



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	MC9S08DZ60CLC-ND NEW!	6.20	3.98	3.76	MC9S08DZ60CLC
		40	16-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 80	48-LQFP	MC9S08DZ60CLF-ND NEW!	5.64	4.09	3.87	MC9S08DZ60CLF
		26	10-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 125	32-LQFP	MC9S08DZ60MLC-ND NEW!	6.02	4.36	4.13	MC9S08DZ60MLC
		40	16-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 125	48-LQFP	MC9S08DZ60MLF-ND NEW!	6.22	4.51	4.26	MC9S08DZ60MLF
		53	24-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C, CAN	5.5	20.0	-40 - 125	64-LQFP	MC9S08DZ60MLH-ND NEW!	6.57	4.77	4.51	MC9S08DZ60MLH
		56	8-Ch., 10-Bit	5-Ch.	3-Ch.	SCI, SPI, I2C	3.6	20.0	-40 - 85	64-LQFP	MC9S08G60ACFUE-ND NEW!	6.55	5.8	5.49	MC9S08G60ACFUE
		36	8-Ch., 10-Bit	Dual 2-Ch.	2-Ch.	SCI, SPI	3.6	20.0	-40 - 85	42-SOIP	MC9S08GT60ACBE-ND NEW!	6.22	5.15	4.70	MC9S08GT60ACBE
		39	8-Ch., 10-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C	3.3	20.0	-40 - 85	48-QFN	MC9S08GT60ACFDE-ND NEW!	6.22	4.51	4.26	MC9S08GT60ACFDE
		36	8-Ch., 10-Bit	2-Ch.	2-Ch.	SCI, SPI, I2C	3.3	20.0	-40 - 85	44-QFP	MC9S08GT60ACFBE-ND NEW!	6.06	4.40	4.16	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 NEW!	6.01	4.98	4.54	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 NEW!	3217.71/750			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 NEW!	6.18	5.12	4.67	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 NEW!	8380.80/2,000			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	9.67	7.32	6.75	MC9S08GT60CFDE
		56	8-Ch., 10-Bit	3-Ch. + 5-Ch.	2-Ch.	SCI, SPI	3.6	20.0	-40 - 85	64-LQFP	MC9S08GB60CFUE-ND	10.05	7.61	7.01	MC9S08GB60CFUE
		18	2-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI	1.8 - 3.6	20.0	-40 - 85	64-LQFP	MC9S08LC60LH-ND	6.54	5.42	4.94	MC9S08LC60LH
		18	2-Ch., 12-Bit	2-Ch.	2-Ch.	SCI, SPI	1.8 - 3.6	20.0	-40 - 85	80-LQFP	MC9S08LC60LK-ND	6.75	5.59	5.10	MC9S08LC60LK
		Demo Boards													
Demo Board for MC9S08AW60												91.56/1	DEMOS08AW60E		
Demo Board for MC9S08DZ60												84.01/1	DEMOS08DZ60		
Demo Board for 9S08LC60 / LCD Controller												76.64/1	DEMOS08LC60		
Demo Board for MC9S08QD Family												63.55/1	DEMOS08QD4		
Demo Board for S08RG/RC/RD/RE Family												60.29/1	DEMOS08RG60E		
Demo Board for 9S08RG60												68.06/1	DEMOS08RG60		
Demo Board for 908AP64												52.78/1	DEMOS08AP64		
Demo Board for 908GZ60												84.92/1	DEMOS08GZ60		
Demo Board for 908GZ60E												51.06/1	DEMOS08GZ60E		
Demo Board for 9RS08KA2												53.86/1	DEMOS08KA2		
Evaluation Board for HC908GP32												237.30/1	M88EV908GP32-ND		
Evaluation Board for MC9S08GB60												228.69/1	M88EV908GB60E-ND		
USB Programmer / ISP Programmer												31.23/1	USBSPPYDER08-ND		
Demo Board for MC9S08Q68												53.86/1	DEMOS08Q68E-ND		
Demo Board for MC9S08QE												74.32/1	DEMOS08QE8-ND NEW!		
Demo Kit for MCF51AC and S08AC												106.63/1	DEMOACKIT		
Peripheral Expansion Board designed to interface with the DEMOAC board												31.23/1	DEMOACEX		
Daughter Card for DEMO9S/JM Series												14.32/1	DC9S08JM16-ND NEW!		
Demo Board for MC9RS08KA8/MC9RS08KA4												49.74/1	DEMOS08KA8-ND NEW!		
Demo Board for S08AC Microcontroller Family												56.53/1	DEMOS08AC60E-ND NEW!		
Demo Board for MC9S08SG Family of Microcontrollers												58.69/1	DEMOS08SG8		
Demo Board for MC9S08SH Family of Microcontrollers												58.69/1	DEMOS08SH8		
Demo Board S08JM Card with Socket												98.49/1	DEMOS08JMKT		
Evaluation Board for 9S08DZ60 Family of MCUs												283.53/1	EV9S08DZ60-ND NEW!		
Demo Board for MC9S08GB60 Family of MCUs												48.74/1	M88DEM908GB60E-ND NEW!		
Demo Board for MC9S08QE32 Series of MCUs												45.89/1	DEMOS08QE32-ND NEW!		
Daughter Card for DEMO9S08QE32												6.65/1	DC9S08QE32		
Demo Board for QE128 Series of MCUs												106.63/1	DEMOS08QE128-ND		
Evaluation Board for QE128 Series of MCUs												350.06/1	EVQOE128-ND		
Demo Board for JM Family of MCUs												106.63/1	DEMOS08JM		
Evaluation Board for JM Family of MCUs												332.13/1	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	18.69	17.15	15.65	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	19.59	17.98	16.40	MCHC912B32VFUE8
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	19.67	18.05	16.47	MC912D60ACFUE8
		1K	8-Ch., 16-Bit	4-Ch., 8-Bit	48	8-Ch., 10-Bit	SCI, SPI	5.0	25.0	-40 - 85	80-QFP	MCS12GC64CFUE-ND	8.81	7.30	6.30	MCS12GC64CFUE
64K	4K	1K	8-Ch., 16-Bit	4-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI	5.0	25.0	-40 - 125	80-QFP	MCS12GC64MFUE-ND	9.89	7.93	6.99	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	30.31	27.82	25.38	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	33.03	30.31	27.66	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 NEW!	31.99	25.10	23.64	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 NEW!	13111.00/500			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	19.67	18.05	16.47	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 NEW!	6.00	4.35	4.11	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 NEW!	6.24	4.53	4.28	MC9S12GC16CFUE
		—	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	MC9S12GC16CPBE-ND NEW!	6.00	4.35	4.11	MC9S12GC16CPBE
32K	2K	—	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 NEW!	6.59	4.78	4.52	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	7.71	6.38	5.01	MC9S12GC16MFUE
60K	4K	—	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	7.41	6.14	5.60	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 NEW!	7.88	5.71	5.40	MC9S12C32CFAE16
128K	8K	—	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 NEW!	8.30	6.02	5.69	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 NEW!	8.37	6.06	5.74	MC9S12C32CFUE16
256K	16K	—	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 NEW!	8.81	6.38	6.04	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 NEW!	8.30	6.02	5.69	MC9S12C32CPBE25
512K	32K	—	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 NEW!	7.57	5.49	5.19	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 NEW!	7.28	5.28	4.99	MC9S12GC32CFAE
1024K	64K	—	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 NEW!	7.52	5.46	5.16	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 NEW!	7.28	5.28	4.99	MC9S12GC32CPBE
2048K	128K	—	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 NEW!	8.01	5.81	5.49	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 NEW!	8.67	6.29	5.95	MC9S12C32MFAE16
4096K	256K	—	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 NEW!	9.25	6.71	6.34	MC9S12C32MFAE25
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	SCI, SPI, CAN	5.0	25.0	-40 - 125	80-QFP	MC9S12C32MFUE16-ND NEW!	9.21	6.67	6.31	MC9S12C32MFUE16
8192K	512K	—	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	MC9S12C32MFUE-ND NEW!	9.30	7.70	7.03	MC9S12C32MFUE
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	CAN 2.0	3.15 - 5.55	25.0	-40 - 125	80-QFP	MC9S12C32MFUE25-ND	9.38	7.77	7.09	MC9S12C32MFUE25
16384K	1024K	—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-Bit	CAN 2.0	3.15 - 5.55	25.0	-40 - 125	52-LQFP	MC9S12C32MPBE25-ND	10.65	8.06	7.43	MC9S12C32MPBE25
		—	8-Ch., 16-Bit	6-Ch., 8-Bit	60	8-Ch., 10-B										