



Automotive Microcontrollers and Microprocessors

8-, 16- and 32-bit devices



Valid 9/2011–2/2012

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	8 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	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
S08DV60	20 MHz	60 KB	4 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	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
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	3 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	3 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, 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, 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, W	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, W	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 w/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.			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
S12XET512	50 MHz	512 KB	32 KB		4 KB	✓	✓	Y		4	6	3	2	24-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	112 pin LQFP, 144 pin LQFP
S12XET384	50 MHz	384 KB	24 KB		4 KB	✓	✓	Y		4	6	3	2	24-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	112 pin LQFP, 144 pin LQFP
S12XET256	50 MHz	256 KB	16 KB		4 KB	✓	✓	Y		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
S12XEG384	50 MHz	384 KB	24 KB		4 KB	✓	✓	Y		2	6	3	1	16-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	80 pin QFP, 112 pin LQFP, 144 pin LQFP
S12XEG256	50 MHz	256 KB	16 KB		4 KB	✓	✓	Y		3	4	3	1	8-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	80 pin QFP, 112 pin LQFP
S12XEG128	50 MHz	128 KB	12 KB		2 KB	✓	✓	Y		2	2	2	1	16-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	80 pin QFP, 112 pin LQFP
S12XEA256	54 MHz	256 KB	16 KB		4 KB	✓	✓	Y		3	2	3	1	8-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	80 pin QFP
S12XEA128	50 MHz	128 KB	12 KB		2 KB	✓	✓	Y		2	2	2	1	12-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	80 pin QFP
S12XES384	55 MHz	384 KB	24 KB		4 KB	✓	✓	Y		1	2	1	1	16-ch., 12-bit	8-ch., 8-bit			8-ch., 16-bit	Up to 8-ch.			25	✓	3.13 to 5.5	C, V, M	80 pin QFP, 112 pin LQFP, 144 pin 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.,								

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 (LIN/Flex)	DSPI	CAN	PC	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	80, 120, 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	176 LQFP, 208 MAPBGA, 324 MAPBGA	✓
MPC5643A	e200z4	80, 120, 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	176 LQFP, 208 MAPBGA, 324 MAPBGA	✓
MPC5642A	e200z4	80, 120, 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	176 LQFP, 208 MAPBGA, 324 MAPBGA	✓
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	C, V, 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	C, V, 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	C, V, 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	C, V, M	Nexus 1 (Emulation with MPC5604P)	64 LQFP, 100 LQFP	✓
MPC5668G	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 (LIN/Flex)	DSPI	CAN	PC	LCD	Sound Generator	Memory Expansion	MPU	eMIOS	Timers	Analog (ADC)	Operating Voltage	Temp. Range	Debug	Package Options	In Production
MPC5645S	e200z4d	125 MHz	2 MB	64 KB	16-ch.	4 x 16 KB	Up to 2 DCUs	Up to 6	Up to 4	Up to 3	3	4		Yes	QuadSPI	16 entry		RTC, API, 8-ch, 32-bit PIT and S/W watchdog timer	Up to 20-ch, 10-bit	3.3V, 5V	C, V	Nexus 3	176 LQFP, 208 LQFP, 416 TEPBGA	✓
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	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, M	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	64 x 6	✓		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, M	Nexus 1	144 LQFP	✓
MPC5602S	e200z0h	64 MHz	256 KB	24 KB	16-ch.	4 x 16 KB	No	6 gauges with SSD	2	3	1	2	64 x 6	✓		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, M	Nexus 1	144 LQFP	✓

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 BaseT)	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, mDDR2	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, mDDR2, 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.MX351	ARM1136™ with Vector Floating Point	532 MHz	L1: 16 KB/16 KB I/D, L2: 128 KB Unified	128 KB	32-ch.						SDRAM, mDDR2, 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, mDDR2, 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					