



Microcontrollers – 8 and 16 Bit
HC908 Family – 8-Bit (Cont.)



FLASH (Bytes)	RAM (Bytes)	I/O	A/D	Timer (s)	16-Bit	Serial	Operating Voltage (V)	Max. Bus Freq. (MHz)	Temp. (°C)	Package	Digi-Key Part No.	Price Each			Freescale Part No.
												1	25	100	
60K	4K	26	10-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 80	32-LQFP	MC9S08D260CLC-ND	4.50	2.89	2.73	MC9S08D260CLC
		40	16-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 80	48-LQFP	MC9S08D260CLF-ND	4.09	2.97	2.81	MC9S08D260CLF
		26	10-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 125	32-LQFP	MC9S08D260MLC-ND	4.37	3.17	3.00	MC9S08D260MLC
		40	16-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 125	48-LQFP	MC9S08D260MLF-ND	4.52	3.27	3.10	MC9S08D260MLF
		53	24-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 125	64-LQFP	MC9S08D260MLH-ND	4.77	3.46	3.27	MC9S08D260MLH
		56	8-Ch., 10-Bit	5-Ch.	3-Ch.	SCI, SPI, I2C	3.6	20.0	-40 - 85	64-LQFP	MC9S08G60ACFUE-ND	4.76	3.45	3.26	MC9S08G60ACFUE
		36	8-Ch., 10-Bit	Dual 2-Ch.	2-Ch.	SCI, SPI	3.6	20.0	-40 - 85	42-SOIP	MC9S08GT60ACBE-ND	4.52	3.74	3.41	MC9S08GT60ACBE
		39	8-Ch., 10-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C	3.3	20.0	-40 - 85	48-QFN	MC9S08GT60ACFDE-ND	4.52	3.27	3.10	MC9S08GT60ACFDE
		36	8-Ch., 10-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C	3.3	20.0	-40 - 85	44-QFP	MC9S08GT60ACFBE-ND	4.40	3.19	3.02	MC9S08GT60ACFBE
		36	8-Ch., 10-Bit	3-Ch. + 5-Ch.	2-Ch.	SCI, SPI, I2C	1.8 - 3.6	20.0	-40 - 85	44-QFP	MC9S08GT60ACFBERCT-ND	4.36	3.61	3.30	MC9S08GT60ACFBER
		36	8-Ch., 10-Bit	3-Ch. + 5-Ch.	2-Ch.	SCI, SPI, I2C	1.8 - 3.6	20.0	-40 - 85	44-QFP	MC9S08GT60ACFBERTR-ND	4.49	3.72	3.39	MC9S08GT60ACFBER
		39	8-Ch., 10-Bit	3-Ch. + 5-Ch.	2-Ch.	SCI, SPI, I2C	1.8 - 3.6	20.0	-40 - 85	48-QFN	MC9S08GT60ACFDERCT-ND	4.49	3.72	3.39	MC9S08GT60ACFDER
		39	8-Ch., 10-Bit	3-Ch. + 5-Ch.	2-Ch.	SCI, SPI, I2C	1.8 - 3.6	20.0	-40 - 85	48-QFN	MC9S08GT60ACFDERTR-ND	6084.46/2,000			MC9S08GT60ACFDER
		36	8-Ch., 10-Bit	Dual 2-Ch.	2-Ch.	SCI, SPI	1.8 - 3.6	20.0	-40 - 85	48-QFN	MC9S08GT60CFDE-ND	7.02	5.31	4.90	MC9S08GT60CFDE
		56	8-Ch., 10-Bit	3-Ch. + 5-Ch.	2-Ch.	SCI, SPI	3.6	20.0	-40 - 85	64-LQFP	MC9S08GB60CFUE-ND	7.30	5.52	5.09	MC9S08GB60CFUE
		18	2-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI	1.8 - 3.6	20.0	-40 - 85	64-LQFP	MC9S08LC60LH-ND	6.03	4.31	3.92	MC9S08LC60LH
		18	2-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI	1.8 - 3.6	20.0	-40 - 85	80-LQFP	MC9S08LC60LK-ND	6.21	4.24	4.04	MC9S08LC60LK
		Demo Boards													
Demo Board for MC9S08AW60												66.47/1			DEM09S08AW60E
Demo Board for MC9S08DZ60												60.99/1			DEM09S08DZ60
Demo Board for 9S08LC60 / LCD Controller												58.65/1			DEM09S08LC60
Demo Board for MC9S08QD Family												46.14/1			DEM09S08QD4
Demo Board for S08RG/RC/RD/RE Family												46.14/1			DEM09S08RG60E
Demo Board for 9S08RG60												49.41/1			DEM09S08RG60
Demo Board for 908AP64												38.32/1			DEM0908AP64
Demo Board for 908GZ60												61.65/1			DEM0908GZ60
Demo Board for 908GZ60												39.06/1			DEM0908GZ60E
Demo Board for 9RS08KA2												39.10/1			DEM09RS08KA2
Evaluation Board for HC908GP32												202.13/1			M68EV908GP32-ND
Evaluation Board for MC9S08GB60												194.80/1			M68EV908GB60E-ND
USB Programmer / ISP Programmer												22.67/1			USBSPPYDER08-ND
Demo Board for MC9S08Q68												39.10/1			DEM09S08Q68E-ND
Demo Board for MC9S08QE												53.96/1			DEM09S08QE8-ND
Demo Kit for MCF51AC and S08AC												77.41/1			DEMOACKIT-ND
Peripheral Expansion Board designed to interface with the DEMOAC board												22.67/1			DEMOACEX-ND
Daughter Card for DEMO9S/JM Series												10.40/1			DC9S08JM16-ND
Demo Board for MC9RS08KA8/MC9RS08KA4												36.11/1			DEM09RS08KA8-ND
Demo Board for S08AC Microcontroller Family												66.47/1			DEM09S08AC60E-ND
Demo Board for MC9S08SG Family of Microcontrollers												42.61/1			DEM09S08SG8-ND
Demo Board for MC9S08SH Family of Microcontrollers												42.61/1			DEM09S08SH8-ND
Demo Board S08JM Card with Socket												71.50/1			DEM0JMST-ND
Evaluation Board for 9S08DZ60 Family of MCUs												205.84/1			EV9S08DZ60-ND
Demo Board for MC9S08GB60 Family of MCUs												35.39/1			M68DEM0908GB60E-ND
Demo Board for MC9S08QE32 Series of MCUs												61.78/1			DEM09S08QE32-ND
Daughter Card for DEMO9S08QE32												7.82/1			DC9S08QE32-ND
Demo Board for QE128 Series of MCUs												77.41/1			DEM0QE128-ND
Evaluation Board for QE128 Series of MCUs												254.14/1			EVQOE128-ND
Demo Board for JM Family of MCUs												77.41/1			DEM0JM-ND
Evaluation Board for JM Family of MCUs												254.14/1			EV851JM128-ND

◆ RoHS Compliant § Cut Tape ‡ Tape and Reel

HC912 Family – 16-Bit

The 68HC12 CPU is upwardly compatible with the 68HC11 core and supports all registers, instructions, addressing modes and operating modes of the 68HC11. **Features:** • Fully static design allowing operation down to DC • 16-bit Accumulator • 20-bit ALU • 16-bit Timer with built-in prescaler • BDM (Background Debug Module) for faster debugging and non-intrusive, real time read/write capability to the memory and registers • SAE J1850 BDLDC-2 (Byte Data Link Control Module) for single wire communication with other BDLDC MCUs • COP Watchdog Timer • Low power STOP and WAIT modes • SPI, SCI, I2C and CAN 2.0 • High-level language optimization • 32/16 Divide • 16 x 16 Multiply

Flash (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer	PWM	I/O	A/D	Features	Operating Voltage (V)	Max. Bus Freq. (MHz)	Temp. (°C)	Package	Digi-Key Part No.	Price Each			Freescale Part No.
													1	25	100	
32K	1K	768	8-Ch., 16-Bit	2-Ch., 8-Bit	63	8-Ch., 10-Bit	SCI, SPI	5.0	8.0	-40 - 85	80-QFP	MCHC912B32CFUE8-ND	13.14	12.06	11.00	MCHC912B32CFUE8
		768	8-Ch., 16-Bit	2-Ch., 8-Bit	63	8-Ch., 10-Bit	SCI, SPI	5.0	8.0	-40 - 105	80-QFP	MCHC912B32VFUE8-ND	13.79	12.66	11.55	MCHC912B32VFUE8
		3.5K	8-Ch., 16-Bit	See Timer	75	—	—	USB 2.0	5.0	30.0	0 - 70	100-LQFP	MC9S12UF32PUE-ND	5.21	4.32	3.94
60K	2K	1K	8-Ch., 16-Bit	4-Ch., 8-Bit	48	8-Ch., 10-Bit	CAN 2.0	5.0	8.0	-40 - 85	80-QFP	MC912D60ACFUE8-ND	14.28	13.11	11.96	MC912D60ACFUE8
		1K	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI	5.0	25.0	-40 - 85	80-QFP	MCS12GC64CFUE-ND	6.40	5.30	4.57	MCS12GC64CFUE
64K	4K	1K	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI	5.0	25.0	-40 - 125	80-QFP	MCS12GC64MFUE-ND	7.18	5.76	5.08	MCS12GC64MFUE
		2K	8-Ch., 16-Bit	4-Ch., 16-Bit	69	8-Ch., 10-Bit	CAN 2.0	5.0	8.0	-40 - 85	112-LQFP	MC912DG128ACFUE-ND	21.32	19.56	17.85	MC912DG128ACFUE
128K	8K	2K	8-Ch., 16-Bit	4-Ch., 16-Bit	69	8-Ch., 10-Bit	SCI, SPI	5.0	8.0	-40 - 125	112-LQFP	MC912DG128AMPVE-ND	23.22	21.31	19.44	MC912DG128AMPVE
		2K	8-Ch., 16-Bit	4-Ch., 16-Bit	69	8-Ch., 10-Bit	SCI, SPI	5.0	8.0	-40 - 85	112-LQFP	MC912DG128ACFVERCT-ND	19.81	15.54	14.64	MC912DG128ACFVER
		2K	8-Ch., 16-Bit	4-Ch., 16-Bit	69	8-Ch., 10-Bit	SCI, SPI	5.0	8.0	-40 - 85	112-LQFP	MC912DG128ACFVERTR-ND	8117.77/500			MC912DG128ACFVER
		2K	8-Ch., 16-Bit	4-Ch., 16-Bit	69	8-Ch., 10-Bit	SCI, SPI	5.0	8.0	-40 - 85	112-LQFP	MC912DG128ACFVERTR-ND				MC912DG128ACFVER
HC9S12																
6K	2K	1K	8-Ch., 16-Bit	4-Ch., 16-Bit	16	8-Ch., 10-Bit	CAN 2.0	5.0	8.0	-40 - 85	112-LQFP	MC912D60ACFVE8-ND	14.28	13.11	11.96	MC912D60ACFVE8
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	29	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 85	48-LQFP	MC9S12GC16CFAE-ND	4.36	3.16	2.99	MC9S12GC16CFAE
16K	1K	—	8-Ch., 16-Bit	6-Ch., 8-Bit	33	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 85	80-QFP	MC9S12GC16CFUE-ND	4.53	3.29	3.11	MC9S12GC16CFUE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	33	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 85	52-LQFP	MC9S12GC16CPBE-ND	4.36	3.16	2.99	MC9S12GC16CPBE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	29	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 125	48-LQFP	MC9S12GC16MFAE-ND	4.78	3.47	3.28	MC9S12GC16MFAE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 125	80-QFP	MC9S12GC16MFUE-ND	5.60	4.64	3.64	MC9S12GC16MFUE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	35	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 125	52-LQFP	MC9S12GC16MPBE-ND	5.38	4.46	4.07	MC9S12GC16MPBE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	31	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 85	48-LQFP	MC9S12C32CFAE16-ND	5.72	4.15	3.92	MC9S12C32CFAE16
32K	2K	—	8-Ch., 16-Bit	6-Ch., 8-Bit	31	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 85	48-LQFP	MC9S12C32CFAE25-ND	6.03	4.37	4.13	MC9S12C32CFAE25
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 85	80-QFP	MC9S12C32CFUE16-ND	6.08	4.40	4.17	MC9S12C32CFUE16
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 85	80-QFP	MC9S12C32CFUE25-ND	6.40	4.64	4.39	MC9S12C32CFUE25
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	35	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 85	52-LQFP	MC9S12C32CPBE25-ND	6.03	4.37	4.13	MC9S12C32CPBE25
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	58	16-Ch., 10-Bit	SCI, SPI, I2C	5.5	25.0	-40 - 85	80-QFP	MC9S12E32CFUE-ND	5.50	3.99	3.77	MC9S12E32CFUE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	31	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 85	48-LQFP	MC9S12GC32CFAE-ND	5.29	3.83	3.63	MC9S12GC32CFAE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 85	80-QFP	MC9S12GC32CFUE-ND	5.46	3.96	3.75	MC9S12GC32CFUE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	35	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 85	52-LQFP	MC9S12GC32CPBE-ND	5.29	3.83	3.63	MC9S12GC32CPBE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	31	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 125	48-LQFP	MC9S12GC32MFAE-ND	5.82	4.22	3.99	MC9S12GC32MFAE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	31	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 125	48-LQFP	MC9S12C32MFAE16-ND	6.29	4.57	4.32	MC9S12C32MFAE16
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 125	80-QFP	MC9S12C32MFAE25-ND	6.72	4.87	4.61	MC9S12C32MFAE25
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 125	80-QFP	MC9S12C32MFUE16-ND	6.69	4.85	4.58	MC9S12C32MFUE16
—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI	3.3 - 5.5	25.0	-40 - 125	80-QFP	MC9S12C32MFUE25-ND	6.75	5.09	5.10	MC9S12C32MFUE25		
—	8-Ch., 16-Bit	See Timer	60	8-Ch., 10-Bit	CAN 2.0	3.15 - 5.55	25.0	-40 - 125	80-QFP	MC9S12C32MFUE25-ND	6.81	5.64	5.15	MC9S12C32MFUE25		
—	8-Ch., 16-Bit	See Timer	60	8-Ch., 10-Bit	CAN 2.0	3.15 - 5.55	25.0	-40 - 125	52-LQFP	MC9S12C32MPBE25-ND	7.73	5.85	5.39	MC9S12C32MPBE25		
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