



MultiLink

The MultiLink is an easy-to-use, low cost development tool for the Freescale HC(S)08 and HC(S)12 MCUs. It provides In-Circuit emulation, debugging and programming through the MON08 (HC08) and BDM (HC12, HCS08) interfaces.

Features:

- Universal development tool for HC(S)08 and HC(S)12 MCUs
- Real-Time In-Circuit emulation and debug
- Fast In-Circuit programming
- Auto-detects baud rate and frequency
- Provides optional override clock to target
- Small size
- Supports 2V - 5.5V
- Auto-cycle power for security checks (up to 125mA)
- Universal power supply (included).

The M68CYCLONEPRO provides all the same capabilities of the MultiLinks, with the ability to function as a standalone programmer, with pushbuttons and LEDs to control operation. Also provides support for 1.8V operation.

M68CYCLONEPROE-ND	HC(S)08, HC(S)12, USB	390.05
USBMULTILINK08E-ND	HC08s, USB	77.41
USBMULTILINKBDM-E-ND	HC(S)08, HC(S)12, USB	77.41

C

32-Bit Microcontrollers

ColdFire™ the highly integrated ColdFire series of processors allow for advanced performance at low cost. Rich peripheral sets and development tools make these processors both easy to use and highly functional. The variable length RISC architecture enable this processor to save system memory and cost.

PowerPC™ series of processors from Freescale Semiconductor, Inc. are the ideal foundation for RISC embedded applications. Features include high scalability and code compatibility over the entire line.

M-Core™ with an emphasis on low power consumption, the M-CORE series of processors are the ideal match for handheld and other low-power applications, which require high performance.

68K series of processors are ideal for the engineer looking for high performance at a reduced cost. The wide array of 68K processors can suit most any application.

i.MX™ based on ARM® core technology and designed for use in smartphones, wireless PDAs, mobile entertainment and many other mobile wireless applications, Freescale's i.MX family is engineered to offer smart speed-low power consumption with MHz performance to spare, and a high degree of integration to reduce your design time significantly.



Freq. (MHz)	Cache (KB)	SRAM (KB)	Flash (KB)	DMA	USB	CAN	Serial	ADC	Temperature (°C)	Package	Digi-Key Part No.	Price Each			Freescale Part No.
												1	25	100	
ColdFire™ Processors															
40	4K	8	—	2-Ch.	—	2	2 UART	—	-40 - 85	160-QFP	MCF5206ECAB40-ND	11.58	10.63	9.70	MCF5206ECAB40
40	4K	8	—	2-Ch.	—	2	2 UART	—	-40 - 85	160-QFP	MCF5206EAB40-ND	9.34	8.58	7.83	MCF5206EAB40
54	4K	8	—	2-Ch.	—	2	2 UART	—	-40 - 85	160-QFP	MCF5206EAB54-ND	11.58	10.63	9.70	MCF5206EAB54
25	512K	512	—	4-Ch.	High-Speed OTG	—	UART	12-Bit (8-Ch.)	0 - 70	160-QFP	MCF5206FT25A-ND	17.71	13.89	13.08	MCF5206FT25A
166	8K	16	—	4-Ch.	—	—	I ² C, UART, SPI	—	-40 - 85	144-MAPBGA	MCF5207CVM166-ND	6.69	5.54	5.06	MCF5207CVM166
66	4K	64	256	—	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-MAPBGA	MCF5214CVM66-ND	13.79	12.61	11.53	MCF5214CVM66
66	4K	64	512	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-MAPBGA	MCF5216CVM66-ND	14.89	13.67	12.47	MCF5216CVM66
80	16K	64	—	4-Ch.	—	2	I ² C, UART, SPI	—	-40 - 85	160-QFP	MCF5232CAB80-ND	11.67	10.71	9.77	MCF5232CAB80
100	16K	64	—	4-Ch.	—	2	I ² C, UART	—	-40 - 85	196-MAPBGA	MCF5232CVM100-ND	11.67	10.71	9.77	MCF5232CVM100
150	16K	64	—	4-Ch.	—	2	I ² C, UART	—	-40 - 85	196-MAPBGA	MCF5232CVM150-ND	15.45	14.18	12.93	MCF5232CVM150
100	8K	64	—	4-Ch.	—	2	I ² C, UART	—	-40 - 85	256-MAPBGA	MCF5233CVM100-ND	15.75	14.46	13.19	MCF5233CVM100
150	8K	64	—	4-Ch.	—	2	I ² C, UART	—	-40 - 85	256-MAPBGA	MCF5233CVM150-ND	19.51	17.90	16.33	MCF5233CVM150
100	8K	64	—	4-Ch.	—	2	I ² C, UART	—	-40 - 85	256-MAPBGA	MCF5234CVM100-ND	15.17	13.92	12.70	MCF5234CVM100
150	8K	64	—	4-Ch.	—	2	I ² C, UART	—	-40 - 85	256-MAPBGA	MCF5234CVM150-ND	18.92	17.37	15.84	MCF5234CVM150
140	8K	96	—	4-Ch.	—	2	I ² C, UART, SPI	10-Bit	-40 - 85	160-MAPBGA	MCF5249CVM140-ND	18.10	14.20	13.38	MCF5249CVM140
120	8K	96	—	4-Ch.	—	2	I ² C, UART, SPI	10-Bit	0 - 70	144-LQFP	MCF5249LAG120-ND	16.41	12.87	12.12	MCF5249LAG120
120	8K	96	—	4-Ch.	—	2	I ² C, UART, SPI	10-Bit	-40 - 85	144-LQFP	MCF5249LCAG120-ND	17.29	13.56	12.77	MCF5249LCAG120
140	8K	96	—	4-Ch.	—	2	I ² C, UART, SPI	10-Bit	0 - 70	160-BGA	MCF5249VM140-ND	17.27	13.55	12.76	MCF5249VM140
100	16K	64	—	4-Ch.	Full-Speed Device	—	I ² C, UART, SPI	—	0 - 70	160-QFP	MCF5270AB100-ND	8.55	7.85	7.16	MCF5270AB100
66	1K	4	—	4-Ch.	Full-Speed Device	—	I ² C, UART, SPI	—	0 - 70	196-BGA	MCF5272VM66-ND	11.36	10.43	9.00	MCF5272VM66
66	1K	4	—	4-Ch.	Full-Speed Device	—	I ² C, UART, SPI	—	0 - 70	196-BGA	MCF5272CVM66-ND	12.97	11.91	10.86	MCF5272CVM66
166	32K	64	—	4-Ch.	Full-Speed Device	—	I ² C, UART, SPI	—	0 - 70	196-MAPBGA	MCF5274LVM166-ND	9.40	8.63	7.87	MCF5274LVM166
166	32K	64	—	4-Ch.	Full-Speed Device	—	I ² C, UART, SPI	—	0 - 70	256-MAPBGA	MCF5274VM166-ND	11.68	10.72	9.78	MCF5274VM166
66	4K	64	—	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-MAPBGA	MCF5280CVM66-ND	16.59	15.22	13.89	MCF5280CVM66
80	4K	64	—	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-MAPBGA	MCF5280CVM80-ND	19.89	18.26	16.66	MCF5280CVM80
66	4K	64	256	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-MAPBGA	MCF5281CVM66-ND	18.59	17.06	15.56	MCF5281CVM66
80	4K	64	256	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-MAPBGA	MCF5281CVF80-ND	21.11	19.23	18.03	MCF5281CVF80
80	4K	64	256	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-MAPBGA	MCF5281CVM80-ND	21.11	19.23	18.03	MCF5281CVM80
66	4K	64	512	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-BGA	MCF5282CVM66-ND	20.21	18.55	16.93	MCF5282CVM66
80	4K	64	512	4-Ch.	—	1	I ² C, UART, SPI	10-Bit	-40 - 85	256-BGA	MCF5282CVM80-ND	24.26	22.26	20.31	MCF5282CVM80
66	16K	4	—	4-Ch.	—	—	I ² C, UART	—	0 - 70	208-FOFP	MCF5307A166B-ND	14.93	13.70	12.50	MCF5307A166B
90	16K	4	—	4-Ch.	—	—	I ² C, UART	—	0 - 70	208-FOFP	MCF5307A190B-ND	19.67	18.05	16.47	MCF5307A190B
66	16K	4	—	4-Ch.	—	—	I ² C, UART	—	-40 - 85	208-FOFP	MCF5307CA166B-ND	18.35	16.84	15.37	MCF5307CA166B
220	24K	4	—	4-Ch.	—	—	I ² C, UART	—	-40 - 85	208-FOFP	MCF5407CA1220-ND	36.37	33.37	30.45	MCF5407CA1220
162	24K	4	—	4-Ch.	—	—	I ² C, UART	—	-40 - 85	208-FOFP	MCF5407CA1162-ND	32.17	29.52	26.93	MCF5407CA1162
220	24K	4	—	4-Ch.	—	—	I ² C, UART	—	0 - 70	208-FOFP	MCF5407AI220-ND	32.17	29.52	26.93	MCF5407AI220
162	24K	4	—	4-Ch.	—	—	I ² C, UART	—	0 - 70	208-FOFP	MCF5407AI162-ND	26.56	24.37	22.23	MCF5407AI162
200	64K	32	—	16-Ch.	High-Speed Device	—	UART	—	0 - 70	388-PBGA	MCF5470VR200-ND	19.84	18.21	16.61	MCF5470VR200
200	64K	32	—	16-Ch.	High-Speed Device	2	I ² C, UART, SPI	—	0 - 70	388-PBGA	MCF5472VR200-ND	19.84	18.21	16.61	MCF5472VR200
200	64K	32	—	16-Ch.	High-Speed Device	2	I ² C, UART, SPI	—	0 - 70	388-PBGA	MCF5474ZP200-ND	21.54	20.35	19.15	MCF5474ZP200
200	64K	32	—	16-Ch.	High-Speed Device	2	I ² C, UART, SPI	—	0 - 70	388-PBGA	MCF5474VR200-ND	20.42	18.60	17.44	MCF5474VR200
266	64K	32	—	16-Ch.	High-Speed Device	2	I ² C, UART, SPI	—	0 - 70	388-PBGA	MCF5474VR266-ND	23.36	21.43	19.56	MCF5474VR266
166	64K	32	—	16-Ch.	High-Speed Device	2	I ² C, UART, SPI	—	-40 - 85	388-PBGA	MCF5480CVR166-ND	23.34	21.42	19.54	MCF5480CVR166
166	64K	32	—	16-Ch.	High-Speed Device	2	I ² C, UART, SPI	—	-40 - 85	388-PBGA	MCF5482CVR166-ND	23.34	21.42	19.54	MCF5482CVR166
200	64K	32	—	16-Ch.	High-Speed Device	2	I ² C, UART, SPI	—	-40 - 85	388-PBGA	MCF5484CVR200-ND	27.49	25.22	23.01	MCF5484CVR200
66	—	16	128	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	64-LQFP	MCF52221CAE66-ND	6.81	5.64	5.15	MCF52221CAE66
66	—	16	128	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	100-LQFP	MCF52221CAF66-ND	7.56	6.27	5.72	MCF52221CAF66
80	—	16	128	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	100-LQFP	MCF52221CAF80-ND	7.11	6.54	5.96	MCF52221CAF80
66	—	16	128	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	81-MAPBGA	MCF52221CVM66-ND	7.44	6.17	5.63	MCF52221CVM66
80	—	16	128	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	81-MAPBGA	MCF52221CVM80-ND	7.40	6.79	6.20	MCF52221CVM80
66	—	32	256	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	100-LQFP	MCF52223CAF66-ND	7.95	7.30	6.66	MCF52223CAF66
80	—	32	256	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	100-LQFP	MCF52223CAF80-ND	8.23	7.56	6.89	MCF52223CAF80
66	—	32	256	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	81-MAPBGA	MCF52223CVM66-ND	7.83	7.19	6.56	MCF52223CVM66
80	—	32	256	4-Ch.	Full-Speed Device/Host/OTG	—	I ² C, UART, SPI	12-Bit	-40 - 85	81-MAPBGA	MCF52223CVM80-ND	8.16	7.49	6.87	MCF52223CVM80
60	—	32	256	4-Ch.	—	1	I ² C, UART, SPI	12-Bit	-40 - 85	112-LQFP	MCF52230CAL60-ND	9.29	8.53	7.78	MCF52230CAL60
60	—	32	256	4-Ch.	—	1	I ² C, UART, SPI	12-Bit	-40 - 85	112-LQFP	MCF52231CAL60-ND	9.94	9.13	8.37	MCF52231CAL60
60	—	32	256	4-Ch.	—	1	I ² C, UART	12-Bit	-40 - 85	112-LQFP	MCF52233CAL60-ND	10.08	9.25	8.44	MCF52233CAL60
60	—	32	256	4-Ch.	—	1	I ² C, UART	12-Bit	-40 - 85	112-LQFP	MCF52234CAL60-ND	10.66	9.79	8.93	MCF52234CAL60

◆ RoHS Compliant § Cut Tape ‡ Tape and Reel

(Continued)

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

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