5.0V \pm 10%	12.5V \pm 0.2V	70	30	1	32DIP/SOP/PLCC
		3.3V \pm 10%		90	15		32DIP/SOP/TSOP/PLCC

SPI OTP EPROM

Part No.	Capacity	VDD	Programming Voltage	Access Time (ns)	Operating Current (mA)	Standby Current (μ A)	Package
HT25LC512	64K \times 8	2.7V~3.6V	12.5V \pm 0.2V	36	15	2	8SOP

3-wire EEPROM

Part No.	Capacity	VDD	Clock Rate (MHz)	Write Speed @2.4V (ms)	Operating Current @5V (mA)	Standby Current @5V (μ A)	Package
HT93LC46	64 \times 16/128 \times 8	2.2V~5.5V	1	5	5	10	8DIP/SOP/TSSOP
HT93LC56	128 \times 16/256 \times 8	2.4V~5.5V	1	5	5	10	8DIP/SOP
HT93LC66	256 \times 16/512 \times 8	2.2V~5.5V	1	5	5	10	8DIP/SOP/TSSOP
HT93LC86	1024 \times 16/2048 \times 8	2.2V~5.5V	1	5	5	10	8DIP/SOP/TSSOP

I²C EEPROM

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

* Under development, available in 1Q, 2006.

Note: I²C is a trademark of Philips Semiconductors.

Part No.	Capacity	VDD	Clock Rate (kHz)	Write Speed @2.4V (ms)	Operating Current @5V (mA)	Standby Current @5V (μ A)	Package
HT2201	128 \times 8	2.2V~5.5V	400	5	5	4	8SOP, SOT25, SIP-4

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

Remote Controller

Remote Type MCU

Part No.	VDD	System Clock	Program Memory	Data Memory	I/O	Timer		Interrupt		IR Carrier	LVR	PFD	Stack	Package
						8-bit	16-bit	Ext.	Int.					
HT48RA0-2 HT48CA0-2	2.0V~3.6V	400kHz~4MHz	1K×14	32×8	15	—	—	—	—	√	√	—	1	20SOP/SSOP
HT48RA0-1 HT48CA0-1	2.0V~3.6V	400kHz~4MHz	1K×14	32×8	17	—	—	—	—	√	√	—	1	24SOP/SSOP
HT48RA1 HT48CA1	2.0V~5.5V	400kHz~8MHz	8K×16	224×8	23	1	1	1	2	—	√	√	8	28SOP/SSOP
HT48RA3 HT48CA3	2.0V~5.5V	400kHz~8MHz	24K×16	224×8	23	1	1	1	2	—	√	√	8	28SOP/SSOP
HT48RA5 HT48CA5	2.0V~5.5V	400kHz~8MHz	40K×16	224×8	23	1	1	1	2	—	√	√	8	28SOP/SSOP

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

2¹² Encoder/Decoder

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Data Type	Trig.	Check Times	38kHz Carrier	Package	Pair
HT12A	Encoder	2.4V~5V	8	4	—	Data	—	√	18DIP, 20SOP	HT12D/12F
HT12E	Encoder	2.4V~12V	8	4	—	\overline{TE}	—	—	18DIP, 20SOP	HT12D/12F
HT12D	Decoder	2.4V~12V	8	4	Latch	—	3	—	18DIP, 20SOP	HT12A/12E
HT12F	Decoder	2.4V~12V	12	0	—	—	3	—	18DIP, 20SOP	HT12A/12E

3⁹ Encoder

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

3¹² Encoder/Decoder

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

3¹⁸ Encoder/Decoder

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

Learning Encoder

Part No.	VDD	Addr. No.	Addr./Data No.	Trig.	Package
HT6P20A	2V~12V	24	0	—	8DIP/SOP
HT6P20B	2V~12V	22	2	Data	8DIP/SOP
HT6P20D	2V~12V	20	4	Data	16DIP/NSOP

Remote Controller

TV Remote Controller

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Key No.	38kHz Carrier	Package
HT6221	Encoder	1.8V~3.5V	16	8	32	√	20SOP
HT6222	Encoder	1.8V~3.5V	16	8	64	√	24SOP
HT6230	Encoder	2.4V~5.2V	5	6	96	√	28SOP
HT6240-002	Encoder	2.2V~3.6V	8	8	32	√	20/24SOP

RFID

Part No.	Supply Freq.	Modulation	Memory (Data)	Baud Rate @3V (bps)	Check	Anti-Collision	Encoding
HT672A	13.56MHz	ASK	96(64)	5K	CRC-16	—	PWM
HT672B	13.56MHz	ASK	40(32)	10K	CRC-8	—	PWM
HT6740	13.56MHz	ASK	17(11)	10K	CRC-6	√	PWM

Power Management

HT71XX 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, SOT89, SOT25
HT7130-1	24V	3.0V	30	3.0	±3%	TO92, SOT89, SOT25
HT7133-1	24V	3.3V	30	3.0	±3%	TO92, SOT89, SOT25
HT7136-1	24V	3.6V	30	3.0	±3%	TO92, SOT89, SOT25
HT7144-1	24V	4.4V	30	3.0	±3%	TO92, SOT89, SOT25
HT7150-1	24V	5.0V	30	3.0	±3%	TO92, SOT89, SOT25

HT75XX TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7530-1	24V	3.0V	100	3.5	±3%	TO92, SOT89, SOT25
HT7533-1	24V	3.3V	100	3.5	±3%	TO92, SOT89, SOT25
HT7536-1	24V	3.6V	100	3.5	±3%	TO92, SOT89, SOT25
HT7544-1	24V	4.4V	100	3.5	±3%	TO92, SOT89, SOT25
HT7550-1	24V	5.0V	150	3.5	±3%	TO92, SOT89, SOT25

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	4	±3%	TO92, SOT89
HT7325	12V	2.5V	180	4	±3%	TO92, SOT89
HT7327	12V	2.7V	200	4	±3%	TO92, SOT89
HT7330	12V	3.0V	250	4	±3%	TO92, SOT89
HT7333	12V	3.3V	250	4	±3%	TO92, SOT89
HT7335	12V	3.5V	250	4	±3%	TO92, SOT89
HT7350	12V	5.0V	250	4	±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%	SOT23, SOT25
HT7225*	8V	2.5V	300	4	±2%	SOT23, SOT25
HT7227*	8V	2.7V	300	4	±2%	SOT23, SOT25
HT7230*	8V	3.0V	300	4	±2%	SOT23, SOT25
HT7233*	8V	3.3V	300	4	±2%	SOT23, SOT25
HT7250*	8V	5.0V	300	4	±2%	SOT23, SOT25

* Under development, available in 4Q, 2005.

HT74XX TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (μA)	Tolerance	Package
HT7418*	8V	1.8V	500	4	±2%	TO92, SOT89, SOT223, SOT25
HT7425*	8V	2.5V	500	4	±2%	TO92, SOT89, SOT223, SOT25
HT7428*	8V	2.8V	500	4	±2%	TO92, SOT89, SOT223, SOT25
HT7430*	8V	3.0V	500	4	±2%	TO92, SOT89, SOT223, SOT25
HT7433*	8V	3.3V	500	4	±2%	TO92, SOT89, SOT223, SOT25
HT7450*	8V	5.0V	500	4	±2%	TO92, SOT89, SOT223, SOT25

* Under development, available in 4Q, 2005.

Power Management

HT78MXX General Purpose LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (mA)	Typical Current Consumption (mA)	Tolerance	Package
HT78M00*	12V	Adj.	500	8	±2%	SOT223, TO220, TO252, TO263
HT78M18*	12V	1.8V	500	8	±2%	SOT223, TO220, TO252, TO263
HT78M25*	12V	2.5V	500	8	±2%	SOT223, TO220, TO252, TO263
HT78M28*	12V	2.85V	500	8	±2%	SOT223, TO220, TO252, TO263
HT78M33*	12V	3.3V	500	8	±2%	SOT223, TO220, TO252, TO263
HT78M50*	12V	5.0V	500	8	±2%	SOT223, TO220, TO252, TO263

* Under development, available in 1Q, 2006.

HT78XX General Purpose LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (A)	Typical Current Consumption (mA)	Tolerance	Package
HT7800*	12V	Adj.	1	8	±2%	SOT223, TO220, TO252, TO263
HT7818*	12V	1.8V	1	8	±2%	SOT223, TO220, TO252, TO263
HT7825*	12V	2.5V	1	8	±2%	SOT223, TO220, TO252, TO263
HT7828*	12V	2.85V	1	8	±2%	SOT223, TO220, TO252, TO263
HT7833*	12V	3.3V	1	8	±2%	SOT223, TO220, TO252, TO263
HT7850*	12V	5.0V	1	8	±2%	SOT223, TO220, TO252, TO263

* Under development, available in 1Q, 2006.

HT78HXX General Purpose LDO

Part No.	Maximum Input Voltage	Output Voltage	Typical Output Current (A)	Typical Current Consumption (mA)	Tolerance	Package
HT78H00*	12V	Adj.	2	8	±2%	SOT223, TO220, TO252, TO263
HT78H18*	12V	1.8V	2	8	±2%	SOT223, TO220, TO252, TO263
HT78H25*	12V	2.5V	2	8	±2%	SOT223, TO220, TO252, TO263
HT78H28*	12V	2.85V	2	8	±2%	SOT223, TO220, TO252, TO263
HT78H33*	12V	3.3V	2	8	±2%	SOT223, TO220, TO252, TO263
HT78H50*	12V	5.0V	2	8	±2%	SOT223, TO220, TO252, TO263

* Under development, available in 1Q, 2006.

TinyPower™ Voltage Detector

Part No.	Maximum Input Voltage	Detect Voltage	Hysteresis Width (V)	Typical Current Consumption (μA)	Tolerance	Package
HT7022A	12V	2.2V	0.11	1.8	±5%	TO92, SOT89
HT7024A-1	24V	2.4V	0.12	4	±3%	TO92, SOT89, SOT25
HT7027A-1	24V	2.7V	0.135	4	±3%	TO92, SOT89, SOT25
HT7033A-1	24V	3.3V	0.165	4	±3%	TO92, SOT89, SOT25
HT7039A-1	24V	3.9V	0.195	4	±3%	TO92, SOT89, SOT25
HT7044A-1	24V	4.4V	0.22	4	±3%	TO92, SOT89, SOT25
HT7050A-1	24V	5.0V	0.25	4	±3%	TO92, SOT89, SOT25

PFM Step-up DC/DC Converter

Part No.	Input Voltage	Output Voltage	Switching Frequency (kHz)	Typical Current Consumption I _{DD2} (μA)	Typical Efficiency	Package
HT7727	0.6V~6.0V	2.7V	115	4	85%	TO92, SOT89, SOT25
HT7730	0.6V~6.0V	3.0V	115	4	85%	TO92, SOT89, SOT25
HT7733	0.6V~6.0V	3.3V	115	4	85%	TO92, SOT89, SOT25
HT7737	0.6V~6.0V	3.7V	115	4	85%	TO92, SOT89, SOT25
HT7750	0.7V~6.0V	5.0V	115	4	85%	TO92, SOT89, SOT25

Charge Pump DC/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

Voice/Music
Voice MCU

Part No.	VDD	Program Memory	Data Memory	Voice ROM	Voice Capacity	I/O	Timer		D/A	Stack	Package
							16-bit	RTC			
HT86030	2.4V~5.2V	8K×16	208×8	96K×8	36sec	16	2	—	12-bit×1ch	8	28SOP
HT86070	2.4V~5.2V	8K×16	208×8	192K×8	72sec	16	2	—	12-bit×1ch	8	28SOP
HT86072	2.4V~5.2V	8K×16	208×8	192K×8	72sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86144	2.4V~5.2V	8K×16	208×8	384K×8	144sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86192	2.4V~5.2V	8K×16	208×8	512K×8	192sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86384	2.4V~5.2V	8K×16	208×8	1024K×8	384sec	23	3	√	12-bit×1ch	8	28SOP, 100QFP
HT86576	2.4V~5.2V	8K×16	208×8	1536K×8	576sec	23	3	√	12-bit×1ch	8	32SOP, 100QFP
HT86768	2.4V~5.2V	8K×16	208×8	2048K×8	768sec	23	3	√	12-bit×1ch	8	32SOP, 100QFP

Note: 1. All listed devices are mask version MCUs.

2. Evaluation kits are available for product development and verification purposes, please contact us for further information.

Music MCU (4 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer	D/A	Package
HT36F2	2.4V~5.0V	32K×16	208×8	16	8-bit×2	16-bit×1	16SOP, 28SOP
HT36F6	2.4V~5.0V	64K×16	208×8	20	8-bit×2	16-bit×2	20SOP, 32SOP
HT36FA	3.6V~5.0V	128K×16	208×8	24	8-bit×2	16-bit×2	20SOP, 32SOP

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

Music MCU (8 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer	D/A	Package
HT36RA4* HT36A4	3.6V~5.0V 2.4V~5.0V	32K×16	208×8	8	8-bit×2	16-bit×1	16DIP, 20SOP
HT36A3	2.4V~5.0V	32K×16	208×8	20	8-bit×2	16-bit×1	28SOP, 48SSOP
HT36A2	2.4V~5.0V	64K×16	208×8	20	8-bit×2	16-bit×1	28SOP, 48SSOP
HT36A1	2.4V~5.0V	64K×16	208×8	24	8-bit×2	16-bit×2	48SSOP

* Under development, available in 4Q, 2005.

Note: 1. Part numbers including "R" are OTP devices, all others are mask version devices.
2. The waveform data and program code share the same memory space.

Music MCU (16 Polyphony)

Part No.	VDD	Program Memory	Data Memory	I/O	Timer	D/A	Package
HT36RM4* HT36M4	3.6V~5.0V 2.6V~5.0V	64K×16	384×8	12	16-bit×2	16-bit×1	20SOP/TSSOP
HT36A0	3.6V~5.0V	64K×16	208×8	28	16-bit×2	16-bit×2	48SSOP
HT36B2	3.6V~5.0V	128K×16	512×8	32	16-bit×2	16-bit×2	28SOP, 56SSOP
HT36B0	3.6V~5.0V	256K×16	768×8	36	16-bit×2	16-bit×2	28SOP, 64QFP

* Under development, available in 4Q, 2005.

Note: 1. Part numbers including "R" are OTP devices, all others are mask version devices.
2. The waveform data and program code share the same memory space.

Q-Voice™

Part No.	VDD	Program Memory	Data Memory	Voice ROM	Voice Capacity	I/O	D/A	Package
HT83003	2.4V~5.0V	2K×14	80×8	8K×8	3sec	8	PWM	32DIP
HT83006	2.4V~5.0V	2K×14	80×8	16K×8	6sec	8	PWM	32DIP
HT83009	2.4V~5.0V	2K×14	80×8	24K×8	9sec	8	PWM	32DIP
HT83018	2.4V~5.0V	2K×14	80×8	48K×8	18sec	8	PWM	32DIP
HT83036	2.4V~5.0V	2K×14	80×8	96K×8	36sec	8	PWM	32DIP
HT83048	2.4V~5.0V	2K×14	80×8	128K×8	48sec	8	PWM	32DIP
HT83072	2.4V~5.0V	2K×14	80×8	192K×8	72sec	8	PWM	32DIP

Note: 1. All listed devices are mask version devices.

2. Evaluation kits are available for product development and verification purposes, please contact us 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.

Voice/Music

EasyVoice™

Part No.	VDD	Voice Capacity	Key (Max.)	Output (Max.)	D/A	Package
HT81R03 HT81003	2.4V~3.6V 2.4V~5.0V	3sec	2	2	PWM	16DIP
HT81006	2.4V~5.0V	6sec	8	2	PWM	16DIP
HT81R09 HT81009	2.4V~5.0V	9sec	8	2	PWM	16DIP
HT81012	2.4V~5.0V	12sec	8	2	PWM	16DIP
HT81R18 HT81018	2.4V~5.0V	18sec	8	2	PWM	16DIP
HT81R36	2.4V~5.0V	36sec	8	2	PWM	16DIP

Note: 1. Part Numbers including "R" are OTP devices while others are mask version devices.
 2. For HT81006 and HT81012, the higher voice capacity OTP devices are available for product development and verification purposes.
 3. The PWM output is capable of directly driving an 8Ω speaker & piezoelectric buzzer.
 4. EasyVoice™ is a trademark of Holtek Semiconductor Inc.

Sound Effects

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

Piano

Part No.	VDD	Keys	Timbre	Rhythm	Demo Songs	Features	Package
HT337C	2.4V~5.0V	37	16	16	22	LED Flash	48SSOP
HT337B	2.4V~5.0V	37	8	8	8	—	48SSOP
HT3496	2.4V~5.0V	49	10	10	8	—	48SSOP
HT3497	2.4V~5.0V	49/54	100	100	10	—	48SSOP
HT3498	2.4V~5.0V	49	10	10	8	—	48SSOP
HT3612	3.6V~5.0V	61	20	20	8	—	48SSOP
HT3614	2.4V~5.0V	61	20	20	5	—	48SSOP
HT3615	3.6V~5.0V	61	100	100	12	—	48SSOP
HT3617	3.6V~5.0V	61	100	100	12	LCD Display	56SSOP

Computer

Keyboard/Mouse/Joystick MCU

Part No.	VDD	Clock Mode	Program Memory	Data Memory	Interface	I/O	Timer		A/D	PWM	Stack	Package
							8-bit	16-bit				
HT82K68E HT82K68A	2.2V~5.5V	RC/Crystal	3K×16	160×8	PS/2	37	1	—	—	—	6	20/28SOP, 48SSOP
HT82K94E* HT82K94A**	2.2V~5.5V	Crystal	6K×16	224×8	USB+PS/2	40	1	1	—	—	8	20SOP, 48SSOP
HT82K95E HT82K95A	4.2V~5.5V	Crystal	4K×15	160×8	USB+PS/2	32	1	1	—	—	8	20/28SOP, 20/48SSOP
HT82K96E HT82K96A	4.4V~5.5V	Crystal	4K×15	160×8	USB+PS/2	32	1	1	8-bit×6ch	—	8	20/28SOP, 20/48SSOP
HT82J97E HT82J97A	4.0V~5.5V	Crystal	2K×14	96×8	USB+PS/2	20	—	1	8-bit×6ch	8-bit×2	4	20/28SOP
HT82M99E HT82M99A	4.0V~5.5V	Crystal	2K×14	96×8	USB+PS/2	12	—	1	—	—	4	18/20DIP, 18/20SOP

* Under development, available in 4Q, 2005.

** Under development, available in 1Q, 2006.

Note: Part numbers suffixed with "A" are mask version devices while "E" are OTP devices.

Mouse

Part No.	Description	VDD	System Frequency	X/Y axis	Z axis	Package
HT82M39A	3-key 3D PS/2 mouse controller	4.75V~5.25V	2MHz	Photo Ball 800 DPI Opto 400 DPI	Optomech/Mechanical	16DIP
HT82M398A	5-key 3D WIN2000 PS/2 mouse controller	4.75V~5.25V	2MHz	Photo Ball 800 DPI Opto 400 DPI	Optomech/Mechanical	16DIP
HT82M30A HT82M30B HT82M30C HT82M30D	3/5-key 3D PS/2 optical mouse controller (for HP H2051/H2620/H2610)	4.0V~5.5V	2MHz	HP Sensor Opto 400/800 DPI	Optomech/Mechanical (Z axis/4/2)	16DIP
HT82M32A HT82M32B	3/5-key 3D PS/2 optical mouse controller (for PixArt PAN101, PAN301, PAN3101)	4.0V~5.5V	2MHz	PixArt Sensor	Optomech/Mechanical (Z axis/4/2)	16DIP
HT82M98A	3-key 3D USB+PS/2 mouse controller	4.4V~5.25V	6MHz	Photo Ball 800 DPI Opto 400 DPI	Optomech/Mechanical	18/20DIP
HT82M980A	5-key 3D WIN2000 USB+PS/2 mouse controller	4.4V~5.25V	6MHz	Photo Ball 800 DPI Opto 400 DPI	Optomech/Mechanical	20DIP
HT82M21A	3-key 3D USB+PS/2 optical mouse controller (for HP H2051/H2620/H2610)	4.4V~5.25V	6MHz	HP Sensor Opto 400/800 DPI	Optomech/Mechanical (Z axis/4/2)	18DIP
HT82M22A	5-key 3D USB+PS/2 optical mouse controller (for HP H2051/H2620/H2610)	4.4V~5.25V	6MHz	HP Sensor Opto 400/800 DPI	Optomech/Mechanical (Z axis/4/2)	20DIP

Keyboard

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

Communication

I/O Type Phone MCU

Part No.	VDD	Program Memory	Data Memory	General I/O	Dialer I/O	Timer	External Interrupt	Stack	DTMF Generator	Package
HT95A100 HT95A10P	2.4V~5.5V	4K×16	384×8	20	6	16-bit×2	3	4	√	28SOP
HT95A200 HT95A20P	2.4V~5.5V	4K×16	1152×8	28	8	16-bit×2	4	8	√	48SSOP
HT95A300 HT95A30P	2.4V~5.5V	8K×16	2112×8	28	8	16-bit×2	4	8	√	48SSOP
HT95A400 HT95A40P	2.4V~5.5V	16K×16	2880×8	44	8	16-bit×2	4	12	√	64QFP

Note: Part numbers suffixed with "P" are OTP devices, all others are mask version devices.

LCD Type Phone MCU

Part No.	VDD	Program Memory	Data Memory	General I/O	Dialer I/O	LCD	Timer	External Interrupt	Stack	DTMF Generator	Package
HT95L000 HT95L00P	2.4V~5.5V	4K×16	384×8	14~18	6	12×8~ 16×8	16-bit×2	3	4	√	56SSOP
HT95L100 HT95L10P	2.4V~5.5V	4K×16	1152×8	16~20	8	16×8~ 20×8	16-bit×2	4	8	√	64QFP
HT95L200 HT95L20P	2.4V~5.5V	8K×16	1152×8	20~28	8	24×8~ 24×16	16-bit×2	4	8	√	100QFP
HT95L300 HT95L30P	2.4V~5.5V	8K×16	2112×8	16~28	8	36×16~ 48×16	16-bit×2	4	8	√	100QFP
HT95L400 HT95L40P	2.4V~5.5V	16K×16	2880×8	28~40	8	36×16~ 48×16	16-bit×2	4	12	√	128QFP

Note: Part numbers suffixed with "P" are OTP devices, all others are mask version devices.

CID Type Phone MCU

Part No.	VDD	Program Memory	Data Memory	General I/O	Dialer I/O	LCD	Timer	External Interrupt	Stack	DTMF Generator	FSK Receiver	Package
HT95C200 HT95C20P	2.4V~5.5V	8K×16	1152×8	20~28	8	24×8~ 24×16	16-bit×2	4	8	√	√	128QFP
HT95C300 HT95C30P	2.4V~5.5V	8K×16	2112×8	16~28	8	36×16~ 48×16	16-bit×2	4	8	√	√	128QFP
HT95C400 HT95C40P	2.4V~5.5V	16K×16	2880×8	28~40	8	36×16~ 48×16	16-bit×2	4	12	√	√	128QFP

Note: Part numbers suffixed with "P" are OTP devices, all others are mask version devices.

Dual Mode Caller ID Phone Single Chip

Part No.	VDD	Incoming Call Store	Outgoing Call Store	FSK/DTMF Receiver	Ringer	LCD Driver	Tone/Pulse Dialer	Package
HT95168	2.4V~5.5V	27 sets (Max.)	8 set (Max.)	√	√	√	√	56SSOP

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
HT9020B	Call progress tone detector	2.5V~5.5V	32768Hz	8DIP
HT9032C HT9032D	FSK decoder	3.5V~5.5V	3.58MHz	16DIP/SOP 8DIP/SOP
HT9033*	CAS tone decoder	3.5V~5.5V	3.58MHz	16DIP/SOP

* Under development, available in 4Q, 2005.

Communication
Basic Dialer

Part No.	VDD	Mem. No.	Hand Free	Hold Line	LCD Interface	Key-tone	On-hook Store	Flash Mode	Package	Remark
HT93214A	2.0V~5.5V	1	—	—	—	—	—	C	16DIP	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	—
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	—
HT9315A	2.0V~5.5V	15	—	—	—	—	—	D/C	18DIP	—
HT9315B	2.0V~5.5V	15	√	√	—	—	—	D/C	22SKDIP	—
HT9315C	2.0V~5.5V	15	—	—	√	—	—	D/C	20DIP	—
HT9315D	2.0V~5.5V	15	√	√	√	—	—	D/C	24SKDIP	—
HT9320A	2.0V~5.5V	22	√	√	—	—	√	D/C	28DIP	—
HT9320B	2.0V~5.5V	22	√	√	√	—	—	D/C	28DIP	—
HT9320C	2.0V~5.5V	22	—	—	—	—	—	D/C	22SKDIP	—

Analog
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

Amplifier

Part No.	Description	VDD	Output Power	Mute/Shutdown Function	Package
HT9274	Quad micropower op amp	1.6V~5.5V	—	—	14DIP/SOP
HT82V732	Stereo audio power amp	3V~5.5V	60mW with 32Ω	—	8SOP
HT82V733	Mono audio power amp	2.4V~5.5V	400mW with 32Ω	√	8SOP
HT82V735	Stereo audio power amp with shutdown	2.4V~6V	330mW with 32Ω	√	8SOP
HT82V736	Stereo audio power amp with mute	2.4V~6V	65mW with 32Ω	√	8SOP

Video

CCD/CIS Analog Signal Processor

Part No.	Description	VDD	AVDD	Input Channel	A/D	MSPS	Full Scale	Power Consumption	Package
HT82V24*	CCD/CIS Scanner / MFP	3.0V~5.25V	4.75V~5.25V	3 (2/1)	16-bit	30	2/3	400mW	20SOP/SSOP, 28SOP/SSOP
HT82V26	CCD/CIS Scanner / MFP	3.0V~5.25V	4.75V~5.25V	3 (2/1)	16-bit	30	2	400mW	28SOP/SSOP
HT82V26A*	CCD/CIS Scanner / MFP	3.0V~5.25V	4.75V~5.25V	3 (2/1)	16-bit	30	2	400mW	28SOP/SSOP
HT82V36	Low Power CCD/CIS Scanner	3.0V~3.6V	3.0V~3.6V	1	16-bit	6	1.4	56mW	28SSOP
HT82V842	CCD Surveillance System	2.7V~3.6V	2.7V~3.6V	1	10-bit	20	1.0	70mW	48LQFP

* Under development, available in 4Q, 2005.

CCD Vertical Driver

Part No.	VDD	VH	VL	Channel Output			Package
				3-Level	2-Level	Shutter	
HT82V804	3.0V~5.5V	14.5V~15.5V	-7.5V ~ -9.5V	2	2	1	16SSOP
HT82V805	3.0V~5.5V	14.5V~15.5V	-7.5V ~ -9.5V	2	2	1	16SSOP/TSSOP
HT82V806	2.7V~5.5V	12V~20V	-5V ~ -10V	4	2	1	24SSOP

Miscellaneous
Timepiece

Part No.	VDD	Operating Current (μ A)	Main Function	Standby Current (μ A)	External X'tal Osc.	Package
HT1380 HT1381	2.0V~5.5V	1.2	Time Keeper	0.1	32.768kHz	8DIP 8SOP

Clinical Thermometer

Part No.	VDD	Measurement Range	Resolution	Detect Stable Time	Auto Power Off
HT7500	1.3V~1.65V	32°C~42°C	0.1°C	16sec	8'40"
HT7501	1.3V~1.65V	32°C~43°C	0.01°C	8sec	8'40"

Camera Peripheral

Part No.	Description	VDD	Operating Current	Standby Current	Package
HT6750A	3-Key Date Printer	2.4V~5.5V	<3 μ A at 3V	—	—
HT6751A HT6751B	Motor Driver	2.0V~6.0V	—	<2 μ A at 5V	8SOP

PIR Controller

Part No.	VDD	ZC Off/On for Override	Flash on Mode Auto-change	Override On Duration	Comparator Window	Effective Trigger Width	Package
HT7610A HT7610B	5V~12V	2 times	Flash	8 hrs	$\frac{1}{16}(V_{DD}-V_{EE})$	>24ms	16DIP
HT7611A HT7611B	5V~12V	1 time	No flash	8 hrs	$\frac{1}{16}(V_{DD}-V_{EE})$	>24ms	16DIP

Note: Part numbers suffixed with A are for Relay application while those suffixed with B are for Triac application.

Alphanumeric Recognition

Part No.	VDD	Interface	Alphabet	Number	Hiragana	Katakana	Symbol
HT6762*	2.4V~5.2V	C type	A-Z/a-z	0~9	√	√	7

* Under development, available in 1Q, 2006.

MCU Programming Tools

The following gives details behind the range of programming equipment available to program the full range of Holtek Microcontroller based devices.

HT-IDE3000 Development Environment

The HT-IDE3000 is a fully integrated development system designed around the Holtek range of microcontrollers. Working in conjunction with the HT-ICE hardware emulator, the HT-IDE3000 system provides a user friendly workbench to ease the process of application program development, by integrating all of the software tools, such as editor, cross assembler, linker, library and symbolic debuggers. More detailed information on the HT-IDE3000 development system is contained within the HT-IDE3000 User's Guide. Installed in conjunction with the HT-ICE3000 and to ensure that the development system contains information on new microcontrollers and software updates, Holtek provides regular HT-IDE3000 Service Packs. These Service Packs do not replace the HT-IDE3000 but are installed after the HT-IDE3000 system software has been installed.

HT-ICE — Holtek In-Circuit Emulator

Developed alongside the Holtek 8-bit microcontroller device range, the Holtek ICE is a fully functional in-circuit emulator for Holtek's 8-bit microcontroller devices. Incorporated within the system are a comprehensive set of hardware and software tools for rapid and easy development of user applications. Central to the system is the in-circuit hardware emulator, capable of emulating all of Holtek's 8-bit devices in real-time, while also providing a range of powerful debugging and trace facilities. Regarding software functions, the system incorporates a user-friendly windows based workbench which integrates together functions such as program editor, cross assembler, linker and library manager. In addition, the system is capable of running in software simulation mode without connection to the HT-ICE hardware.

HT-ICE — Holtek In-Circuit Emulator			
Product Code	IC Type	IC Part No.	Product Contents
CICE48C00CCF	Cost-Effective I/O Type	HT48R05A-1, HT48C05, HT48R06A-1, HT48C06	HT-ICE, CD, 5 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB48MIO0001A), OTP Adapter (CADPDIP40A)
	I/O Type	HT48R10A-1, HT48C10-1, HT48R30A-1, HT48C30-1, HT48R50A-1, HT48C50-1, HT48R70A-1, HT48C70-1	
	Remote Type	HT48RA0-2, HT48CA0-2, HT48RA0-1, HT48CA0-1, HT48RA1, HT48CA1, HT48RA3, HT48CA3	
CICE48E000004A	Cost-Effective I/O Type	HT48R05A-1, HT48C05, HT48R06A-1, HT48C06	HT-ICE, CD, 5 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB48EIO0004A), OTP Adapter (CADPDIP40A)
	I/O Type	HT48R10A-1, HT48C10-1, HT48R30A-1, HT48C30-1, HT48R50A-1, HT48C50-1, HT48R70A-1, HT48C70-1	
	Remote Type	HT48RA0-2, HT48CA0-2, HT48RA0-1, HT48CA0-1, HT48RA1, HT48CA1, HT48RA3, HT48CA3, HT48RA5, HT48CA5	
	I/O Type MTP MCU with EEPROM	HT48E06, HT48E10, HT48E30, HT48E50, HT48E70	
CICE48R530004A	I/O Type	HT48R52, HT48R53	HT-ICE, CD, 1 Flat Cable, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB48R530004A), OTP Adapter (CADPDIP40A)
CICE49C00CCAA	LCD Type	HT49R30A-1, HT49C30-1, HT49C30L, HT49R50A-1, HT49C50-1, HT49C50L, HT49R70A-1, HT49C70-1, HT49C70L	HT-ICE, CD, 3 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB49C000001A), OTP Adapter (CADPDIP40A)
CICE46C00CCB	Cost-Effective A/D Type	HT46R46, HT46R47, HT46C47	HT-ICE, CD, 5 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB46SER0001B), OTP Adapter (CADPDIP40A)
	A/D Type	HT46R22, HT46C22, HT46R23, HT46C23, HT46R232, HT46C232, HT46R24, HT46C24, HT46R51, HT46R52, HT46R53, HT46R54	
	A/D with LCD Type	HT46R62, HT46C62, HT46R63, HT46C63, HT46R64, HT46C64, HT46R65, HT46C65	
CICE46C00CCEC	Cost-Effective A/D Type	HT46R46, HT46R46E, HT46C46E, HT46R47, HT46C47, HT46R47E, HT46C47E	HT-ICE, CD, 5 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB46SER0001B), OTP Adapter (CADPDIP40A)
	A/D Type	HT46R22, HT46C22, HT46R23, HT46C23, HT46R232, HT46C232, HT46R24, HT46C24, HT46R51, HT46R52, HT46R53, HT46R54	
	A/D with LCD Type	HT46R62, HT46C62, HT46R63, HT46C63, HT46R64, HT46C64, HT46R65, HT46C65	
CICE49CV00004A	A/D with VFD Type	HT49CV3, HT49CV5, HT49CV7, HT49CV9	HT-ICE, CD, 3 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB49VIO0004A)
TICE47C-CCDA	R-F Type	HT47R20A-1, HT47C20-1, HT47C20L	HT-ICE, CD, Flat Cable, Power Adapter, Power Cord, Printer Cable, Interface Card (TPCB47C00-A-1), 2 Test Keys (RFADOSC-1, RFADOSC-2)
TICE47C100000A		HT47C10L	HT-ICE, CD, Flat Cable, Power Adapter, Power Cord, Printer Cable, Interface Card (TPCB47C100000A), Test Key (HTK025)
CICE950000005A	I/O Type Phone Type	HT95A100, HT95A10P, HT95A200, HT95A20P, HT95A300, HT95A30P, HT95A400, HT95A40P	HT-ICE, CD, 2 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB950000005A)
	LCD Type Phone Type	HT95L000, HT95L00P, HT95L100, HT95L10P, HT95L200, HT95L20P, HT95L300, HT95L30P, HT95L400, HT95L40P	
	CID Type Phone Type	HT95C200, HT95C20P, HT95C300, HT95C30P, HT95C400, HT95C40P	

HT-ICE — Holtek In-Circuit Emulator			
Product Code	IC Type	IC Part No.	Product Contents
TICE23B60-CCXA	Dot Matrix LCD Type	HT23B60, HT23B60R	HT-ICE, CD, 2 Flat Cables, Power Adapter, Power Cord, Printer Cable, Interface Card (TPCB23B60-A-1)
CICE860000004A	Voice	HT86072, HT86144, HT86192, HT86384, HT86576, HT86768	HT-ICE, CD, Flat Cable, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB860000004A)
	Q-Voice™	HT83003, HT83006, HT83009, HT83018, HT83036, HT83048, HT83072	
CICE82K680004A	Keyboard/Mouse/Joystick Type	HT82K68E, HT82K68A	HT-ICE, CD, Flat Cable, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB82K680004A)
CICE82K960004A	Keyboard/Mouse/Joystick Type	HT82K96E, HT82K96A, HT82K95E, HT82K95A, HT82K75E, HT82K75A	HT-ICE, CD, Flat Cable, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB82K960004B), OTP Adapter (CADP82K96D140A)
CICE82M990004A	Keyboard/Mouse/Joystick Type	HT82J97E, HT82M99E	HT-ICE, CD, Flat Cable, Power Adapter, Power Cord, Printer Cable, Interface Card (CPCB82M990004A), OTP Adapter (CADP82J97D128A)

HT-ICE Interface Card

The interface cards supplied with the HT-ICE can be used for most applications, however, it is possible for the user to omit the supplied interface card and design their own interface card. By including the necessary interface circuitry on their own interface card, the user has a means of directly connecting their target boards to the CN1 and CN2 connectors of the HT-ICE.

The following list gives the information to enable the correct flat cable connection between the range of microcontroller packages and the appropriate interface card and socket. Please note that the Interface Card accompanying each HT-ICE model is packed with other accessories in the same HT-ICE carton. Users need not purchase extra Interface Cards.

HT-ICE Interface Card		
Product Code	Supported IC	HT-ICE Type No.
CPCB48MIO0001A	HT48R05A-1, HT48C05, HT48R06A-1, HT48C06, HT48R10A-1, HT48C10-1, HT48R30A-1, HT48C30-1, HT48R50A-1, HT48C50-1, HT48R70A-1, HT48C70-1, HT48RA0-2, HT48CA0-2, HT48RA0-1, HT48CA0-1, HT48RA1, HT48CA1, HT48RA3, HT48CA3	CICE48C00CCF
CPCB48EIO0004A	HT48R05A-1, HT48C05, HT48R06A-1, HT48C06, HT48R10A-1, HT48C10-1, HT48R30A-1, HT48C30-1, HT48R50A-1, HT48C50-1, HT48R70A-1, HT48C70-1, HT48RA0-2, HT48CA0-2, HT48RA0-1, HT48CA0-1, HT48RA1, HT48CA1, HT48RA3, HT48CA3, HT48RA5, HT48CA5, HT48E06, HT48E10, HT48E30, HT48E50, HT48E70	CICE48E000004A
CPCB48R530004A	HT48R52, HT48R53	CICE48R530004A
CPCB49C000001A	HT49R30A-1, HT49C30-1, HT49C30L, HT49R50A-1, HT49C50-1, HT49C50L, HT49R70A-1, HT49C70-1, HT49C70L	CICE49C00CCAA
CPCB46SER0001B	HT46R22, HT46C22, HT46R23, HT46C23, HT46R232, HT46C232, HT46R24, HT46C24, HT46R46, HT46C46, HT46R46E, HT46C46E, HT46R47, HT46C47, HT46R47E, HT46C47E, HT46R51, HT46R52, HT46R53, HT46R54, HT46R62, HT46C62, HT46R63, HT46C63, HT46R64, HT46C64, HT46R65, HT46C65	CICE46C00CCEB, CICE46C00CCEC
CPCB49VIO0004A	HT49CV3, HT49CV5, HT49CV7, HT49CV9	CICE49CV00004A
TPCB47C00-A-1	HT47R20A-1, HT47C20-1, HT47C20L	TICE47C-CCDA
TPCB47C100000A	HT47C10L	TICE47C100000A
CPCB950000005A	HT95A100, HT95A10P, HT95A200, HT95A20P, HT95A300, HT95A30P, HT95A400, HT95A40P, HT95L000, HT95L00P, HT95L100, HT95L10P, HT95L200, HT95L20P, HT95L300, HT95L30P, HT95L400, HT95L40P, HT95C200, HT95C20P, HT95C300, HT95C30P, HT95C400, HT95C40P	CICE950000005A
TPCB23B60-A-1	HT23B60, HT23B60R	TICE23B60-CCXA
CPCB860000004A	HT86072, HT86144, HT86192, HT86384, HT86576, HT86768, HT83003, HT83006, HT83009, HT83018, HT83036, HT83048, HT83072	CICE860000004A
CPCB82K680004A	HT82K68E, HT82K68A	CICE82K680004A
CPCB82K960004B	HT82K95E, HT82K95A, HT82K96E, HT82K96A	CICE82K960004A
CPCB82M990004A	HT82J97E, HT82M99E	CICE82M990004A

OTP/MTP Programmer

The Holtek OTP programmer is supplied to enable efficient programming of OTP devices for engineering or low to medium volume production. In the other hand, the HT-Writer is able to run either by connecting to the PC through its RS-232 serial port or to operate stand alone without connecting to PC. More detailed information is contained within the HT-Writer User's Guide. Please note if the device to be programmed does not fit the on board Textool, an extra Adapter Card is needed to accommodate the device package form. Related information is listed as follows.

There are other kinds of OTP programmers, including partial-lock programmer and two-chips-in-one programmer, which support the MCU with partial lock function and two chips in one package respectively. Also, an MTP programmer provides the MTP device's programming functions. The detailed information is contained within HT-MTPWriter User's Guide.

OTP/MTP Programmer		
Product Name	Product Code	Product Contents
HT-Writer	COTPWRITER00A	HT-Writer (with an adapter card CADPDIP40A), CD, Power Adapter, RS-232 Cable
HT-2Cwriter (2-chip-in-one)	COTPEEPROM005A	HT-2Cwriter (with an adapter card CADPDIP40B), CD, power Adapter, RS-232 Cable
HT-PLWriter (Partial Lock)	COTPPLOCK0005A	HT-PLwriter (with an adapter card CADPDIP40A), CD, power Adapter, RS-232 Cable
HT-MTPwriter	CMTPWITER005A	HT-MTPwriter (with an adapter card CADPDIP40A), CD, power Adapter, RS-232 Cable

MTP Starter Kit

A comprehensive single-pack development kit containing all the required hardware and software development tools to get you up and running with the Holtek series of MTP microcontrollers in as quick a time as possible.

MTP Starter Kit		
Product Name	Product Code	IC Part No.
MTP Starter-Kit	CPCB48ESTART4A	HT48E30, HT48E50

HT-ICE USB Cable

For product development convenience of users whose computer is equipped with USB port and has no LPT port available, Holtek has released an exclusive HT-ICE USB cable allowing customers to connect from the computer's USB port and the HT-ICE's LPT connector.

HT-ICE USB Cable		
Product Name	Product Code	Support HT-ICE
HT-ICE USB Cable	CUSBICECABLE4A	All HT-ICE

OTP Adapter Card

The Holtek OTP programmers are supplied with a standard Textool chip socket. The OTP Adapter Card is used to connect the Holtek OTP programmers to the various sizes of available OTP chip packages that are unable to use this supplied socket. The following table will enable the user to select the required adapter card for their various applications.

OTP Adapter Card		
Product Code	IC Part No.	Product Contents
CADPDIP40A	HT48R05A-1, HT48R06A-1, HT46R47, HT46R51, HT46R52	18DIP
	HT48R10A-1, HT48R30A-1, HT46R22, HT46R23	24SKDIP
	HT48R30A-1, HT48R50A-1, HT46R23, HT46R232, HT46R24, 46R53, 46R54	28SKDIP
CADPDIP40B	HT46R46E, HT46R47E	18DIP
CADPSOP28A	HT48R05A-1, HT48R06A-1, HT46R47	18SOP
	HT46R51, HT46R52, HT82K68E	20SOP
	HT48R10A-1, HT48R30A-1, HT46R22, HT46R23	24SOP
	HT48R30A-1, HT48R50A-1, HT46R23, HT46R232, HT46R24, HT48RA1, HT48RA3, HT48RA5, HT82K68E	28SOP
CADPSOP28B	HT46R46E, HT46R47E	18SOP
CADP48R05SN16A	HT48R05A-1, HT48R06A-1	16SSOP (150mil)
	HT46R51, HT46R52	20SSOP
CADP48R50SS48A	HT48R50A-1, HT48R70A-1, HT46R232, HT46R24, HT82K68E	48SSOP
CADP48R70QF64A	HT48R70A-1	64QFP
ADP48R53QF52A	HT48R52, HT48R53	52QFP
CADP49R50QF10A	HT49R50A-1, HT49R70A-1	100QFP
CADP46R54SO28A	HT46R53, HT46R54	28SOP
CADP46R62SS56A	HT49R30A-1, HT49R50A-1	48SSOP
	HT46R62, HT46R64, HT46R65	56SSOP
CADP46R62QF52A	HT46R62, HT46R64, HT46R65	52QFP
CADP46R63SS56A	HT46R63	56SSOP
CADP46R63QF10A	HT46R63	100QFP
CADP46R64QF10A	HT46R64, HT46R65	100QFP
CADP47R20QF64A	HT47R20A-1	64QFP
CADP48RA0SO28A	HT48RA0-2	20SOP
	HT48RA0-1	24SOP
CADP48RA0SN28A	HT48RA0-2	20SSOP (150mil)
	HT48RA0-1	24SSOP (150mil)
CADPMSSOP28A	HT48RA1, HT48RA3, HT48RA5, HT48R06A-1, HT46R23, HT82K68E	28SSOP (209mil)
CADP95A10SO28A	HT95A10P	28SOP
CADP95A20SS48A	HT95A20P, HT95A30P	48SSOP
CADP95L10QF64A	HT95A40P, HT95L10P	64QFP
CADP95L00SS56A	HT95L00P	56SSOP
CADP95L20QF10A	HT95L20P, HT95L30P	100QFP
CADP95C20QF12A	HT95C20P, HT95C30P, HT95C40P, HT95L40P	128QFP
CADP82K96DI40A	HT82K95E, HT82K96E	40DIP
CADP82K96SO20A	HT82K95E, HT82K96E	20SOP
CADP82K96SO28A	HT82K95E, HT82K96E	28SOP
CADP82K96SM20A	HT82K95E, HT82K96E	20SSOP
CADP82K96SS48A	HT82K95E, HT82K96E	48SSOP
CADP82M99DI20A	HT82M99E	18/20DIP
CADP82M99SO20A	HT82J97E, HT82M99E	20SOP
CADP82J97DI28A	HT82J97E	28DIP
CADP82J97SO28A	HT82J97E	28SOP
CADP23B60QF10A	HT23B60R	100QFP
CADP81R03DI16A	HT81R03, HT81R06, HT81R09, HT81R18, HT81R36	16DIP

MCU Tools Indexing Table

By referring to the applicable Holtek MCU part number this table provides users with a means to quickly locate the relevant development tools and OTP programming tools required. In instances where tools are not listed for specific devices, this infers that such tools are not required.

In the following indexing tables, the part number of the OTP writer is COTPWRITER00A. The HT-ICE, with part number beginning with "C", has an integrated OTP writer on board, it is not required to obtain an extra OTP writer. Other HT-ICE, with part number beginning with "T", does not have an integrated OTP writer, it requires a separate OTP writer for programming.

MCU Tools Indexing Table				
IC Part No.	Package Type	HT-ICE	I/O Interface Card	OTP Writer (& Adapter)
Cost-Effective I/O Type MCU				
HT48R05A-1 HT48C05	16SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADP48R05SN16A)
	18DIP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPDIP40A)
	18SOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPSOP28A)
HT48R06A-1 HT48C06	16SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADP48R05SN16A)
	18DIP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPDIP40A)
	18SOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPSOP28A)
I/O Type MCU				
HT48R10A-1 HT48C10-1	24SKDIP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPDIP40A)
	24SOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPSOP28A)
HT48R30A-1 HT48C30-1	24/28SKDIP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPDIP40A)
	24/28SOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPSOP28A)
HT48R50A-1 HT48C50-1	28SKDIP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPDIP40A)
	28SOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPSOP28A)
	48SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADP48R50SS48A)
HT48R70A-1 HT48C70-1	48SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADP48R50SS48A)
	64QFP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADP48R70QF64A)
HT48R52 HT48R53	52QFP	CICE48R530004A	CPCB48R530004A	COTPWRITER00A (CADP48R53QF52A)
I/O Type MTP MCU with EEPROM				
HT48E06	18DIP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPDIP40A)
	18SOP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPSOP28A)
	20SSOP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADP48R05SN16A)
HT48E10	24SKDIP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPDIP40A)
	24SOP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPSOP28A)
HT48E30	24/28SKDIP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPDIP40A)
	24/28SOP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPSOP28A)
HT48E50	28SKDIP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPDIP40A)
	28SOP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADPSOP28A)
	48SSOP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADP48R50SS48A)
HT48E70	48SSOP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADP48R50SS48A)
	64QFP	CICE48E000004A	CPCB48EIO0004A	CMTTPWRITER005A (CADP48R70QF64A)
LCD Type MCU				
HT49R30A-1 HT49C30-1 HT49C30L	48SSOP	CICE49C00CCAA	CPCB49C000001A	COTPWRITER00A (CADP46R62SS56A)
HT49R50A-1 HT49C50-1 HT49C50L	48SSOP	CICE49C00CCAA	CPCB49C000001A	COTPWRITER00A (CADP46R62SS56A)
	100QFP	CICE49C00CCAA	CPCB49C000001A	COTPWRITER00A (CADP49R50QF10A)
HT49R70A-1 HT49C70-1 HT49C70L	100QFP	CICE49C00CCAA	CPCB49C000001A	COTPWRITER00A (CADP49R50QF10A)
Cost-Effective A/D Type MCU				
HT46R46 HT46C46	18DIP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
	18SOP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPSOP28A)
HT46R46E HT46C46E	18DIP	CICE46C00CCEC	CPCB46SER0001B	COTPEEPROM005A (CADPDIP40B)
	18SOP	CICE46C00CCEC	CPCB46SER0001B	COTPEEPROM005A (CADPSOP28B)
HT46R47 HT46C47	18DIP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
	18SOP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPSOP28A)
HT46R47E HT46C47E	18DIP	CICE46C00CCEC	CPCB46SER0001B	COTPEEPROM005A (CADPDIP40B)
	18SOP	CICE46C00CCEC	CPCB46SER0001B	COTPEEPROM005A (CADPSOP28B)

MCU Tools Indexing Table				
IC Part No.	Package Type	HT-ICE	I/O Interface Card	OTP Writer (& Adapter)
A/D Type MCU				
HT46R22 HT46C22	24SKDIP 24SOP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
HT46R23 HT46C23	24/28SKDIP 24/28SOP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
HT46R232 HT46C232	28SKDIP 28SOP 48SSOP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
HT46R24 HT46C24	28SKDIP 28SOP 48SSOP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
HT46R51	18DIP 20SOP 20SSOP	CICE46C00CCEB or CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
HT46R52	18DIP 20SOP 20SSOP	CICE46C00CCEB or CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
HT46R53	28SKDIP 28SOP	CICE46C00CCEB or CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
HT46R54	28SKDIP 28SOP	CICE46C00CCEB or CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADPDIP40A)
A/D with LCD Type MCU				
HT46R62 HT46C62	52QFP 56SSOP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADP46R62QF52A)
HT46R63 HT46C63	56SSOP 100QFP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADP46R63SS56A)
HT46R64 HT46C64	52QFP 56SSOP 100QFP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADP46R62QF52A)
HT46R65 HT46C65	52QFP 56SSOP 100QFP	CICE46C00CCEC	CPCB46SER0001B	COTPWRITER00A (CADP46R62QF52A)
A/D with VFD Type MCU				
HT49RV3 HT49CV3	52QFP	CICE49CV00004A	CPCB49VIO0004A	—
HT49RV5 HT49CV5	56SSOP	CICE49CV00004A	CPCB49VIO0004A	—
HT49RV7 HT49CV7	100QFP	CICE49CV00004A	CPCB49VIO0004A	—
HT49RV9 HT49CV9	100QFP	CICE49CV00004A	CPCB49VIO0004A	—
R-F Type MCU				
HT47C10L	44QFP	TICE47C100000A	TPCB47C100000A	—
HT47R20A-1 HT47C20-1 HT47C20L	64QFP	TICE47C-CCDA	TPCB47C00-A-1	COTPWRITER00A (CADP47R20QF64A)
Remote Type MCU				
HT48RA0-2 HT48CA0-2	20SOP 20SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADP48RA0SO28A)
HT48RA0-1 HT48CA0-1	24SOP 24SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADP48RA0SO28A)
HT48RA1 HT48CA1	28SOP 28SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPSOP28A)
HT48RA3 HT48CA3	28SOP 28SSOP	CICE48C00CCF or CICE48E000004A	CPCB48MIO0001A	COTPWRITER00A (CADPSOP28A)
HT48RA5 HT48CA5	28SOP 28SSOP	CICE48E000004A	—	COTPWRITER00A (CADPSOP28A)

MCU Tools Indexing Table				
IC Part No.	Package Type	HT-ICE	I/O Interface Card	OTP Writer (& Adapter)
I/O Type Phone MCU				
HT95A100 HT95A10P	28SOP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95A10SO28A)
HT95A200 HT95A20P	48SSOP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95A20SS48A)
HT95A300 HT95A30P	48SSOP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95A20SS48A)
HT95A400 HT95A40P	64QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95L10QF64A)
LCD Type Phone MCU				
HT95L000 HT95L00P	56SSOP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95L00SS56A)
HT95L100 HT95L10P	64QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95L10QF64A)
HT95L200 HT95L20P	100QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95L20QF10A)
HT95L300 HT95L30P	100QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95L20QF10A)
HT95L400 HT95L40P	128QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95C20QF12A)
CID Type Phone MCU				
HT95C200 HT95C20P	128QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95C20QF12A)
HT95C300 HT95C30P	128QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95C20QF12A)
HT95C400 HT95C40P	128QFP	CICE950000005A	CPCB950000005A	COTPWRITER00A (CADP95C20QF12A)
Dot Matrix LCD MCU				
HT23B60 HT23B60R	100QFP	TICE23B60-CCXA	TPCB23B60-A-1	COTPWRITER00A (CADP23B60QF10A)
Keyboard/Mouse/Joystick MCU				
HT82K68E HT82K68A	20/28SOP 48SSOP	CICE82K680004A CICE82K680004A	CPCB82K680004A CPCB82K680004A	COTPWRITER00A (CADPSOP28A) COTPWRITER00A (CADP48R50SS48A)
HT82K95E HT82K95A	20SOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SO20A)
	28SOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SO28A)
	20SSOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SM20A)
HT82K96E HT82K96A	48SSOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SS48A)
	20SOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SO20A)
	28SOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SO28A)
HT82J97E HT82J97A	20SSOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SM20A)
	48SSOP	CICE82K960004A	CPCB82K960004B	COTPWRITER00A (CADP82K96SS48A)
HT82M99E HT82M99A	20SOP	CICE82M990004A	CPCB82M990004A	COTPWRITER00A (CADP82M99SO20A)
	28SOP	CICE82M990004A	CPCB82M990004A	COTPWRITER00A (CADP82J97SO28A)
HT82M99E HT82M99A	18/20DIP	CICE82M990004A	CPCB82M990004A	COTPWRITER00A (CADP82M99DI20A)
	18/20SOP	CICE82M990004A	CPCB82M990004A	COTPWRITER00A (CADP82M99SO20A)

MCU Tools Indexing Table				
IC Part No.	Package Type	HT-ICE	I/O Interface Card	Demo Board
Voice MCU				
HT86072 HT86144 HT86192	28SOP 100QFP	CICE860000004A	CPCB860000004A	HT86P00EV-1 HT86P00EV-2 HT86P00-COB1 HT86P00-COB2
HT86384				HT86P00EV-1 HT86P00-COB1
HT86576 HT86768	32SOP 100QFP			HT86P00EV-3 HT86P00-COB3
Q-Voice™				
HT83003 HT83006 HT83009 HT83018 HT83036 HT83048 HT83072	32DIP	CICE860000004A	CPCB860000004A	HT86P00EV-1 HT86P00EV-2 HT86P00-COB1 HT86P00-COB2

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