



Series	Group	Part Number (Note 1)	Package Description (Note 2)	Package Code (Note 2)	ROM Type (Note 3)	ROM (Kbytes)	RAM / Cache Vcc min	Vcc max	max MHz @ Vcc max	32 KHz sub clock	On chip debug	8 bit timers	16 bit timers	Watchdog Timers	8 Bit PWM	10 Bit PWM	14 Bit PWM	16 Bit PWM	Serial (sync/async)	I <sup>2</sup> C	A/D 10 bit resolution	D/A 8 bit resolution	DMA channels	Value Series	GPIO / High Current	Special Features	
SLP	38004	HD64F38004H	QFP	FP-64A	F	32K	2K	2.2	3.6	5	Y	Y	1	1	1	-	2	-	-	1	-	4	-	-	50/6	25x4 LCD, AEC	
		HD64F38004FP	LQFP	FP-64E	F	32K	2K	2.2	3.6	5	Y	Y	1	1	1	-	2	-	-	1	-	4	-	-	50/6	25x4 LCD, AEC	
	38024	HD64F38024H	QFP	FP-80A	F	32K	2K	2.7	3.6	5	Y	Y	3	2	1	-	2	-	-	1	-	8	-	-	66/6	32x4 LCD, AEC	
		HD64F38024W	TQFP	TFP-80C	F	32K	2K	2.7	3.6	5	Y	Y	3	2	1	-	2	-	-	1	-	8	-	-	66/6	32x4 LCD, AEC	
Tiny	36014	HD64F36012FP	LQFP	FP-64E	F	16K	2K	3.0	5.5	20	-	Y	1	1	1	-	-	-	3	2	-	4	-	-	34/5	WDTO, (POR & LVD with G version only)	
		HD64F36012FY	LQFP	FP-48B	F	16K	2K	3.0	5.5	20	-	Y	1	1	1	-	-	-	3	2	-	4	-	-	34/5	WDTO, (POR & LVD with G version only)	
		HD64F36014FP	LQFP	FP-64E	F	32K	2K	3.0	5.5	20	-	Y	1	1	1	-	-	-	3	2	-	4	-	-	34/5	WDTO, (POR & LVD with G version only)	
		HD64F36014FY	LQFP	FP-48B	F	32K	2K	3.0	5.5	20	-	Y	1	1	1	-	-	-	3	2	-	4	-	-	34/5	WDTO, (POR & LVD with G version only)	
	3684	HD64F3684H	QFP	FP-64A	F	32K	4K	3.0	5.5	20	Y	Y	3	2	1	-	-	-	1	6	2	1	8	-	-	53/8	WDTO, RTC, (POR & LVD with G version only)
		HD64F3684FP	LQFP	FP-64E	F	32K	4K	3.0	5.5	20	Y	Y	3	2	1	-	-	-	1	6	2	1	8	-	-	53/8	WDTO, RTC, (POR & LVD with G version only)
	3687	HD64F3687H	QFP	FP-64A	F	56K	4K	3.0	5.5	20	Y	Y	3	2	1	-	-	-	1	6	2	1	8	-	-	53/8	WDTO, RTC, (POR & LVD with G version only)
		HD64F3687FP	LQFP	FP-64E	F	56K	4K	3.0	5.5	20	Y	Y	3	2	1	-	-	-	1	6	2	1	8	-	-	53/8	WDTO, RTC, (POR & LVD with G version only)
	3694	HD64F3694H	QFP	FP-64A	F	32K	2K	3.0	5.5	20	Y	Y	2	1	1	-	-	-	3	1	1	8	-	-	37/8	WDTO, (POR & LVD with G version only)	
		HD64F3694FP	LQFP	FP-64E	F	32K	2K	3.0	5.5	20	Y	Y	2	1	1	-	-	-	3	1	1	8	-	-	37/8	WDTO, (POR & LVD with G version only)	
HD64F3694FY		LQFP	FP-48B	F	32K	2K	3.0	5.5	20	Y	Y	2	1	1	-	-	-	3	1	1	8	-	-	37/8	WDTO, (POR & LVD with G version only)		
300H	3048B	HD64F3048BF25	QFP	FP-100B	F	128K	4K	3.0	5.5	25	-	Y	-	5	1	-	-	-	5	2	-	8	2	4	78/20	TPC, BSC, DRAMC, Smart Card I/F	
		HD64F3048BTE25	TQFP	TFP-100B	F	128K	4K	3.0	5.5	25	-	Y	-	5	1	-	-	-	5	2	-	8	2	4	78/20	TPC, BSC, DRAMC, Smart Card I/F	
	3064B	HD64F3064BF25	QFP	FP-100B	F	256K	8K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	79/20	TPC, BSC, Smart Card I/F	
		HD64F3064BTE25	TQFP	TFP-100B	F	256K	8K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	79/20	TPC, BSC, Smart Card I/F	
	3026	HD64F3026F25	QFP	FP-100B	F	256K	8K	3.0	3.6	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	79/20	TPC, BSC, Smart Card I/F	
		HD64F3026TE25	TQFP	TFP-100B	F	256K	8K	3.0	3.6	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	79/20	TPC, BSC, Smart Card I/F	
	3068	HD64F3068F25	QFP	FP-100B	F	384K	16K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	3	-	8	2	4	79/20	TPC, BSC, DRAMC	
		HD64F3068TE25	TQFP	TFP-100B	F	384K	16K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	3	-	8	2	4	79/20	TPC, BSC, DRAMC	
	3069	HD64F3069F25	QFP	FP-100B	F	512K	16K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	3	-	8	2	4	79/20	TPC, BSC, DRAMC	
		HD64F3069TE25	TQFP	TFP-100B	F	512K	16K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	3	-	8	2	4	79/20	TPC, BSC, DRAMC	
	3062BL	HD6413008FBL25NF	QFP	FP-100B	L	0K	4K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	Y	47	TPC, BSC, Smart Card I/F
		HD64F3062BFBL25L	QFP	FP-100B	F	128K	4K	4.5	5.5	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	Y	79/20	TPC, BSC, Smart Card I/F
HD6413008FBL25V		QFP	FP-100B	L	0K	4K	3.0	3.6	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	Y	47	TPC, BSC, Smart Card I/F	
HD64F3024FBL25		QFP	FP-100B	F	128K	4K	3.0	3.6	25	-	-	4	3	1	-	-	-	3	2	-	8	2	-	Y	79/20	TPC, BSC, Smart Card I/F	
H8S/2100	2145B	HD64F2145BVFA10	QFP	FP-100B	F	256K	8K	2.7	3.6	10	-	-	4	1	2	16	-	2	-	3	2	8	2	-	82	DTC, X-BUS, LPC, 3ch PS2, IrDA	
		HD64F2145BVTE10	TQFP	TFP-100B	F	256K	8K	2.7	3.6	10	-	-	4	1	2	16	-	2	-	3	2	8	2	-	82	DTC, X-BUS, LPC, 3ch PS2, IrDA	
	2148B	HD64F2148BVFA10	QFP	FP-100B	F	128K	4K	2.7	3.6	10	-	-	4	1	2	16	-	2	-	3	2	8	2	-	82	DTC, X-BUS, LPC, 3ch PS2, IrDA	
		HD64F2148BVTE10	TQFP	TFP-100B	F	128K	4K	2.7	3.6	10	-	-	4	1	2	16	-	2	-	3	2	8	2	-	82	DTC, X-BUS, LPC, 3ch PS2, IrDA	
		HD64F2148BFA20	QFP	FP-100B	F	128K	4K	4.5	5.5	20	-	-	4	1	2	16	-	2	-	3	2	8	2	-	82	DTC, X-BUS, LPC, 3ch PS2, IrDA	
		HD64F2148BTE20	TQFP	TFP-100B	F	128K	4K	4.5	5.5	20	-	-	4	1	2	16	-	2	-	3	2	8	2	-	82	DTC, X-BUS, LPC, 3ch PS2, IrDA	
H8S/2200	2215	HD64F2215TE16	TQFP	TFP-120	F	256K	16K	2.7	3.6	16	-	-	2	3	1	2	-	-	7	3	-	6	2	4	75	DTC, BSC, USB, PLL, Boundary Scan	
		HD64F2215BR16	LFBGA	BP-112	F	256K	16K	2.7	3.6	16	-	-	2	3	1	2	-	-	7	3	-	6	2	4	75	DTC, BSC, USB, PLL, Boundary Scan	
		HD64F2215UTE16	TQFP	TFP-120	F	256K	16K	2.7	3.6	16	-	-	2	3	1	2	-	-	7	3	-	6	2	4	75	DTC, BSC, USB, Flash via USB, PLL, Boundary Scan	
		HD64F2215UBR16	LFBGA	BP-112	F	256K	16K	2.7	3.6	16	-	-	2	3	1	2	-	-	7	3	-	6	2	4	75	DTC, BSC, USB, Flash via USB, PLL, Boundary Scan	
		HD64F2215TE13	TQFP	TFP-100B	F	384K	32K	2.7	3.6	16	Y	-	4	6	2	4	-	-	15	4	2	8	2	4	82	DTC, BSC, Smart Card I/F	
	2239	HD64F2239FA13	QFP	FP-100B	F	384K	32K	2.7	3.6	16	Y	-	4	6	2	4	-	-	15	4	2	8	2	4	82	DTC, BSC, Smart Card I/F	
		HD64F2239TE13	TQFP	TFP-100B	F	384K	32K	2.7	3.6	16	Y	-	4	6	2	4	-	-	15	4	2	8	2	4	82	DTC, BSC, Smart Card I/F	
		HD64F2268FA13	QFP	FP-100B	F	256K	16K	3.0	5.5	13	-	-	4	6	1	-	-	-	7	3	2	10	2	-	78	DTC, 40x4 LCD, DTMF, Smart Card I/F	
		HD64F2268TE13	TQFP	TFP-100B	F	256K	16K	3.0	5.5	13	-	-	4	6	1	-	-	-	7	3	2	10	2	-	78	DTC, 40x4 LCD, DTMF, Smart Card I/F	
	2268	HD64F2268FA20	QFP	FP-100B	F	256K	16K	4.0	5.5	20	-	-	4	6	1	-	-	-	7	3	2	10	2	-	78	DTC, 40x4 LCD, DTMF, Smart Card I/F	
HD64F2268TE20		TQFP	TFP-100B	F	256K	16K	4.0	5.5	20	-	-	4	6	1	-	-	-	7	3	2	10	2	-	78	DTC, 40x4 LCD, DTMF, Smart Card I/F		
2282	HD64F2282F20	QFP	FP-100A	F	128K	4K	4.5	5.5	20	-	-	-	3	2	-	16	-	7	2	-	8	-	-	72	CAN, 28x4 LCD, PLL, M-PWM		
2317BL	HD6412312SVTEBL25	TQFP	TFP-100B	L	0K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	2	-	8	2	-	Y	49	DTC, BSC, Smart Card I/F	
	HD64F2317VTEBL25	TQFP	TFP-100B	F	128K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	2	-	8	2	-	Y	79	DTC, BSC, Smart Card I/F	
2318	HD64F2318VTE25	TQFP	TFP-100B	F	256K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	2	-	8	2	-	79	DTC, BSC, Smart Card I/F		



Series	Group	Part Number (Note 1)	Package Description (Note 2)	Package Code (Note 2)	ROM Type (Note 3)	ROM (Kbytes)	RAM / Cache	Vcc min	Vcc max	max MHz @ Vcc max	32 KHz sub clock	On chip debug	8 bit timers	16 bit timers	Watchdog Timers	8 Bit PWM	10 Bit PWM	14 Bit PWM	16 Bit PWM	Serial (sync/async)	I <sup>2</sup> C	A/D 10 bit resolution	D/A 8 bit resolution	DMA channels	Value Series	GPIO / High Current	Special Features
H8S/2300	2327BL	HD64F2319VTE25	TQFP	TFP-100B	F	512K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	2	-	8	2	-	-	79	DTC, BSC, Smart Card I/F
		HD6412322RVFBL25	QFP	FP-128	L	0K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	8	2	4	Y	65	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
		HD64F2327BVFBL25	QFP	FP-128	F	128K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	8	2	4	Y	95	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
	2328	HD6412324SVF25	QFP	FP-128	L	0K	32K	2.7	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	8	2	4	-	65	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
		HD64F2328VF25	QFP	FP-128	F	256K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	8	2	4	-	95	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
		HD64F2329BVF25	QFP	FP-128	F	384K	32K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	8	2	4	-	95	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
	2337BL	HD6412332VFCBL25	QFP	FP-144G	L	0K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	12	4	4	Y	88	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
		HD64F2337VFCBL25	QFP	FP-144G	F	128K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	12	4	4	Y	118	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
	2338	HD64F2338VFC25	QFP	FP-144G	F	256K	8K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	12	4	4	-	118	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
		HD64F2339VFC25	QFP	FP-144G	F	384K	32K	3.0	3.6	25	-	#5	2	6	1	-	-	-	15	3	-	12	4	4	-	118	DTC, BSC, DRAMC, 16 bit PPG, Smart Card I/F
2377	HD64F2377RVFQ33	LQFP	FP-144H	F	384K	24K	3.0	3.6	33	-	Y	2	6	1	2	-	-	-	15	5	2	16	6	6	-	113	DTC, SDRAM, 16 bit PPG, IrDA, PLL, Smart Card I/F
H8S/2600	2612	HD64F2612FA20	QFP	FP-80A	F	128K	4K	4.5	5.5	20	-	-	-	6	1	-	-	-	21	3	-	12	-	-	-	56	CAN, MMT, DTC, PLL, 8 bit PPG
	2623	HD64F2623FA20	QFP	FP-100B	F	256K	12K	3.0	3.6	20	Y	-	-	6	1	-	-	-	15	3	-	16	-	-	-	70	CAN, DTC, BSC, 8 bit PPG, 5v I/O, PLL, Smart Card I/F
	2633	HD64F2633RF28	QFP	FP-128B	F	256K	16K	4.5	5.5	28	Y	-	4	6	2	-	-	4	15	5	2	16	4	4	-	89	DTC, BSC, DRAMC, 8 bit PPG, IrDA, PLL, Smart Card I/F
	2636	HD64F2636UF20	QFP	FP-128B	F	128K	4K	4.5	5.5	20	Y	-	-	6	2	-	16	-	15	3	-	12	2	-	-	84	CAN, DTC, BSC, 8 bit PPG, M-PWM, PLL, Smart Card I/F
		HD64F2638WF20	QFP	FP-128B	F	256K	16K	4.5	5.5	20	Y	-	-	6	2	-	16	-	15	3	2	12	2	-	-	84	CAN, DTC, BSC, 8 bit PPG, M-PWM, PLL, Smart Card I/F
	2676	HD6412674RVFQ33	LQFP	FP-144H	L	0K	32K	3.0	3.6	33	-	-	2	6	1	-	-	-	15	3	-	12	4	8	-	84	DTC, SDRAM, 16 bit PPG, PLL, IrDA
		HD64F2676VFC33	QFP	FP-144G	F	256K	8K	3.0	3.6	33	-	-	2	6	1	-	-	-	15	3	-	12	4	8	-	115	DTC, BSC, DRAMC, 16 bit PPG, PLL, IrDA

Abbreviations			
3-Phase	3-Phase Motor Control	MMT	Motor Management Timer
AEC	Asynchronous Event Counter	M-PWM	Motor Enhanced PWM timer
AFE	Analog Front End	MTU	Motor Timer Unit
AUD	Advanced User Debug	PCI	PCI Bus Interface
BOD	Brown Out Detector	PCMCIA	PCMCIA Bus Interface
BSC	External Bus Controller	PLL	Phase Lock Loop
CAN	Control Area Network 2.0 B	POR	Power On Reset
CRC	Cyclic Redundancy Check	PPG	Programmable Pulse Generator
DMA	Direct Memory Access	PS2	PS2 Interface
DRAMC	DRAM Controller	RTC	Real Time Clock
DTC	Data Transfer Controller	RTP	Real Time Port
DTMF	Telephone Tone Generator	SDRAM	SDRAM Bus Controller
FPU	Floating Point Unit	Simul A/D	Simultaneous A/D conversion
HDLC	High Level Data Link Control	SSI	Serial Sound Interface
I2C	Inter IC Bus	TPC	Timing Pattern Controller
IIO	Intelligent I/O	USB	2.0 Full Speed 12.0 Mbps
IrDA	Infra Red Serial Port	USB-L	2.0 Low Speed 1.5 Mbps
LCD	LCD Controller/Driver	WDTO	Watchdog Timer with internal ring Oscillator
LPC	Low Pin Count Interface Bus	X-BUS	ISA Bus Interface
LVD	Low Voltage Detect	XYC	X-Y Converter

Footnotes:	
1) Full part numbers are not always in the data book. Please use the part number listed on this sheet.	4) Temperature ranges: Blank = -20 to +75 C or -20 to +85 C I = -40 to +85 C J = -40 to +85 C automotive specification JE = special temperature range, contact factory H = -40 to +85 C T = -40 to +85 C, automotive specification V = -40 to +125 C J, JE and T specs available upon request
2) Other package variants not listed on this page may also be available. Please check the selector guide or databook for package choices, then contact your salesperson for availability!	
3) = Mask ROM = OTP, = ROMless, = Flash, = Flash with virtual EEPROM	5) On-chip debug support on E version only. Part numbers: HD64F2319EVTE25 HD64F2329EVF25 HD64F2339EVFC25

Free Basic Micro Starter Kits are available for this part. Simply register for the contest and select the kit for this part.