

Development Tools for ColdFire® Families

Evaluation Boards and Development Kits

Freescale Semiconductor	www.freescale.com
Axiom	www.axman.com
FSI Systems	www.fsisis.com
Logic Product Development	www.logicpd.com
NetBurner	www.netburner.com
Intec Automation	www.steroidmicros.com
P&E Microcomputer Systems	www.pemicro.com
SoftTec	www.softecmicro.com

Real-Time Operating Systems (RTOSes)

Accelerated Technology/Mentor Graphics	www.acceleratedtechnology.com
eCosCentric	www.ecoscentric.com
CMX Systems	www.cmx.com
ExpressLogic	www.rtos.com
Green Hills Software, Inc.	www.ghs.com
InterNiche Technologies	www.iniche.com
Linux	www.freescale.com/linux
Micrium	www.micrium.com
MicroDigital	www.smx-rtos.com
MQX Embedded	www.mqxembedded.com
NetBurner	www.netburner.com
Quadros Systems, Inc.	www.quadros.com
Wind River Systems Inc.	www.windriver.com
µClinux	www.freescale.com/linux

Compilers, Simulators, Debuggers

Accelerated Technology/Mentor Graphics	www.acceleratedtechnology.com
CodeSourcery	www.codesourcery.com/
CodeWarrior™ tools	www.codewarrior.com
GNU	www.gnu.org
Green Hills Software, Inc.	www.ghs.com
IAR	www.iar.com
P&E Microcomputer Systems	www.pemicro.com
NetBurner	www.netburner.com
Wind River Systems Inc.	www.windriver.com

Stacks, Drivers, Translators

Accelerated Technology/Mentor Graphics	www.acceleratedtechnology.com
CMX Systems	www.cmx.com
Embedded Access	www.embedded-access.com
ExpressLogic	www.rtos.com
Freescale	www.freescale.com
Green Hills Software, Inc.	www.ghs.com
InterNiche Technologies	www.iniche.com
Ixxat	www.ixxat.com
Micrium	www.micrium.com
Micro APL	www.microapl.com
Mocana Corporation	www.mocana.com
NetBurner	www.netburner.com
OpenTCP	www.opentcp.org
Quadros Systems, Inc.	www.quadros.com
Treck	www.treck.com
Wind River Systems Inc.	www.windriver.com

Specialized Tools

Arcturus (VoIP)	www.arcturus.com
ASH WARE Inc. (eTPU)	www.ashware.com
Byte Craft Limited (eTPU)	www.bytecraft.com
Freescale (eTPU)	www.freescale.com
Nano-X (LCD)	www.microwindows.org
Swell Software (LCD)	www.swellsoftware.com

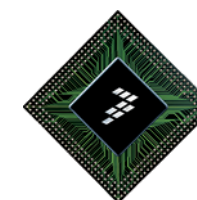
Acronyms

ADC	Analog-to-Digital Converter
BDM	Background Debug Module
CAN	Controller Area Network
ch.	Channel
Crypto	Hardware-Accelerated Encryption
DMA	Direct Memory Access
DSPI	DMA SPI
EBI	External Bus Interface
EDO	Extended Data Output
EPHY	Ethernet Physical Layer
eTPU	enhanced Timing Processor Unit
FEC	Fast Ethernet Controller
FPM	Fast Page Mode
FPU	Floating Point Unit
FREQ	Frequency/Speed
FSRP	Freescale Suggested Resale Price
GPIO	General Purpose Input/Output
GPT	General Purpose Timer
HDLC	High-Level Data Link Control
HW Divide	Hardware Divide
I/D/U Cache	Instruction/Data/Unified Cache
I²C	Inter Integrated Circuit
I²S	Inter-IC Sound
IDE	Integrated Drive Electronics
JTAG	Joint Test Action Group
KB	KiloBytes
LCD	Liquid Crystal Display
MAC/eMAC	(Enhanced) Multiplier-Accumulator
MIPS	Million Instructions Per Second
MMU	Memory Management Unit
OTG	On-The-Go
PCI	Peripheral Component
PIT	Periodic Interrupt Timer
PLIC	Physical Layer Interface Controller
PSC	Programmable Serial Controller
PWM	Pulse Width Modulation
QSPI	Queued Serial Peripheral Interface
RTC	Real-Time Clock
SPI	Serial Peripheral Interface
SVGA	Super Video Graphic Array
TDM	Time Division Multiplex
UART/ USART	Universal (Synchronous) Asynchronous Receiver Transmitter
ULPI	UTMI Low Pin Interface
USB	Universal Serial Bus



Control. Connectivity. Security.

ColdFire® Products Summary



Learn More: For more information about ColdFire family products, please visit www.freescale.com/coldfire.

Part Number	Core	Freq. (MHz)	MIPS @ Max Freq.	MMU and MPU	MAC/eMAC	HW Divide	Cache (KB)	SRAM (KB)	Flash (KB)	Memory Controller	EBI	DMA	GPT*	PWM	PIT	10/100 FEC	Crypto	USB	CAN	PCI	I ² C	UART/USART/PS	SPI	ADC	Other	GPIO Max	JTAG and BDM	Package	Operating Voltage	10 KB and up	Evaluation Board	Unit MSRP***	Low-Cost Board	Unit MSRP***	Production-Ready Module		
MCF51QE32	V1	50	46	—	—	—	—	8	32	—	—	—	1 x 6-ch., 16-bit	—	—	—	—	—	—	—	2	2 SCI	2	12-bit	Ultra low power 2x KBI (8-ch) / 2x ACMP	54	✓	LQFP 64	1.8 to 3.6	\$1.94	EVBOE128	\$325	DEMOQE128	\$99	—		
MCF51QE64	V1	50	46	—	—	—	—	8	64	—	—	—	1 x 6-ch., 16-bit	—	—	—	—	—	—	—	2	2 SCI	2	12-bit	Ultra low power 2x KBI (8-ch) / 2x ACMP	54	✓	LQFP 64	1.8 to 3.6	\$3.30	EVBOE128	\$325	DEMOQE128	\$99	—		
MCF51QE128	V1	50	46	—	—	—	—	16	128	—	—	—	1 x 6-ch., 16-bit	—	—	—	—	—	—	—	2	2 SCI	2	12-bit	Ultra low power 2x KBI (8-ch) / 2x ACMP	70	✓	LQFP 64	1.8 to 3.6	\$3.80	EVBOE128	\$325	DEMOQE128	\$99	—		
MCF5206E	V2	40, 54	50	—	MAC	✓	4 KB I	8	—	EDO, FPM	✓	2-ch.	2-ch., 16-bit	—	—	—	—	—	—	—	1	2 UART	—	—	—	—	✓	QFP 160	3.3V	\$6.99	M5206EC3E	\$549	—	—	—		
MCF5207	V2	166	159	—	eMAC	✓	8 KB I/D	16	—	DDR/SDR SDRAM	✓	16-ch.	4-ch., 32-bit	—	2	—	—	—	—	—	—	1	3 UART	QSPI	—	—	30	✓	LQFP144 MAPBGA 144	1.5V, 3.3V (2.5V DDR)	\$4.99	M5208EVBE	\$349	—	—	—	
MCF5208	V2	166	159	—	eMAC	✓	8 KB I/D	16	—	DDR/SDR SDRAM	✓	16-ch.	4-ch., 32-bit	—	2	1	—	—	—	—	—	1	3 UART	QSPI	—	—	50	✓	QFP 160 MAPBGA 196	1.5V, 3.3V (2.5V DDR)	\$6.50	M5208EVBE	\$349	—	—	—	
MCF5211	V2	66, 80	76	—	MAC	✓	—	16	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	1	3 UART	QSPI	12-bit	—	33	✓	LQFP 64 MAPBGA 81	3.3V	\$4.99	M5213EVBE	\$299	M5211DEMO	\$99	—	
MCF5212	V2	66, 80	76	—	MAC	✓	—	32	256	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	1	3 UART	QSPI	12-bit	—	44	✓	LQFP 64 MAPBGA 81	3.3V	\$6.25	M5213EVBE	\$299	M5211DEMO	\$99	—	
MCF5213	V2	66, 80	76	—	MAC	✓	—	32	256	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	1	3 UART	QSPI	12-bit	—	55	✓	LQFP 100 MAPBGA 81	3.3V	\$7.59	M5213EVBE	\$299	M5211DEMO	\$99	—	
MCF5214	V2	66	63	—	eMAC	✓	2 KB I/D	64	256	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	—	—	—	—	—	—	1	3 UART	QSPI	10-bit	—	142	✓	MAPBGA 256	3.3V	\$11.50	M5282EVBE	\$650	—	—	—	
MCF5216	V2	66	63	—	eMAC	✓	2 KB I/D	64	512	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	—	—	—	—	—	—	1	3 UART	QSPI	10-bit	—	142	✓	MAPBGA 256	3.3V	\$12.50	M5282EVBE	\$650	—	—	—	
MCF52100	V2	66, 80	76	—	MAC	✓	—	16	64	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	2	3 UART	QSPI	12-bit	RTC w/32kHz Osc	56	✓	LQFP 64 MAPBGA 81	3.3V	\$3.99	M52211EVBE	\$299	M52210DEMO	—	—	
MCF52110	V2	66, 80	76	—	MAC	✓	—	16	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	2	3 UART	QSPI	12-bit	RTC w/32kHz Osc	56	✓	LQFP 64 MAPBGA 81	3.3V	\$5.49	M52211EVBE	\$299	M52210DEMO	—	—	
MCF52210	V2	66, 80	76	—	MAC	✓	—	16	64	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	2	3 UART	QSPI	12-bit	RTC w/32kHz Osc	56	✓	LQFP 64 MAPBGA 81	3.3V	\$4.39	M52211EVBE	\$299	M52210DEMO	—	—	
MCF52211	V2	66, 80	76	—	MAC	✓	—	16	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	2	3 UART	QSPI	12-bit	RTC w/32kHz Osc	56	✓	LQFP 64 MAPBGA 81	3.3V	\$5.14	M52211EVBE	\$299	M52210DEMO	—	—	
MCF52212	V2	50	46	—	MAC	✓	—	8	64	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	2	3 UART	QSPI	12-bit	RTC w/32kHz Osc	56	✓	LQFP 64	3.3V	\$2.84	M52211EVBE	\$299	M52210DEMO	\$99	—	
MCF52213	V2	50	46	—	MAC	✓	—	8	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	2	3 UART	QSPI	12-bit	RTC w/32kHz Osc	56	✓	LQFP 64	3.3V	\$3.74	M52211EVBE	\$299	M52210DEMO	\$99	—	
MCF52221	V2	66, 80	76	—	MAC	✓	—	16	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	1	3 UART	QSPI	12-bit	RTC	56	✓	LQFP 64 MAPBGA 81	3.3V	\$5.49	M5223EVBE	\$299	M52221DEMO	\$99	—	
MCF52223	V2	66, 80	76	—	MAC	✓	—	32	256	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	—	—	—	—	—	—	1	3 UART	QSPI	12-bit	RTC	56	✓	LQFP 100 MAPBGA 81	3.3V	\$6.99	M5223EVBE	\$299	M52221DEMO	\$99	—	
MCF52230	V2	60	57	—	eMAC	✓	—	32	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	1	—	—	—	—	—	1	3 UART	QSPI	12-bit	EPHY, RTC	73	✓	LQFP 80	3.3V	\$7.99	M522335EVBE	\$299	M52233DEMO	\$99	—	
MCF52231	V2	60	57	—	eMAC	✓	—	32	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	1	—	—	—	—	—	1	3 UART	QSPI	12-bit	EPHY, RTC	73	✓	LQFP 80	3.3V	\$8.79	M522335EVBE	\$299	M52233DEMO	\$99	—	
MCF52232	V2	50	46	—	eMAC	✓	—	32	128	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	1	—	—	—	—	—	1	3 UART	QSPI	12-bit	EPHY, RTC	73	✓	LQFP 80	3.3V	\$4.94	M522335EVBE	\$299	M52233DEMO	\$99	—	
MCF52233	V2	60	57	—	eMAC	✓	—	32	256	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	1	—	—	—	—	—	1	3 UART	QSPI	12-bit	EPHY, RTC	73	✓	LQFP 80	3.3V	\$8.69	M522335EVBE	\$299	M52233DEMO	\$99	—	
MCF52234	V2	60	57	—	eMAC	✓	—	32	256	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	1	—	—	—	—	—	1	3 UART	QSPI	12-bit	EPHY, RTC	73	✓	LQFP 112 MAPBGA 121	3.3V	\$9.62	M522335EVBE	\$299	M52233DEMO	\$99	—	
MCF52235	V2	60	57	—	eMAC	✓	—	32	256	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	1	✓	—	—	—	—	1	3 UART	QSPI	12-bit	EPHY, RTC	73	✓	LQFP 112 MAPBGA 121	3.3V	\$11.32	M522335EVBE	\$299	M52233DEMO	\$99	—	
MCF52236	V2	50	46	—	eMAC	✓	—	32	256	—	—	4-ch.	4-ch., 32-bit	4-ch., 16-bit	2	1	—	—	—	—	—	1	3 UART	QSPI	12-bit	EPHY, RTC	73	✓	LQFP 80	3.3V	\$5.39	M522335EVBE	\$299	M52233DEMO	\$99	—	
MCF5232	V2	80, 100, 150	144	—	eMAC	✓	8 KB I/D	64	—	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	—	—	—	—	—	—	1	3 UART	QSPI	—	16-ch. eTPU	142	✓	QFP 160 MAPBGA 121	1.5V, 3.3V	\$10.00	M523XEVB	\$695	M5235BCCE M5235BCKKITE	\$180 \$250	—	
MCF5233	V2	100, 150	144	—	eMAC	✓	8 KB I/D	64	—	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	—	—	—	—	—	—	1	3 UART	QSPI	—	32-ch. eTPU	142	✓	MAPBGA 256	1.5V, 3.3V	\$13.50	M523XEVB	\$695	M5235BCCE M5235BCKKITE	\$180 \$250	—	
MCF5234	V2	100, 150	144	—	eMAC	✓	8 KB I/D	64	—	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	1	—	—	—	—	—	1	3 UART	QSPI	—	16-ch. eTPU	142	✓	MAPBGA 256	1.5V, 3.3V	\$13.00	M523XEVB	\$695	M5235BCCE M5235BCKKITE	\$180 \$250	—	
MCF5235	V2	100, 150	144	—	eMAC	✓	8 KB I/D	64	—	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	1	✓	—	—	—	—	1	3 UART	QSPI	—	16-ch. eTPU	142	✓	MAPBGA 256	1.5V, 3.3V	\$15.00	M523XEVB	\$695	M5235BCCE M5235BCKKITE	\$180 \$250	—	
MCF5249L	V2	120	107	—	eMAC	✓	8 KB I	96	—	SDR SDRAM	✓	4-ch.	2-ch., 16-bit	—	—	—	—	—	—	—	—	2	2 UART	QSPI	12-bit	IDE, Audio, I ² S	47	✓	LQFP 144	1.8V, 3.3V	\$9.30	M5249C3E	\$649	—	—	—	
MCF5249	V2	140	125	—	eMAC	✓	8 KB I	96	—	SDR SDRAM	✓	4-ch.	2-ch., 16-bit	—	—	—	—	—	—	—	—	2	2 UART	QSPI	12-bit	IDE, Audio, I ² S	47	✓	MAPBGA 160	1.8V, 3.3V	\$9.79	M5249C3E	\$649	—	—	—	
MCF5253	V2	140	125	—	eMAC	✓	8 KB I	128	—	SDR SDRAM	✓	4-ch.	2-ch., 16-bit	—	—	—	—	—	—	—	—	2	3 UART	QSPI	12-bit	IDE, I ² S	60	✓	MAPBGA 225	1.2V, 3.3V	\$8.68	M5253EVBE	\$680	—	—	—	
MCF5270	V2	100	96	—	eMAC	✓	8 KB I/D	64	—	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	1	—	—	—	—	—	1	3 UART	QSPI	—	—	97	✓	QFP 160 MAPBGA 196	1.5V, 3.3V	\$7.50	M5271EVBE	\$649	M5270PROMOE M5270PRO	\$249 \$499	MOD5270	
MCF5271	V2	100	96	—	eMAC	✓	8 KB I/D	64	—	SDR SDRAM	✓	4-ch.	4-ch., 32-bit	—	4	1	✓	—	—	—	—	1	3 UART	QSPI	—	—	97	✓	QFP 160 MAPBGA 196	1.5V, 3.3V	\$9.50	M5271EVBE	\$649	M5270PROMOE M5270PRO	\$249 \$499	MOD5270	
MCF5272	V2	66	63	—	MAC	✓	1KB I	4	—	SDR SDRAM	✓	2-ch.	4-ch., 16-bit	3-ch., 8-bit	—	1	—	—	—	—	—	—	2	2 UART	QSPI	—	—	32	✓	MAPBGA 196	3.3V	\$9.95	M5272C3E	\$649	—	—	—
MCF5274L	V2	133, 166	159	—	eMAC	✓	16 KB I/D	64	—	DDR SDRAM	✓	4-ch.	4-ch., 32-bit	4-ch., 8-bit	4																						