

# FREESCALE 16-Bit and 32-Bit Microcontrollers



RoHS Compliant This product is RoHS compliant.

## HCS12 AND HCS12X FAMILY-16-BIT MICROCONTROLLERS

\* Development Kit Part No. M68DKIT912C32 † Development Kit Part No. DEMO9S12XDT512  
\*\* Development Kit Part No. DEMO9S12NE64 †† Development Kit Part No. M68DKIT912C32

NEW FROM SUPPLIER

For quantities 100 and up, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Internal RAM (Byte)	Internal FLASH (Byte)	EEPROM (Byte)	ADC	Serial Interface Type	Bus Freq. (MHz) (Max)	I/O Pins	Timer Channels	Supply Voltage (V)(Typ)	Price Each			
												1	25	50	
<b>S12E Family - General Purpose, 3 Volts with D/A</b>															
841-MC9S12E32CFUE	MC9S12E32CFUE	QFP 80	2000	32000	---	10-bit/16-ch	I2C, SCI, SPI	25	58	16, 15, 8	5.5	7.57	5.48	5.41	
841-MC9S12E64CFUE	MC9S12E64CFUE	QFP-80	4	64	-	10-Bit/16-ch	SCI, SPI, CAN	25	58	16,15,8	5	8.79	6.39	6.20	
841-MC9S12E64CPVE	MC9S12E64CPVE	LQFP-112	4	64	-	10-Bit/16-ch	SCI, SPI, CAN	25	90	16,15,8	5	9.40	7.10	7.00	
841-MC9S12E64MFUE	MC9S12E64MFUE	QFP 80	4000	64000	---	10-bit/16-ch	I2C, SCI, SPI	25	58	16, 15, 8	5	9.85	8.15	7.97	
841-MC9S12E128CFUE	MC9S12E128CFUE	QFP-80	8	128	-	10-bit/16-ch	SCI, SPI, CAN	25	58	16,15,8	5	9.83	8.28	7.80	
841-MC9S12E128MFUE	MC9S12E128MFUE	QFP 80	8000	128000	---	10-bit/16-ch	I2C, SCI, SPI	25	58	16, 15, 8	5	9.96	9.13	8.94	
841-MC9S12E256CPVE	MC9S12E256CPVE	LQFP 112	-	-	-	10-Bit/16-ch	SCI, SPI, CAN	25	-	-	-	11.18	9.36	9.23	
841-MC9S12E256MFUE	MC9S12E256MFUE	QFP 80	16000	256000	---	10-bit/16-ch	I2C, SCI, SPI	25	58	16, 15, 8	5	11.85	9.92	9.78	
841-MC9S12E256MPVE	MC9S12E256MPVE	LQFP 112	16000	256000	---	10-bit/16-ch	I2C, SCI, SPI	25	90	16, 15, 8	5	12.29	10.29	10.15	
<b>S12GC Family - Low Cost, Low Pin Count</b>															
841-MC9S12GC16MFAE	MC9S12GC16MFAE	LQFP 48	2000	16000	---	10-bit/8-ch	SCI, SPI	25	29	8, 6	3.3, 5.5	6.59	4.77	4.71	
841-MC9S12GC32MFAE	MC9S12GC32MFAE	LQFP 48	2000	32000	---	10-bit/8-ch	SCI, SPI	25	29	8, 6	3.3, 5.5	8.01	5.80	5.72	
841-MC9S12GC64MFAE	MC9S12GC64MFAE	LQFP 48	4000	64000	---	10-bit/8-ch	SCI, SPI	25	29	8, 6	3.3, 5.5	9.49	6.87	6.78	
841-MC9S12GC64MFUE	MC9S12GC64MFUE	QFP 80	4000	64000	---	10-bit/8-ch	SCI, SPI	25	58	8, 6	3.3, 5.5	9.78	7.08	6.99	
841-MC9S12GC64MPBE	MC9S12GC64MPBE	LQFP 52	4000	64000	---	10-bit/8-ch	SCI, SPI	25	33	8, 6	3.3, 5.5	9.49	6.87	6.78	
841-MC9S12GC96MFAE	MC9S12GC96MFAE	LQFP 48	4000	96000	---	10-bit/8-ch	SCI, SPI	25	29	8, 6	3.3, 5.5	8.19	6.90	6.74	
841-MC9S12GC96MFUE	MC9S12GC96MFUE	QFP 80	4000	96000	---	10-bit/8-ch	SCI, SPI	25	58	8, 6	3.3, 5.5	8.91	7.97	7.50	
841-MC9S12GC128MFUE	MC9S12GC128MFUE	QFP 80	4000	128000	---	10-bit/8-ch	SCI, SPI	25	58	8, 6	3.3, 5.5	10.92	9.13	9.01	
<b>S12H Family - LCD / H-Bridge Drivers with CAN</b>															
841-MC9S12H128VPVE	MC9S12H128VPVE	LQFP 112	6000	131072	4096	10-bit/8-ch	CAN 2.0A/B, IIC, SCI, SPI	16	99	8	5	14.86	12.43	12.27	
841-MC9S12H128VFVE	MC9S12H128VFVE	LQFP 144	6000	131072	4096	10-bit/8-ch	CAN 2.0A/B, I2C, SCI, SPI	16	99	8	5	16.35	13.68	13.50	
841-MC9S12H256VFVE	MC9S12H256VFVE	LQFP 144	12000	256000	4000	10-bit/16-ch	CAN 2.0A/B, IIC, SCI, SPI	16	115	8	5	18.94	15.85	15.64	
841-MC9S12H256VPVE	MC9S12H256VPVE	LQFP 112	12000	256000	4000	10-bit/16-ch	CAN 2.0A/B, IIC, SCI, SPI	16	83	8	5	17.10	14.31	14.12	
841-MC9S12H256VAL	MC9S12H256VAL	LQFP 112	12000	256000	2000	10-bit/16-ch	CAN 2.0A/B, IIC, SCI, SPI	25	85	8	5	18.15	15.19	14.99	
<b>S12NE Family - Single Chip with 10 / 100 Base -T with Integrated MAC &amp; PHY</b>															
841-MC9S12NE64CPVE	MC9S12NE64CPVE	LQFP 112	8000	64000	---	10-bit/8-ch	Ethernet, I2C, SCI, SPI	25	-	-	3.3, 5	10.38	9.52	9.31	
841-MC9S12NE64VTUE	MC9S12NE64VTUE	TQFP 80	8000	64000	---	10-bit/8-ch	Ethernet, IIC, SCI, SPI	25	-	-	3.3, 5	9.84	9.03	8.83	
<b>S12UF Family - USB 2.0</b>															
841-MC9S12UF32PBE	MC9S12UF32PBE	LQFP 64	5120	32768	---	---	SCI, USB 2.0	30	77	8	5.5	6.68	5.52	5.04	
841-MC9S12UF32PUE	MC9S12UF32PUE	LQFP 100	3584	32768	---	---	SCI, USB 2.0	30	75	8	5	7.17	5.92	5.41	
<b>S12XA Family</b>															
841-MC9S12XA256VAA	MC9S12XA256VAA	QFP 80	16000	256000	4000	10-bit/8-ch	CAN 2.0A/B, I2C, SCI, SPI	40	91	8, 4	-	13.56	11.34	11.20	
841-MC9S12XA256VAL	MC9S12XA256VAL	LQFP 112	16000	256000	4000	10-bit/16-ch	CAN 2.0A/B, I2C, SCI, SPI	40	91	8, 4	5.5	13.71	11.47	11.32	
841-MC9S12XA512VAA	MC9S12XA512VAA	QFP 80	32000	512000	4000	10-bit/8-ch	CAN 2.0A/B, I2C, SCI, SPI	40	59	8, 4	5.5	15.82	13.24	13.22	
841-MC9S12XA512VAL	MC9S12XA512VAL	LQFP 112	32000	512000	4000	10-bit/16-ch	CAN 2.0A/B, I2C, SCI, SPI	40	91	8, 4	5.5	15.97	13.36	13.34	
<b>S12XD Family</b>															
841-MC9S12XD256MAA	MC9S12XD256MAA	QFP 80	14000	256000	4000	10-bit/8-ch	SCI, SPI, I2C, CAN 2.0A/B	40	59	8, 4	5.5	13.58	11.36	11.21	
841-MC9S12XD256MAL	MC9S12XD256MAL	LQFP 112	14,000	256,000	4000	10-bit/16-ch	SCI, SPI, I2C, CAN 2.0A/B	40	91	8, 4	5.5	13.75	11.50	11.35	
841-MC9S12XDP512MAG	MC9S12XDP512MAG	LQFP 144	32000	512000	4000	10-bit/24-ch	SCI, SPI, I2C, CAN 2.0A/B	40	119	8, 4	3.15, 5.5	17.65	14.81	14.61	
841-MC9S12XDP512MAL	MC9S12XDP512MAL	LQFP 112	32000	512000	4000	10-bit/16-ch	SCI, SPI, I2C, CAN 2.0A/B	40	91	8, 4	3.15, 5.6	17.35	14.55	14.32	
841-MC9S12XDT256MAA	MC9S12XDT256MAA	QFP 80	16000	256000	4000	10-bit/8-ch	SCI, SPI, I2C, CAN 2.0A/B	40	59	8, 4	3.3, 5.5	14.21	11.89	11.73	
841-MC9S12XDT256MAG	MC9S12XDT256MAG	LQFP 144	16000	256000	4000	10-bit/24-ch	SCI, SPI, I2C, CAN 2.0A/B	40	91	8, 4	3.3, 5.5	14.69	12.29	12.13	
841-MC9S12XDT256MAL	MC9S12XDT256MAL	LQFP 112	16000	256000	4000	10-bit/16-ch	SCI, SPI, I2C, CAN 2.0A/B	40	91	8, 4	3.3, 5.5	14.38	12.03	11.88	
841-MC9S12XDT512MAA	MC9S12XDT512MAA	QFP 80	20000	512000	4000	10-bit/8-ch	SCI, SPI, I2C, CAN 2.0A/B	40	59	8, 4	3.3, 5.5	16.58	13.88	13.69	
841-MC9S12XDT512MAL	MC9S12XDT512MAL	LQFP 112	20000	512000	4000	10-bit/16-ch	SCI, SPI, I2C, CAN 2.0A/B	40	91	8, 4	3.3, 5.5	16.76	14.02	13.84	
<b>S12XE FAMILY</b>															
841-MC9S12XEG128MAA	MC9S12XEG128MAA	QFP 80	12000	128000	2000	12-Bit/8-ch	SCI, SPI, I2C, CAN	50	59	8	5	9.99	9.25	8.57	
841-MC9S12XEP100CAG	MC9S12XEP100CAG	LQFP 144	64000	100000	4000	12-Bit/24-ch	SCI, SPI, I2C, CAN	50	119	8	5	15.97	13.36	13.19	
841-MC9S12XEP100MAG	MC9S12XEP100MAG	LQFP 144	64000	100000	4000	12-Bit/24-ch	SCI, SPI, I2C, CAN	50	119	8	5	17.56	14.69	14.50	
841-MC9S12XEP100MAL	MC9S12XEP100MAL	LQFP 112	64000	100000	4000	12-Bit/16-ch	SCI, SPI, I2C, CAN	50	91	8	5	17.35	14.52	14.33	
841-MC9S12XEP768CAL	MC9S12XEP768CAL	LQFP 112	48000	768000	4000	12-Bit/16-ch	SCI, SPI, I2C, CAN	50	91	8	5	15.03	12.58	12.41	

## MCF51CN128 ETHERNET MCUS

Freescale's new MCF51CN128 Ethernet MCUs are low-cost, low-power, high-performance 32-bit devices designed for developers who want to add Ethernet connectivity to their commercial and industrial applications

NEW PRODUCT

For quantities 250 and up, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Internal RAM (Byte)	Internal FLASH (Byte)	Serial Interface Type	Bus Freq. (MHz) (Max)	ADC	Timer Channels	I/O Pins	Price Each			
										1	25	50	100
841-MCF51CN128CGT	MCF51CN128CGT	QFN 48	24	128	SCI,SPI,I2C	25	12-bit / 12-ch	3	38	4.91	3.70	3.66	3.47
841-MCF51CN128CLH	MCF51CN128CLH	LQFP 64	24	128	SCI,SPI,I2C	25	12-bit / 12-ch	3	54	5.25	3.96	3.91	3.71
841-MCF51CN128CLK	MCF51CN128CLK	LQFP 80	24	128	SCI,SPI,I2C	25	12-bit / 12-ch	3	70	5.42	4.09	4.03	3.83

## COLDFIRE® MCF5225x EXPANDED CONNECTIVITY MCUS

The MCF5225x family consists of highly integrated devices with on-chip USB, Ethernet, CAN and encryption functions, featuring the complete Freescale MQX RTOS software at no additional cost. This solution is ideal for factory automation, building control, and medical applications.

NEW PRODUCT

For quantities 250 and up, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Internal RAM (Byte)	Internal FLASH (Byte)	Serial Interface Type	MIPS	Bus Freq. (MHz) (Max)	ADC	I/O Pins	Timer Ch.	Price Each			
											1	25	50	100
841-MCF52252AF80	MCF52252AF80	LQFP 100	32	256	QSPI,UART,I2C,USB,Ethernet	76	80	12-bit / 8-ch	56	2.4	6.47	5.41	5.00	4.86
841-MCF52254AF80	MCF52254AF80	LQFP 100	64	512	QSPI,UART,I2C,USB,Ethernet	76	80	12-bit / 8-ch	56	2.4	7.43	6.21	5.68	5.58
841-MCF52252CAF66	MCF52252CAF66	LQFP 100	32	256	QSPI,UART,I2C,USB,Ethernet,CAN	63	66	12-bit / 8-ch	56	2.4	6.85	5.73	5.48	5.14
841-MCF52254CAF66	MCF52254CAF66	LQFP 100	64	512	QSPI,UART,I2C,USB,Ethernet,CAN	63	66	12-bit / 8-ch	56	2.4	7.83	6.55	6.52	6.88
841-MCF52255CAF80	MCF52255CAF80	LQFP 100	64	512	QSPI,UART,I2C,USB,Ethernet,CAN	76	80	12-bit / 8-ch	56	2.4	8.61	7.20	7.18	6.47
841-MCF52256AG80	MCF52256AG80	LQFP 144	32	256	QSPI,UART,I2C,USB,Ethernet	76	80	12-bit / 8-ch	96	2.4	7.10	5.94	5.92	5.33
841-MCF52258AG80	MCF52258AG80	LQFP 144	64	512	QSPI,UART,I2C,USB,Ethernet	76	80	12-bit / 8-ch	96	2.4	8.13	6.80	6.78	6.11
841-MCF52256CAG66	MCF52256CAG66	LQFP 144	64	256	QSPI,UART,I2C,USB,Ethernet,CAN	63	66	12-bit / 8-ch	96	2.4	7.50	6.27	6.25	5.63
841-MCF52259CAG80	MCF52259CAG80	LQFP 144	64	512	QSPI,UART,I2C,USB,Ethernet,CAN	76	80	12-bit / 8-ch	96	2.4	9.31	7.79	7.77	7.00
841-MCF52258CAG66	MCF52258CAG66	LQFP 144	64	512	QSPI,UART,I2C,USB,Ethernet,CAN	63	66	12-bit / 8-ch	96	2.4	8.54	7.14	7.12	6.41

