



## Automotive 8-bit Microcontrollers

Device	Core Platform	Bus Frequency	Flash	RAM	EEPROM	CAN	UART	SPI	IC	SLIC	Analog (ADC)	Timer	Clock	Additional Features	Operating Voltage	*Temp. Range	Package Options	In Production
S08DZ128	S08	20 MHz	128 KB	8 KB	Up to 2 KB	1	2 x SCI	2	2		24-ch., 12-bit ADC, 2 Comparators	Up to 12-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	✓
S08DV128	S08	20 MHz	128 KB	6 KB		1	2 x SCI	2	2		24-ch., 12-bit ADC, 2 Comparators	Up to 12-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	✓
S08DZ96	S08	20 MHz	96 KB	6 KB	Up to 2 KB	1	2 x SCI	2	2		24-ch., 12-bit ADC, 2 Comparators	Up to 12-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	✓
S08DV96	S08	20 MHz	96 KB	4 KB		1	2 x SCI	2	2		24-ch., 12-bit ADC, 2 Comparators	Up to 12-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	✓
S08DZ60	S08	20 MHz	60 KB	4 KB	Up to 2 KB	1	2 x SCI	1	1		Up to 24-ch., 12-bit ADC, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08DV60	S08	20 MHz	60 KB	3 KB		1	2 x SCI	1	1		Up to 16-ch., 12-bit ADC, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08DN60	S08	20 MHz	60 KB	2 KB	Up to 2 KB		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08AW60	S08	20 MHz	60 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 10-bit	Up to 6-ch. + 2-ch.	ICG	40 MHz CPU, KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	64 QFP, 64 LQFP, 48 QFN, 44 LQFP	✓
S08DZ48	S08	20 MHz	48 KB	3 KB	Up to 1.5 KB	1	2 x SCI	1	1		Up to 24-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08DV48	S08	20 MHz	48 KB	2 KB		1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08DN48	S08	20 MHz	48 KB	2 KB	Up to 1.5 KB		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08AW48	S08	20 MHz	48 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 10-bit	Up to 6-ch. + 2-ch.	ICG	40 MHz CPU, KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	64 QFP, 64 LQFP, 48 QFN, 44 LQFP	✓
S08DZ32	S08	20 MHz	32 KB	2 KB	Up to 1 KB	1	2 x SCI	1	1		Up to 24-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08DV32	S08	20 MHz	32 KB	2 KB		1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08DN32	S08	20 MHz	32 KB	1 KB	Up to 1 KB		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	✓
S08EL32	S08	20 MHz	32 KB	1 KB	Up to 512B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 2 Comparators	4-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, 40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	✓
S08SG32	S08	20 MHz	32 KB	1 KB			1 x SCI	1	1		Up to 16-ch., 10-bit, 1 comparator	2-ch. + 2-ch.	ICS	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M, J, W	28 TSSOP, 20 TSSOP, 16 TSSOP	✓
S08AW32	S08	20 MHz	32 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 10-bit	Up to 6-ch. + 2-ch.	ICG	40 MHz CPU, KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	64 QFP, 64 LQFP, 48 QFN, 44 LQFP	✓
S08LG32	S08	20 MHz	32 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 12-bit	Up to 2-ch. + 6-ch.	ICS	40 MHz CPU, Up to 37x8/41x4 LCD Driver, Watchdog OSC/Timer, RTC, KBI, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V	80 LQFP, 64 LQFP, 48 LQFP	✓
S08LG16	S08	20 MHz	18 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 12-bit	Up to 2-ch. + 6-ch.	ICS	40 MHz CPU, Up to 37x8/41x4 LCD Driver, Watchdog OSC/Timer, RTC, KBI, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V	64 LQFP, 48 LQFP	✓
S08DZ16	S08	20 MHz	16 KB	1 KB	Up to 512B	1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP	✓
S08DV16	S08	20 MHz	16 KB	1 KB		1	1 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP	✓
S08DN16	S08	20 MHz	16 KB	512B	Up to 512B		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 Comparators	Up to 6-ch. + 2-ch.	MCG (PLL, FLL, OSC)	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP	✓
S08EL16	S08	20 MHz	16 KB	1 KB	Up to 512B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 2 Comparators	4-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, 40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	✓
S08SL16	S08	20 MHz	16 KB	512B	Up to 256B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 1 comparator	2-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, 40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	✓
S08SG16	S08	20 MHz	16 KB	1 KB			1 x SCI	1	1		Up to 16-ch., 10-bit, 1 comparator	2-ch. + 2-ch.	ICS	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M, J, W	28 TSSOP, 20 TSSOP, 16 TSSOP	✓
S08AW16A	S08	20 MHz	16 KB	1 KB			2 x SCI	1	1		Up to 8-ch., 10-bit	Up to 4-ch. + 2-ch.	ICG	40 MHz CPU, KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	48 QFN, 44 QFP, 32 LQFP	✓
S08SL8	S08	20 MHz	8 KB	512B	Up to 256B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 1 comparator	2-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, 40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	✓
S08SG8	S08	20 MHz	8 KB	512B			1 x SCI	1	1		Up to 12-ch., 10-bit, 1 comparator	Up to 2-ch. + 2-ch.	ICS	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	20 TSSOP, 16 TSSOP, 8 SOIC	✓
S08SG4	S08	20 MHz	4 KB	256B			1 x SCI	1	1		Up to 12-ch., 10-bit, 1 comparator	Up to 2-ch. + 2-ch.	ICS	40 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	20 TSSOP, 16 TSSOP, 8 SOIC	✓
S08QD4	S08	8 MHz	4 KB	256B							4-ch., 10-bit	2-ch. + 1-ch.	ICS	16 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	8 SOIC	✓
S08QD2	S08	8 MHz	2 KB	128B							4-ch., 10-bit	2-ch. + 1-ch.	ICS	16 MHz CPU, Watchdog OSC/Timer, COP, LVI, ICE, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M	8 SOIC	✓

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Device	Core Platform	Bus Frequency	Flash	RAM	Data Flash	EEPROM	I/O	XGATE	MPU	ECC	FlexRay	CAN	SCI	SPI	IC	Analog (ADC)	PWM	Motor	SSD	ECT	Timer	PIT	LCD	KWU	EB	Operating Voltage	*Temp. Range	Package Options	In Production
S12XEP100	S12X	50 MHz	1 MB	64 KB	4 KB	152	✓	✓	✓	✓	5	8	3	2	2x16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch., 16-bit	8-ch.	25	✓	3.13 to 5.5	C, V, M	112 LQFP, 144 LQFP, 208 MAPBGA	✓	
S12XEP768	S12X	50 MHz	768 KB	48 KB	4 KB	152	✓	✓	✓	✓	5	8	3	2	2x16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch., 16-bit	8-ch.	25	✓	3.13 to 5.5	C, V, M	112 LQFP, 144 LQFP, 208 MAPBGA	✓	
S12XE0512	S12X	50 MHz	512 KB	32 KB	4 KB	119	✓	✓	✓	✓	4	6	3	2	2x12-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch.	25	✓	3.13 to 5.5	C, V, M	80 LQFP, 112 LQFP, 144 LQFP	✓		
S12XEQ384	S12X	50 MHz	384 KB	24 KB	4 KB	119	✓	✓	✓	✓	4	4	3	1	2x12-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch.	25	✓	3.13 to 5.5	C, V, M	80 LQFP, 112 LQFP, 144 LQFP	✓		
S12XET256	S12X	50 MHz	256 KB	16 KB	4 KB	119	✓	✓	✓	✓	3	4	3	1	2x12-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch.	25	✓	3.13 to 5.5	C, V, M	80 LQFP, 112 LQFP, 144 LQFP	✓		
S12XS256	S12X	40 MHz	256 KB	12 KB	8 KB						1	2	1	1	16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch.	18	✓	3.13 to 5.5	C, V, M, J	64 LQFP, 80 QFP, 112 LQFP, KGD	✓		
S12XS128	S12X	40 MHz	128 KB	8 KB	8 KB						1	2	1	1	16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch.	18	✓	3.13 to 5.5	C, V, M, J	64 LQFP, 80 QFP, 112 LQFP, KGD	✓		
S12XS64	S12X	40 MHz	64 KB	4 KB	4 KB						1	2	1	1	16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	8-ch.	18	✓	3.13 to 5.5	C, V, M, J	64 LQFP, 80 QFP, 112 LQFP, KGD	✓		
S12XF512	S12X	50 MHz	512 KB	32 KB	4KB	91	✓	✓	✓	✓	1	2	2	2	16-ch., 12-bit	6-ch., 15-bit				8-ch., 16-bit	4-ch.	11	✓	3.13 to 5.5	C, V, M	112 LQFP, 64 LQFP	✓		
S12XF384	S12X	50 MHz	384 KB	24 KB	4KB	91	✓	✓	✓	✓	1	2	2	2	16-ch., 12-bit	6-ch., 15-bit				8-ch., 16-bit	4-ch.	11	✓	3.13 to 5.5	C, V, M	112 LQFP, 64 LQFP	✓		
S12XF256	S12X	50 MHz	256 KB	20 KB	2 KB	91	✓	✓	✓	✓	1	2	2	2	16-ch., 12-bit	6-ch., 15-bit				8-ch., 16-bit	4-ch.	11	✓	3.13 to 5.5	C, V, M	112 LQFP, 64 LQFP	✓		
S12XF128	S12X	50 MHz	128 KB	16 KB	2 KB	91	✓	✓	✓	✓	1	2	2	2	16-ch., 12-bit	6-ch., 15-bit				8-ch., 16-bit	4-ch.	11	✓	3.13 to 5.5	C, V, M	112 LQFP, 64 LQFP	✓		
S12XH2512	S12X	40 MHz	512 KB	32 KB	4 KB	117	✓	✓	✓	✓	2	2	1	2	16-ch., 10-bit	8-ch., 8-bit	24/6	6		8-ch., 16-bit	4-ch.	32 x 4	8	✓	4.5 to 5.5	C, V, M	112 LQFP, 144 LQFP	✓	
S12XH384	S12X	40 MHz	384 KB	28 KB	4 KB	117	✓	✓	✓	✓	2	2	1	2	16-ch., 10-bit	8-ch., 8-bit	24/6	6		8-ch., 16-bit	4-ch.	32 x 4	8	✓	4.5 to 5.5	C, V, M	112 LQFP, 144 LQFP	✓	
S12XH256	S12X	40 MHz	256 KB	16 KB	4 KB	117	✓	✓	✓	✓	2	2	1	2	16-ch., 10-bit	8-ch., 8-bit	24/6	6		8-ch., 16-bit	4-ch.	32 x 4	8	✓	4.5 to 5.5	C, V, M	112 LQFP, 144 LQFP	✓	
S12XDP512	S12X	40 MHz	512 KB	32 KB	4 KB	119	✓	✓	✓	✓	5	6	3	2	8-ch., + 16-ch., 10-bit	8-ch., 8-bit				8-ch., 16-bit	4-ch.	24	✓	3.15 to 5.5	C, V, M	112 LQFP, 144 LQFP	✓		
S12XDT512	S12X	40 MHz	512 KB	20 KB	4 KB	119	✓	✓	✓	✓	3	6	3	1	8-ch., + 16-ch., 10-bit	8-ch., 8-bit				8-ch., 16-bit	4-ch.	24	✓	3.15 to 5.5	C, V, M	80 QFP, 112 LQFP, 144 LQFP	✓		