



Automotive Microcontrollers and Microprocessors

8-, 16- and 32-bit devices



Valid 3/2011–7/2011

8-bit S08 Microcontrollers																	
Device	Bus Frequency	Flash	RAM	EEPROM	CAN	UART	SPI	I ² C	SLIC	Analog (ADC)	Timer	Clock	Additional Features	Operating Voltage	Temp. Range	Package Options	
S08DZ128	20 MHz	128 KB	8 KB	Up to 2 KB	1	2 x SCI	2	2		24-ch., 12-bit, 2 com	Up to 12-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	
S08DZ96	20 MHz	96 KB	6 KB	Up to 2 KB	1	2 x SCI	2	2		24-ch., 12-bit, 2 com	Up to 12-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	
S08DZ60	20 MHz	60 KB	4 KB	Up to 2 KB	1	2 x SCI	1	1		Up to 24-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DZ48	20 MHz	48 KB	3 KB	Up to 1.5 KB	1	2 x SCI	1	1		Up to 24-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DZ32	20 MHz	32 KB	2 KB	Up to 1 KB	1	2 x SCI	1	1		Up to 24-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DZ16	20 MHz	16 KB	1 KB	Up to 512B	1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP	
S08DV128	20 MHz	128 KB	6 KB		1	2 x SCI	2	2		24-ch., 12-bit, 2 com	Up to 12-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	
S08DV96	20 MHz	96 KB	4 KB		1	2 x SCI	2	2		24-ch., 12-bit, 2 com	Up to 12-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP, 64 LQFP, 100 LQFP	
S08DV60	20 MHz	60 KB	3 KB		1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DV48	20 MHz	48 KB	2 KB		1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DV32	20 MHz	32 KB	2 KB		1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DV16	20 MHz	16 KB	1 KB		1	2 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP	
S08DN60	20 MHz	60 KB	2 KB	Up to 2 KB		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DN48	20 MHz	48 KB	2 KB	Up to 1.5 KB		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DN32	20 MHz	32 KB	1.5 KB	Up to 1 KB		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP, 64 LQFP	
S08DN16	20 MHz	16 KB	1 KB	Up to 512B		1 x SCI	1	1		Up to 16-ch., 12-bit, 2 com	Up to 6-ch. + 2-ch.	MCG	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	32 LQFP, 48 LQFP	
S08AW60	20 MHz	60 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 10-bit	Up to 6-ch. + 2-ch.	ICG	KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	64 QFP, 64 LQFP, 48 QFN, 44 LQFP	
S08AW48	20 MHz	48 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 10-bit	Up to 6-ch. + 2-ch.	ICG	KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	64 QFP, 64 LQFP, 48 QFN, 44 LQFP	
S08AW32	20 MHz	32 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 10-bit	Up to 6-ch. + 2-ch.	ICG	KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	64 QFP, 64 LQFP, 48 QFN, 44 LQFP	
S08AW16A	20 MHz	16 KB	1 KB			2 x SCI	1	1		Up to 8-ch., 10-bit	Up to 8-ch.	ICG	KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	48 QFN, 44 QFP, 32 LQFP	
S08AW8A	20 MHz	8 KB	768B			2 x SCI	1	1		Up to 8-ch., 10-bit	Up to 8-ch.	ICG	KBI, ICE, BDM, Temp Sensor	2.7 to 5.5	C, V, M	48 QFN, 44 QFP, 32 LQFP	
S08EL32	20 MHz	32 KB	1 KB	Up to 512B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 2 com	4-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, Watchdog OSC/Timer, BDM, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	
S08EL16	20 MHz	16 KB	1 KB	Up to 512B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 2 com	4-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, Watchdog OSC/Timer, BDM, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	
S08SL16	20 MHz	16 KB	512B	Up to 256B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 1 com	2-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, Watchdog OSC/Timer, BDM, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	
S08SL8	20 MHz	8 KB	512B	Up to 256B		1 x SCI	1	1	1	Up to 16-ch., 10-bit, 1 com	2-ch. + 2-ch.	ICS	LIN Auto-Baud/Synch, Watchdog OSC/Timer, BDM, Temp Sensor	2.7 to 5.5	C, V, M	28 TSSOP, 20 TSSOP	
S08SG32	20 MHz	32 KB	1 KB			1 x SCI	1	1		Up to 16-ch., 10-bit, 1 com	2-ch. + 2-ch.	ICS	Watchdog OSC/Timer, COP, BDM, POR, KBI, Temp Sensor	2.7 to 5.5	C, V, M, J, W	28 TSSOP, 20 TSSOP, 16 TSSOP	
S08SG16	20 MHz	16 KB	1 KB			1 x SCI	1	1		Up to 16-ch., 10-bit, 1 com	2-ch. + 2-ch.	ICS	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M, J, W	28 TSSOP, 20 TSSOP, 16 TSSOP	
S08SG8	20 MHz	8 KB	512B			1 x SCI	1	1		Up to 12-ch., 10-bit, 1 com	Up to 2-ch. + 2-ch.	ICS	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	20 TSSOP, 16 TSSOP, 8 SOIC	
S08SG4	20 MHz	4 KB	256B			1 x SCI	1	1		Up to 12-ch., 10-bit, 1 com	Up to 2-ch. + 2-ch.	ICS	Watchdog OSC/Timer, COP, BDM, Temp Sensor	2.7 to 5.5	C, V, M	20 TSSOP, 16 TSSOP, 8 SOIC	
S08SC4	20 MHz	4 KB	256B			1 x SCI				Up to 8-ch., 10-bit	Up to 2-ch. + 2-ch.	ICS	Watchdog OSC/Timer, COP, BDM, Temp Sensor	4.5 to 5.5	C, V, M	16 TSSOP	
S08LG32	20 MHz	32 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 12-bit	Up to 2-ch. + 6-ch.	ICS	Up to 37x8/41x4 LCD Driver, Watchdog OSC/Timer, RTC, BDM, Temp Sensor	2.7 to 5.5	C, V	80 LQFP, 64 LQFP, 48 LQFP	
S08LG16	20 MHz	18 KB	2 KB			2 x SCI	1	1		Up to 16-ch., 12-bit	Up to 2-ch. + 6-ch.	ICS	Up to 29x8/33x4 LCD Driver, Watchdog OSC/Timer, RTC, BDM, Temp Sensor	2.7 to 5.5	C, V	64 LQFP, 48 LQFP	
S08MP16	20 MHz	16 KB	1 KB			1 x SCI	1	1		13-ch., 12-bit, 3 com	6-ch. + 2-ch., 16-bit flextimer with PWM functions	ICS	MTIM, RTC, COP, CRC, BDM, 5-bit DAC (3x), Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP	
S08QD4	8 MHz	4 KB	256B							4-ch., 10-bit	2-ch. + 1-ch.	ICS	Watchdog OSC/Timer, BDM, Temp Sensor	2.7 to 5.5	C, V, M	8 SOIC	
S08QD2	8 MHz	2 KB	128B							4-ch., 10-bit	2-ch. + 1-ch.	ICS	Watchdog OSC/Timer, BDM, Temp Sensor	2.7 to 5.5	C, V, M	8 SOIC	

16-bit S12(X) Microcontrollers																											
Device	Bus Frequency	Flash	RAM	Data Flash	EE-PROM	XGATE	MPU	ECC	FlexRay	CAN	SCI	SPI	I ² C	Analog (ADC)	PWM	Motor	SSD	ECT	Timer	PIT	LCD	KWU	EBI	Operating Voltage	Temp. Range	Package Options	
S12XEP100	50 MHz	1 MB	64 KB		4 KB	✓	✓	✓		5	8	3	2	2 x 16-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	50 MHz	768 KB	48 KB		4 KB	✓	✓	✓		5	8	3	2	2 x 16-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	
S12XEQ512	50 MHz	512 KB	32 KB		4 KB	✓	✓	✓		4	6	3	2	2 x 12-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	80 QFP, 112 LQFP, 144 LQFP	
S12XEQ384	50 MHz	384 KB	24 KB		4 KB	✓	✓	✓		4	4	3	1	2 x 12-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit		4-ch.		25	✓	3.13 to 5.5	C, V, M	80 QFP, 112 LQFP, 144 LQFP	
S12XET256	50 MHz	256 KB	16 KB		4 KB	✓	✓	✓		3	4	3	1	2 x 12-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit		4-ch.		25	✓	3.13 to 5.5	C, V, M	80 QFP, 112 LQFP, 144 LQFP	
S12XS256	40 MHz	256 KB	12 KB	8 KB				✓		1	2	1		16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	4-ch.		18		3.13 to 5.5	C, V, M	64 LQFP, 80 QFP, 112 LQFP	
S12XS128	40 MHz	128 KB	8 KB	8 KB				✓		1	2	1		16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	4-ch.		18		3.13 to 5.5	C, V, M	64 LQFP, 80 QFP, 112 LQFP	
S12XS64	40 MHz	64 KB	4 KB	4 KB				✓		1	2	1		16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	4-ch.		18		3.13 to 5.5	C, V, M	64 LQFP, 80 QFP, 112 LQFP	
S12XF512	50 MHz	512 KB	32 KB		4 KB	✓		✓	✓	1	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	50 MHz	384 KB	24 KB		4 KB	✓		✓	✓	1	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	50 MHz	256 KB	20 KB		2 KB	✓		✓	✓	1	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	50 MHz	128 KB	16 KB		2 KB	✓		✓	✓	1	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	
S12XHZ512	40 MHz	512 KB	32 KB		4 KB	✓				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	
S12XHZ384	40 MHz	384 KB	28 KB		4 KB	✓				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	
S12XHZ256	40 MHz	256 KB	16 KB		4 KB	✓				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	
S12XHY256	40 MHz	256 KB	12 KB	8 KB					Y		2	2	1	12-ch., 10-bit	8-ch., 8-bit/4-ch., 16-bit	16/4	4			16-ch., 16-bit	40 x 4	25		4.5 to 5.5	C, V, M	100/112 LQFP	
S12XHY128	40 MHz	128 KB	8 KB	8 KB					Y		2	2	1	12-ch., 10-bit	8-ch., 8-bit/4-ch., 16-bit	16/4	4			16-ch., 16-bit	40 x 4	25		4.5 to 5.5	C, V, M	100/112 LQFP	
S12XDP512	40 MHz	512 KB	32 KB		4 KB	✓				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	40 MHz	512 KB	20 KB		4 KB	✓				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	
S12XDT384	40 MHz	384 KB	20 KB		4 KB	✓				3	4	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	
S12XDQ256	40 MHz	256 KB	16 KB		4 KB	✓				4	4	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	
S12XDT256	40 MHz	256 KB	16 KB		4 KB	✓				3	4	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	
S12XD256	40 MHz	256 KB	14 KB		4 KB	✓				1	4	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	
S12XDG128	40 MHz	128 KB	12 KB		2 KB	✓				2	2	2	1	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	
S12XD128	40 MHz	128 KB	8 KB		2 KB	✓				1	2	2	1	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	
S12XD64	40 MHz	64 KB	4 KB		1 KB	✓				1	2	2	1	8-ch., 10-bit	8-ch., 8-bit			8-ch., 16-bit		2-ch.		24		3.15 to 5.5	C, V, M	80 LQFP	
S12XB256	33 MHz	256 KB	10 KB		2 KB	✓				1	2	1	1	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	
S12XB128	33 MHz	128 KB	6 KB		1 KB	✓				1	2	1	1	16-ch., 10-bit	8-ch., 8-bit			8-ch., 16-bit		2-ch.		24		3.15 to 5.5	C, V, M	80 QFP, 112 LQFP	
S12P128	32 MHz	128 KB	6 KB	4 KB			✓			1	1	1		10-ch., 12-bit	6-ch., 8-bit				8-ch., 16-bit			12		3.13 to 5.5	C, V, M	80 QFP, 64 LQFP, 48 QFN	
S12P96	32 MHz	96 KB	6 KB	4 KB			✓			1	1	1		10-ch., 12-bit	6-ch., 8-bit				8-ch., 16-bit			12		3.13 to 5.5	C, V, M	80 QFP, 64 LQFP, 48 QFN	
S12P64	32 MHz	64 KB	4 KB	4 KB			✓			1	1	1		10-ch., 12-bit	6-ch., 8-bit				8-ch., 16-bit			12		3.13 to 5.5	C, V, M	80 QFP, 64 LQFP, 48 QFN	
S12P32	32 MHz	32 KB	2 KB	4 KB			✓			1	1	1		10-ch., 12-bit	6-ch., 8-bit				8-ch., 16-bit			12		3.13 to 5.5	C, V, M	80 QFP, 64 LQFP, 48 QFN	
S12G128	25 MHz	128 KB	8 KB		4 KB		Y			1	3	3		12-ch., 10-bit	8-ch., 8-bit				8-ch., 8-bit			16		3.13 to 5.5	C, V, M	48/64/100 LQFP	
S12G96	25 MHz	96 KB	8 KB		3 KB		Y			1	3	3		12-ch., 10-bit	8-ch., 8-bit				8-ch., 16-bit			16		3.13 to 5.5	C, V, M	48/64/100 LQFP	
S12HZ128	25 MHz	128 KB	6 KB		2 KB					2	2	1	1	16-ch., 10-bit	6-ch., 8-bit	16/4	4		8-ch., 8-bit		32 x 4	8		4.5 to 5.5	C, V, M	112 LQFP	
S12HZ64	25 MHz	64 KB	4 KB		1 KB					1	1	1		8-ch., 10-bit	4-ch., 8-bit	16/4	4		8-ch., 8-bit		24 x 4	8		4.5 to 5.5	C, V, M	80 QFP, 112 LQFP	
S12HN64	25 MHz	64 KB	4 KB							1	1	1		8-ch., 10-bit	4-ch., 8-bit	16/4	4		8-ch., 8-bit		24 x 4	8		4.5 to 5.5	C, V, M	80 QFP, 112 LQFP	
S12HY64	32 MHz	64 KB	4 KB	4 KB						1	1	1	1	8-ch., 10-bit	8-ch., 8-bit	16/4	Support		8-ch. + 8-ch., 16-bit		40 x 4	22		3.13 to 5.5	C, V, M	64 LQFP, 100 LQFP	
S12HA64	32 MHz	64 KB	4 KB	4 KB						1	1	1	1	8-ch., 10-bit	8-ch., 8-bit	16/4	Support		8-ch. + 8-ch., 16-bit		40 x 4	22		3.13 to 5.5	C, V, M	64 LQFP, 100 LQFP	
S12HY48	32 MHz	48 KB	4 KB	4 KB						1	1	1	1	8-ch., 10-bit	8-ch., 8-bit	16/4	Support		8-ch. + 8-ch., 16-bit		40 x 4	22		3.13 to 5.5	C, V, M	64 LQFP, 100 LQFP	
S12HA48	32 MHz	48 KB	4 KB	4 KB						1	1	1	1	8-ch., 10-bit	8-ch., 8-bit	16/4	Support		8-ch. + 8-ch., 16-bit		40 x 4	22		3.13 to 5.5	C, V, M	64 LQFP, 100 LQFP	
S12HY32	32 MHz	32 KB	2 KB	4 KB						1	1	1	1	8-ch., 10-bit	8-ch., 8-bit	16/4	Support		8-ch. + 8-ch., 16-bit		40 x 4	22		3.13 to 5.5	C, V, M	64 LQFP, 100 LQFP	
S12HA32	32 MHz	32 KB	2 KB	4 KB						1	1	1	1	8-ch., 10-bit	8-ch., 8-bit	16/4	Support		8-ch. + 8-ch., 16-bit		40 x 4	22		3.13 to 5.5	C, V, M	64 LQFP, 100 LQFP	

Qorivva 32-bit MPC56xx Microcontrollers Built on Power Architecture® Technology																										
Device	Core Platform	Bus Frequency	Program Flash	SRAM	DMA	EEPROM	MPU/MMU	CTU	CSE	SCI (LINFlex)	DSPI	CAN	I²C	FlexRay™	Ethernet (100 BaseT)	MLB	eTPU	eMIOS	Motor Control Timers	PIT	Analog (ADC)	Operating Voltage	Temp. Range	Debug	Package Options	In Production
MPC5676R	Dual e200z7	2 x 180 MHz	6 MB	384 KB	96-ch.	64 KB Data Flash	32 Entry			3	5	4		✓, Dual Channel			96-ch.	Up to 32-ch., 16-bit			Up to 64-ch., 12-bit 12 x Dec Filters	3.3V, 5V	M	Nexus 3+	416 BGA, 516 BGA	
MPC5674F	e200z7	150, 200, 264 MHz	4 MB	256 KB	64-ch. + 32-ch.	Emulated in Program Flash	MPU + 64 Entry MMU			3	4 (MSB)	4		✓, Dual Channel			2 x 32-ch.	32-ch.			Quad 64-ch. + 8 DECFIL	3.3V, 5V	M	Nexus 3+ VertiCal Calibration System	324 BGA, 416 BGA, 516 BGA	✓
MPC5673F	e200z7	150, 200, 264 MHz	3 MB	192 KB	64-ch. + 32-ch.	Emulated in Program Flash	MPU + 64 Entry MMU			3	4 (MSB)	4		✓, Dual Channel			2 x 32-ch.	32-ch.			Quad 64-ch. + 8 DECFIL	3.3V, 5V	M	Nexus 3+ VertiCal Calibration System	324 BGA, 416 BGA, 516 BGA	✓
MPC5644A	e200z4	120, 132, 150 MHz	4 MB	192 KB	64-ch.	Emulated in Program Flash	24 Entry MMU			3	3 (MSB)	3		✓			32-ch.	24-bit		5-ch.	Dual 40-ch. + 2 DECFIL	3.3V, 5V	M	Nexus 3+ VertiCal Calibration System	176LQFP, 208MAPBGA, 324MAPBGA	
MPC5643A	e200z4	120, 132, 150 MHz	3 MB	192 KB	64-ch.	Emulated in Program Flash	24 Entry MMU			3	3 (MSB)	3		✓			32-ch.	24-bit		5-ch.	Dual 40-ch. + 2 DECFIL	3.3V, 5V	M	Nexus 3+ VertiCal Calibration System	176LQFP, 208MAPBGA, 324MAPBGA	
MPC5642A	e200z4	120, 132, 150 MHz	2 MB	128 KB	64-ch.	Emulated in Program Flash	24 Entry MMU			3	3 (MSB)	3		✓			32-ch.	24-bit		5-ch.	Dual 40-ch. + 2 DECFIL	3.3V, 5V	M	Nexus 3+ VertiCal Calibration System	176LQFP, 208MAPBGA, 324MAPBGA	
MPC5634M	e200z3	60, 80 MHz	1.5 MB	94 KB	32-ch.	Emulated in Program Flash	16 Entry			2	2	2					32-ch.	16-ch., 24-bit		5-ch.	Dual 34-ch., 12-bit	5V (internal 3.3V and 1.2V)	M	Nexus 2+ Wide Trace Port in Vertical Calibration System and JTAGC	144 LQFP, 176 LQFP, 208 MAPBGA	✓
MPC5633M	e200z3	40, 60, 80 MHz	1 MB	64 KB	32-ch.	Emulated in Program Flash	16 Entry			2	2	2					32-ch.	16-ch., 24-bit		5-ch.	Dual 34-ch., 12-bit	5V (internal 3.3V and 1.2V)	M	Nexus 2+ Wide Trace Port in Vertical Calibration System and JTAGC	144 LQFP, 176 LQFP, 208 MAPBGA	✓
MPC5632M	e200z3	40, 60 MHz	768 KB	48 KB	32-ch.	Emulated in Program Flash	16 Entry			2	2	2					32-ch.	8-ch., 24-bit		5-ch.	Dual 32-ch., 12-bit	5V (internal 3.3V and 1.2V)	M	Nexus 2+ (Calibration N/A on MPC5632M) and JTAGC	144 LQFP	✓
MPC5643L	e200z4 x 2	80/120 MHz	1 MB	128 KB	16-ch.	64 KB Data Flash	16 Entry	✓		2	3	2		✓					46-ch. eTimer/ PWM/STM	4-ch.	Dual 16-ch., 12-bit	3.3V	M	Nexus 3+	144 LQFP, 257 MAPBGA	
MPC5604P	e200z0	40/64 MHz	512 KB	40 KB	16-ch.	64 KB Data Flash		✓		2	4	2		✓					20-ch. eTimer/ PWM	4-ch.	Dual 13-ch., 10-bit	3.3V, 5V	M	Nexus 2+	100 LQFP, 144 LQFP	✓
MPC5603P	e200z0	40/64 MHz	384 KB	36 KB	16-ch.	64 KB Data Flash		✓		2	4	2		✓					20-ch. eTimer/ PWM	4-ch.	Dual 13-ch., 10-bit	3.3V, 5V	M	Nexus 2+	100 LQFP, 144 LQFP	✓
MPC5602P	e200z0	40/64 MHz	256 KB	20 KB	16-ch.	64 KB Data Flash		✓		2	3	2							14-ch. eTimer/ PWM	4-ch.	16-ch., 10-bit	3.3V, 5V	M	Nexus 1 (Emulation with MPC5604P)	64 LQFP, 100 LQFP	
MPC5601P	e200z0	40/64 MHz	192 KB	12 KB	16-ch.	64 KB Data Flash				1	1	1							6-ch. eTimer	4-ch.	11-ch., 10-bit	3.3V, 5V	M	Nexus 1 (Emulation with MPC5604P)	64 LQFP, 100 LQFP	
MPC5668G/E	e200z6 + e200z0	128 MHz	2 MB	592 KB	16-ch.	Emulated in Program Flash				6	4	6	4	✓	✓		16-ch., 24-bit			8-ch.	36-ch., 10-bit	3.3V, 5V	V	Nexus3 on z6 and Nexus 2+	208 MAPBGA	✓
MPC5646C	e200z4 + e200z0	120 MHz, 60 MHz	3 MB	256 KB	16-ch.	64 KB Data Flash	16 Entry	✓	Optional	10	8	6	1	✓	✓		64-ch., 16-bit			Up to 8-ch.	Up to 29-ch., 12-bit, Up to 33-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 3+	256 BGA, 208 LQFP, 176 LQFP	
MPC5646B	e200z4	120 MHz	3 MB	192 KB	16-ch.	64 KB Data Flash	16 Entry	✓	Optional	10	8	6	1	✓			64-ch., 16-bit			Up to 8-ch.	Up to 29-ch., 12-bit, Up to 33-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 3+	208 LQFP, 176 LQFP	
MPC5645C	e200z4 + e200z0	120 MHz, 60 MHz	2 MB	256 KB	16-ch.	64 KB Data Flash	16 Entry	✓	Optional	10	8	6	1	✓	✓		64-ch., 16-bit			Up to 8-ch.	Up to 29-ch., 12-bit, Up to 33-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 3+	256 BGA, 208 LQFP, 176 LQFP	
MPC5645B	e200z4	120 MHz	2 MB	160 KB	16-ch.	64 KB Data Flash	16 Entry	✓	Optional	10	8	6	1	✓			64-ch., 16-bit			Up to 8-ch.	Up to 29-ch., 12-bit, Up to 33-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 3+	208 LQFP, 176 LQFP	
MPC5644C	e200z4 + e200z0	120 MHz, 60 MHz	1.5 MB	192 KB	16-ch.	64 KB Data Flash	16 Entry	✓	Optional	10	8	6	1	✓	✓		64-ch., 16-bit			Up to 8-ch.	Up to 29-ch., 12-bit, Up to 33-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 3+	256 BGA, 208 LQFP, 176 LQFP	
MPC5644B	e200z4	120 MHz	1.5 MB	128 KB	16-ch.	64 KB Data Flash	16 Entry	✓	Optional	10	8	6	1	✓			64-ch., 16-bit			Up to 8-ch.	Up to 29-ch., 12-bit, Up to 33-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 3+	208 LQFP, 176 LQFP	
MPC5607B	e200z0	64 MHz	1.5 MB	96 KB	16-ch.	64 KB Data Flash	8 Entry	✓		Up to 10	6	6	1				64-ch., 16-bit				16-ch., 10/12-bit + 32-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	176 LQFP	✓
MPC5606B	e200z0	64 MHz	1 MB	80 KB	16-ch.	64 KB Data Flash	8 Entry	✓		Up to 8	Up to 6	6	1				64-ch., 16-bit				16-ch., 10/12-bit + up to 32-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	144 LQFP, 176 LQFP	✓
MPC5605B	e200z0	64 MHz	768 KB	64 KB	16-ch.	64 KB Data Flash	8 Entry	✓		Up to 8	Up to 6	6	1				64-ch., 16-bit				16-ch., 10/12-bit + up to 32-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	100 LQFP, 144 LQFP, 176 LQFP	✓
MPC5604B	e200z0	64 MHz	512 KB	32 KB		64 KB Data Flash	8 Entry	✓		4	3	3	1				56-ch., 16-bit		Up to 6-ch.	Up to 36-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	100 LQFP, 144 LQFP, 64 LQFP	✓	
MPC5603B	e200z0	64 MHz	384 KB	28 KB		64 KB Data Flash	8 Entry	✓		4	3	3	1				56-ch., 16-bit		Up to 6-ch.	Up to 36-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	100 LQFP, 144 LQFP, 64 LQFP	✓	
MPC5602B	e200z0	64 MHz	256 KB	24 KB		64 KB Data Flash	8 Entry	✓		3	3	2	1				56-ch., 16-bit		Up to 6-ch.	Up to 36-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	100 LQFP, 144 LQFP, 64 LQFP	✓	
MPC5604C	e200z0	64 MHz	512 KB	48 KB		64 KB Data Flash	8 Entry	✓		4	3	6	1				28-ch., 16-bit		3-ch.	28-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	100 LQFP, 64 LQFP	✓	
MPC5603C	e200z0	64 MHz	384 KB	40 KB		64 KB Data Flash	8 Entry	✓		4	3	6	1				28-ch., 16-bit		3-ch.	28-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	100 LQFP, 64 LQFP	✓	
MPC5602C	e200z0	64 MHz	256 KB	32 KB		64 KB Data Flash	8 Entry	✓		4	3	6	1				28-ch., 16-bit		3-ch.	28-ch., 10-bit	3.3V, 5V	C, V, M	Nexus 2+ (208MAPBGA Emulation Only Package) JTAG	100 LQFP, 64 LQFP	✓	
MPC5602D	e200z0	48 MHz	256 KB	16 KB	16-ch.	64 KB Data Flash		✓		3	2	1					Up to 28-ch., 16-bit		Up to 4-ch.	Up to 33-ch., 12-bit	3.3V, 5V	C, V, M	JTAG	100 LQFP, 64 LQFP		
MPC5601D	e200z0	48 MHz	128 KB	12 KB	16-ch.	64 KB Data Flash		✓		3	2	1					Up to 28-ch., 16-bit		Up to 4-ch.	Up to 33-ch., 12-bit	3.3V, 5V	C, V, M	JTAG	100 LQFP, 64 LQFP		

Qorivva 32-bit MPC56xx Microcontrollers Built on Power Architecture Technology																									
Device	Core Platform	Bus Frequency	Program Flash	SRAM	eDMA	Emulated EEPROM	TFT Drive	Stepper Drive	SCI (LINFlex)	DSPI	CAN	PC	LCD	Sound Generator	Memory Expansion	MPU	eMIOS	Timers	Analog (ADC)	Operating Voltage	Temp. Range	Debug	Package Options	In Production	
MPC5606S	e200z0h	64 MHz	1 MB	48 KB + 160 KB Graphics RAM	16-ch.	4 x 16 KB	DCU with PDI	6 gauges with SSD	2	3	2	4	40 x 4/38 x 6 (software configurable)	Yes (using eMIOS)	QuadSPI	12 entry	2-ch.	RTC, API, 4-ch. 32-bit PIT and S/W watchdog timer	16-ch., 10-bit	3.3V, 5V	C, V	Nexus 2+	144 LQFP, 176 LQFP		
MPC5604S	e200z0h	64 MHz	512 KB	48 KB	16-ch.	4 x 16 KB	No	6 gauges with SSD	2	2	2	2	40 x 4/38 x 6 (software configurable)	✓		12 entry	2-ch.	RTC, API, 4-ch. 32-bit PIT and S/W watchdog timer	16-ch., 10-bit	3.3V, 5V	C, V	Nexus 1	144 LQFP		
MPC5602S	e200z0h	64 MHz	256 KB	24 KB	16-ch.	4 x 16 KB	No	6 gauges with SSD	2	2	1	2	40 x 4/38 x 6 (software configurable)	✓		12 entry	2-ch.	RTC, API, 4-ch. 32-bit PIT and S/W watchdog timer	16-ch., 10-bit	3.3V, 5V	C, V	Nexus 1	144 LQFP		

32-bit MPC51xx and MPC52xx Microprocessors Built on Power Architecture Technology																			
Device	Core Platform	Core Frequency	Cache	Audio Acceleration	DRAM Bandwidth	Bus System	Graphics Acceleration	Display Controller	Memory Interface	External Memory Bus	PSC	IC	CAN	USB 2.0	Secure Digital	Ethernet	Temp	Package	In Production
MPC5200B	e300	400 MHz, 760 MIPS	16K I/D	None	300 MBs	Single port	None	None	16/32-bit DDR-I	NOR flash	6	2	2	2 (USB 1.1)		✓	C	272 TE-PBGA	✓
MPC5121e	e300	400 MHz, 800 MIPS	32K I/D	AXE, 200 MHz, 32-bit RISC	1100 MBs	5-port 64-bit @200 MHz	OpenGL-ES 1.1 OpenVG 1.0	1280 x 720 24-bit 3-plane blend	16/32-bit DDR-I/II and MobileDDR-I controller	8/16-bit NAND flash controller	12	3	4	2	MMCSD SDIO	✓	C	516 PBGA	✓
MPC5123	e300	400 MHz, 800 MIPS	32K I/D	AXE, 200 MHz, 32-bit RISC	1100 MBs	5-port 64-bit @200 MHz	None	1280 x 720 24-bit 3-plane blend	16/32-bit DDR-I/II and MobileDDR-I controller	8/16-bit NAND flash controller	12	3	4	2	MMCSD SDIO	✓	C	516 PBGA	✓
MPC5125	e300	400 MHz, 800 MIPS	32K I/D	None	1100 MBs	5-port 64-bit @200MHz	None	1280 x 720 24-bit 3-plane blend	16/32-bit DDR-I/II and MobileDDR-I controller	8/16-bit NAND flash controller	10	3	4	2	MMCSD SDIO	✓	C	324 PBGA	

32-bit i.MX ARM® Microprocessors																														
Device	Core Platform	Core Frequency	Cache	SRAM	DMA	Video Accelerator	Graphics Accelerator	Image Processor	Camera Input	Display Interface	DRAM Support	Flash Support	USB (2.0)	CAN	MLB	SD/MMC SDIO	PC	SPI	UART	Ethernet (100 Base-T)	HDD Interface	SSI/FS	Sample Rate Converter	SP-DIF I/O	PIT	3.3V GPIO	Voltage	Temp. Range	Package Options	In Production
i.MX251	ARM926™	400 MHz	L1: 16 KB/16 KB I/D	128 KB	32-ch.						SDRAM, mDDR, DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy HS Host+FS Phy or ext. HS Phy	2		2	3	3	5	✓	ATA-6	2+ ESAI		4	✓	1.38V to 1.52V	C	400 MAP-BGA	✓	
i.MX255	ARM926	400 MHz	L1: 16 KB/16 KB I/D	128 KB	32-ch.				CCIR656	TFT up to SVGA	SDRAM, mDDR, DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy HS Host+FS Phy or ext. HS Phy	2		2	3	3	5	✓	ATA-6	2+ ESAI		4	✓	1.38V to 1.52V	C	400 MAP-BGA	✓	
i.MX281	ARM926	454 MHz	L1: 16 KB/32 KB I/D	128 KB	32-ch.						mDDR, DDR2	SLC NAND, MLC NAND, QSPI Flash	HS OTG+HS Phy HS Host+FS Phy or ext. HS Phy	2		x3	x2	x3	x6	x1	x3		Tx	8	✓	Internally generated	C	289 MAP-BGA	✓	
i.MX285	ARM926	454 MHz	L1: 16 KB/32 KB I/D	128 KB	32-ch.					TFT up to WVGA	mDDR, DDR2	SLC NAND, MLC NAND, QSPI Flash	HS OTG+HS Phy HS Host+FS Phy or ext. HS Phy	2		x3	x2	x3	x6	x1	x3		Tx	8	✓	Internally generated	C	289 MAP-BGA	✓	
i.MX534	Cortex™-A8 with VPU and NEON	800 MHz	L1: 32 KB/32 KB I/D, L2: 256 KB Unified	144 KB	32-ch.		OpenVG 1.1, OpenGL ES2.0	✓	CCIR656	UXGA, Dual TFT	DDR2 DDR3 LP-DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy HS Host+FS Phy and 3x HS Host	2	✓	4	x2	3	x6	X with IEEE 1588	SATA, PATA	3+ ESAI	Yes, asynchronous	Yes	3	✓	0.95V to 1.10V	C	529 MAP-BGA	✓
i.MX536	Cortex-A8 with VPU and NEON	800 MHz	L1: 32 KB/32 KB I/D, L2: 256 KB Unified	144 KB	32-ch.	HD720 encode, HD1080 decode	OpenVG 1.1, OpenGL ES2.0	✓	CCIR656	UXGA, Dual TFT	DDR2 DDR3 LP-DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy HS Host+FS Phy and 3x HS Host	2	✓	4	x2	3	x6	X with IEEE 1588	SATA, PATA	3+ ESAI	Yes, asynchronous	Yes	3	✓	0.95V to 1.10V	C	529 MAP-BGA	✓
i.MX351	ARM1136™ with Vector Floating Point	532 MHz	L1: 16 KB/16 KB I/D, L2: 128 KB Unified	128 KB	32-ch.						SDRAM, mDDR, DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy HS Host+FS Phy or ext. HS Phy	2	✓	3	3	2	3	✓	ATA-6	2+ ESAI	Yes, asynchronous	Yes	3	✓	1.22V to 1.47V	C	400 MAP-BGA	✓
i.MX355	ARM1136 with Vector Floating Point	532 MHz	L1: 16 KB/16 KB I/D, L2: 128 KB Unified	128 KB	32-ch.			✓	CCIR656	TFT up to SVGA	SDRAM, mDDR, DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy HS Host+FS Phy or ext. HS Phy	2	✓	3	3	2	3	✓	ATA-6	2+ ESAI	Yes, asynchronous	Yes	3	✓	1.22V to 1.47V	C	400 MAP-BGA	✓
i.MX356	ARM1136 with Vector Floating Point	532 MHz	L1: 16 KB/16 KB I/D, L2: 128 KB Unified	128 KB	32-ch.		OpenVG 1.1	✓	CCIR656	TFT up to SVGA	SDRAM, mDDR, DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy HS Host+FS Phy or ext. HS Phy	2	✓	3	3	2	3	✓	ATA-6	2+ ESAI	Yes, asynchronous	Yes	3	✓	1.22V to 1.47V	C	400 MAP-BGA	✓
i.MX514	ARM Cortex-A8 with VPU and NEON	600 MHz	L1: 32 KB/32 KB I/D, L2: 256 KB Unified	96 KB	32-ch.		OpenVG 1.1, OpenGL ES2.0	✓	CCIR656	WXGA, Dual TFT	mDDR, DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy and 3x HS Host			4	3	2	3	✓	ATA-6	3		Yes (Tx)	3	✓	0.95V to 1.10V	C	529 MAP-BGA	✓
i.MX516	ARM Cortex-A8 with VPU and NEON	600 MHz	L1: 32 KB/32 KB I/D, L2: 256 KB Unified	96 KB	32-ch.	D1 encode, HD720 decode	OpenVG 1.1, OpenGL ES2.0	✓	CCIR656	WXGA, Dual TFT	mDDR, DDR2	NOR, SLC NAND MLC NAND	HS OTG+HS Phy and 3x HS Host			4	3	2	3	✓	ATA-6	3		Yes (Tx)	3	✓	0.95V to 1.10V	C	529 MAP-BGA	✓