



8-, 16- and 32-bit devices Automotive MCUs and MPUs



532 MCUs Built on ARM® Technology

Device	Core Platform	Core Frequency	Cache	SRAM	DMA	Video Accelerator	Graphics Accelerator	Image Processor	Camera Input	Display Interface	DRAM Support	Flash Support	CAN	SD/MMC/SDIO	PC	SPI	UART	Ethernet	PIT	3.3 V GPIO	Operating Voltage	Temp. Range	Package Options	In Production
S32V234	Quad ARM Cortex-A53	1 GHz	L1: 32 KB/ 32 KB I/D per core L2: 256 KB unified per cluster	4 MB	32-ch.	H.264 and MJPEG encode and decode	OpenGL ES3.0 3D	Image signal processor (ISP) + Dual APEX2-CL image cognition processor	MIPSI-CVI, VIU-Lite	TFT, up to 150 M (e.g., 1920 x 1080 60Hz)	x 64 LPDDR2 DDR3 and DDR3L	Quad serial Flash controller (QuadSPI)	2 x CAN-FD	1	3	4	2	1 GB with IEEE® 1588	2	✓	1.0 V ± 5% for digital core input supply voltage	V	421 Flip chip BGA, 17 x 17 mm	x

8-bit S08 MCUs

Device	Bus Frequency	Flash	RAM	EEPROM	CAN	UART	SPI	PC	SLIC	Analog (ADC)	Timer	Clock	Additional Features	Operating Voltage	Temp. Range	Package Options
S08DZ	20 MHz	Up to 128 KB	Up to 8 KB	Up to 2 KB	1	2 x SCI	Up to 2	Up to 2		Up to 24-ch., 12-bit, 2 com	Up to 12-ch.	MCG	Watchdog OSC/timer, COP, BDM, temp. sensor	2.7 to 5.5 V	C, V, M	32 LOFF, 48 LOFF, 64 LOFF, 100 LOFF
S08DV	20 MHz	Up to 128 KB	Up to 8 KB	Up to 2 KB	1	2 x SCI	Up to 2	Up to 2		Up to 24-ch., 12-bit, 2 com	Up to 12-ch.	MCG	Watchdog OSC/timer, COP, BDM, temp. sensor	2.7 to 5.5 V	C, V, M	32 LOFF, 48 LOFF, 64 LOFF, 100 LOFF
S08DN	20 MHz	Up to 60 KB	Up to 2 KB	Up to 2 KB	1	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 V	C, V, M	32 LOFF, 48 LOFF, 64 LOFF
S08AW	20 MHz	Up to 60 KB	Up to 2 KB	Up to 2 KB	2 x SCI	1	1	1		Up to 16-ch., 12-bit	Up to 8-ch.	ICG	KBI, ICE, BDM, temp. sensor	2.7 to 5.5 V	C, V, M	48 OFN, 44 OFF, 32 LOFF, 64 OFF, 64 LOFF, 44 LOFF
S08EL	20 MHz	Up to 32 KB	1 KB	Up to 512 B	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 V	C, V, M	28 TSSOP, 20 TSSOP
S08SL	20 MHz	Up to 16 KB	512 B	Up to 256 B	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 V	C, V, M	28 TSSOP, 20 TSSOP
S08SG	20 MHz	Up to 32 KB	Up to 1 KB	Up to 1 KB	1 x SCI	1	1	1		Up to 16-ch., 10-bit, 1 com	Up to 2-ch. + 2-ch.	ICS	Watchdog OSC/timer, COP, BDM, POR, KBI, temp. sensor	2.7 to 5.5 V	C, V, M, W	28 TSSOP, 20 TSSOP, 16 TSSOP, 8 SOIC
S08SC4	20 MHz	4 KB	256 B	Up to 1 KB	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 V	C, V, M	16 TSSOP
S08LG	20 MHz	Up to 32 KB	2 KB	Up to 2 KB	2 x SCI	1	1	1		Up to 16-ch., 12-bit	Up to 2-ch. + 6-ch.	ICS	Up to 37 x 8/41 x 4 LCD driver, watchdog OSC/timer, RTC, BDM, temp. sensor	2.7 to 5.5 V	C, V	80 LOFF, 64 LOFF, 48 LOFF
S08MP	20 MHz	16 KB	1 KB	Up to 1 KB	1 x SCI	1	1	1		13-ch., 12-bit, 3 com	6-ch. + 2-ch., 16-bit Flex Timer w/PWM functions	ICS	MTIM, RTC, COP, CRC, BDM, 5-bit DAC (8x), temp. sensor	2.7 to 5.5 V	C, V, M	48 LOFF
S08RN	20 MHz	Up to 4 KB	Up to 4 KB	Up to 256 B	Up to 3	Up to 2	Up to 1	1		Up to 16-ch., 12-bit	Up to 6-ch. + 2-ch. + 2-ch.	ICS	TSI, watchdog, BDM, TC analog comparator	2.7 to 5.5 V	C, V, M	64, 48, 32 LOFF, 20, 16 TSSOP
S08OD	8 MHz	Up to 4 KB	Up to 256 B	Up to 256 B	Up to 2	Up to 2	1	1		4-ch., 10-bit	2-ch. + 1-ch.	ICS	Watchdog OSC/timer, BDM, temp. sensor	2.7 to 5.5 V	C, V, M	8 SOIC

16-bit S12(X) MCUs

Device	Bus Frequency	Flash	RAM	Data Flash	EEPROM	XGATE	MPU	ECC	FlexRay™	CAN	SCI	SPI	PC	Analog (ADC)	PWM	Motor	SSD	ECT	Timer	PIT	LCD	KWU	EBI	Operating Voltage	Temp. Range	Package Options
S12XE	Up to 55 MHz	256 KB-1 MB	16-64 KB	Up to 4 KB	Up to 4 KB	✓	✓	✓	✓	2-5	Up to 6	Up to 3	Up to 2	Up to 2 x 32-bit, 12-bit	8-ch., 8-bit				8-ch., 16-bit	Up to 8-ch., 16-bit	Up to 4-ch.	25	✓	3.13 to 5.5 V	C, V, M	80 LOFF, 112 LOFF, 144 LOFF, 208 MAPBGA
S12XF	50 MHz	Up to 512 KB	Up to 32 KB	Up to 4 KB	Up to 4 KB	✓	✓	✓	✓	1	2	2	2	16-ch., 12-bit	6-ch., 15-bit				8-ch., 16-bit	4-ch.		11		3.13 to 5.5 V	C, V, M	112 LOFF, 144 LOFF
S12XH	40 MHz	256-512 KB	Up to 32 KB	Up to 4 KB	Up to 4 KB	available	✓	✓	✓	2	2	1	Up to 2	Up to 16-ch., 10-bit	Up to 8-ch., 8-bit/4-ch., 16-bit	Up to 24/6	Up to 6	Up to 8-ch., 16-bit	Up to 16-ch., 16-bit	Up to 40 x 4	Up to 25	available	3.13 to 5.5 V	C, V, M	100/112 LOFF, 144 LOFF	
S12XS	40 MHz	64-256 KB	4-12 KB	4-8 KB	Up to 4 KB	✓	✓	✓	✓	1	2	1	1	Up to 16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	Up to 4-ch.		16		3.13 to 5.5 V	C, V, M	64 LOFF, 80 OFF, 112 LOFF
S12P	32 MHz	32-128 KB	2-6 KB	4 KB	Up to 4 KB	✓	✓	✓	✓	1	1	1	1	10-ch., 12-bit	6-ch., 8-bit				8-ch., 16-bit			12		3.13 to 5.5 V	C, V, M	80 OFF, 64 LOFF, 48 OFN
S12G	25 MHz	16-240 KB	1-2 KB	512B-4 KB	Up to 4 KB	✓	✓	✓	✓	Up to 1	1-3	1-3	1-3	Up to 12-ch., 12-bit	Up to 8-ch., 8-bit				Up to 8-ch., 16-bit			16		3.13 to 5.5 V	C, V, M	20 TSSOP, 32 LOFF, 48 LOFF, 64 LOFF, 100 LOFF
S12H	Up to 32 MHz	32-128 KB	1-2 KB	Up to 4 KB	1-2 KB	Up to 4 KB	✓	✓	✓	Up to 2	Up to 2	1	Up to 1	Up to 16-ch., 10-bit	Up to 8-ch., 8-bit	16/4	Up to 4		Up to 8-ch., 16-bit	Up to 40 x 4	Up to 22		3.13/4/5 to 5.5 V	C, V, M	64 LOFF, 80 OFF, 100 LOFF, 112 LOFF	

16-bit S12 MagniV MCUs

Device	Bus Frequency	Flash	RAM	EEPROM	ECC	CAN	CAN-PHY	SCI	LIN-PHY	SPI	PC	Ext. Analog (ADC)	Int. Analog (ADC)	PWM	Timer	KWU	Motor	High-Voltage Input	Other Analog	V _{REG}	Ext. Supply	Operating Voltage	Temp. Range	Package Options
S12ZVCA	32 MHz	64-192 KB	4-12 KB	2 KB	Y	1	1	2	-	2	1	16-ch., 12-bit		4+4-ch., 16-bit	8+4-ch., 16-bit	34	-	2-ch. HVI, V _{REG} Sense	2-ch. ACMP, DAC/OpAmp, 4-ch. NGPIO (5 V/25 mA)	2	5 V/20 mA	5.5 to 20 V	C, M, V, W	64 LOFF-EP, 48 LOFF
S12ZVC	32 MHz	64-192 KB	4-12 KB	2 KB	Y	1	1	2	-	1	1	16-ch., 10-bit		4+4-ch., 16-bit	8+4-ch., 16-bit	34	-	2-ch. HVI, V _{REG} Sense	4-ch. NGPIO (5 V/25 mA)	2	5 V/20 mA	5.5 to 20 V	C, M, V, W	64 LOFF-EP, 48 LOFF
S12ZVLA	32 MHz	64-128 KB	4-8 KB	1-2 KB	Y	1	-	2	1	1	1	10-ch., 12-bit		8-ch., 16-bit	8+4-ch., 16-bit	23	-	1-ch. HVI, V _{REG} Sense	3-ch. NGPIO (5 V/25 mA), 1-ch. ACMP, DAC/OpAmp, PGA	1	5 V/20 mA	5.5 to 20 V	V, M	48 LOFF, 32 LOFF, 32 OFN
S12ZVL	32 MHz	8-128 KB	1-8 KB	0.1-2 KB	Y	-	2	1	1	1	1	10-ch., 10-bit		8-ch., 16-bit	8+4-ch., 16-bit	23	-	1-ch. HVI, V _{REG} Sense	3-ch. NGPIO (5 V/25 mA)	1	5 V/20 mA	5.5 to 20 V	V, M	48 LOFF, 32 LOFF, 32 OFN
S12ZVLS	32 MHz	16-32 KB	1 KB	128 B	Y	-	2	1	1	1	1	16-ch., 10-bit		8-ch., 8-bit or 4-ch., 16-bit	6+2-ch., 16-bit	23	-	1-ch. HVI, V _{REG} Sense	3-ch. NGPIO (5 V/25 mA)	1	5 V/20 mA	5.5 to 20 V	C, V, M	32 OFN
S12ZVMS	50 MHz	32-128 KB	4-8 KB	0.1-0.5 KB	✓	1	-	2	1	1	-	4+5-ch., 12-bit	8-ch., 12-bit	6-ch., 15-bit	4-ch., 16-bit	18	PMSM/BLDC/DC	V _{REG} Sense	6-ch. gate drive unit	1	5 V/20 mA	3.5 to 20 V	V, M, W	64 LOFF-EP, 48 LOFF-EP
S12ZVMC	50 MHz	64-128 KB	4-8 KB	512 B	✓	1	-	2	-	1	-	4+5-ch., 12-bit	8-ch., 12-bit	6-ch., 15-bit	4-ch., 16-bit	18	PMSM/BLDC/DC	V _{REG} Sense	6-ch. gate drive unit	2	5 V/20 mA + CAN-supply	3.5 to 20 V	V, M, W	64 LOFF-EP
S12ZVM	50 MHz	16-32 KB	2-4 KB	128 B	✓	-	-	2	-	1	-	4+5-ch., 12-bit	8-ch., 12-bit	6-ch., 15-bit	4-ch., 16-bit	18	PMSM/BLDC/DC	V _{REG} Sense	6-ch. gate drive unit, HV-PHY (PWM)	1	5 V/20 mA	3.5 to 20 V	V, M, W	64 LOFF-EP, 48 LOFF-EP
S12VR	25 MHz	16-64 KB	2 KB	0.1-0.5 KB	✓	-	-	2	1	1	-	6-ch., 10-bit	4-ch., 10-bit	8-ch., 8-bit	4-ch., 16-bit	16	2-ch. Relay, LS Driver	4-ch. HVI, V _{REG} Sense, V _{REG} Sense	-	1	5 V/20 mA	5.5 to 20 V	C, V, M	32 LOFF, 48 LOFF
S12ZVH	32 MHz	64-128 KB	4-8 KB	4 KB	✓	1	2	-	1	1	1	8-ch., 10-bit	8-ch., 10-bit	8-ch. (8-bit), 4-ch. (16-bit)	Two 8-ch. x 16-bit	24	4 Stepper	V _{REG} Sense, V _{REG} Sense	10 open-drain I/Os	2	-	5.5 to 20 V	C, V	100 LOFF, 144 LOFF
S12ZVHY	32 MHz	32-64 KB	2-4 KB	2 KB	✓	1	-	2	-	1	1	8-ch., 10-bit	8-ch., 10-bit	8-ch. (8-bit), 4-ch. (16-bit)	Two 8-ch. x 16-bit	24	2 Stepper	V _{REG} Sense, V _{REG} Sense	10 open-drain I/Os	1	-	5.5 to 20 V	C, V	100 LOFF, 144 LOFF
S12ZVHL	32 MHz	64 KB	4 KB	2 KB	✓	1	-	2	1	1	1	8-ch., 10-bit	8-ch., 10-bit	8-ch. (8-bit), 4-ch. (16-bit)	Two 8-ch. x 16-bit	24	2 Stepper	V _{REG} Sense, V _{REG} Sense	10 open-drain I/Os	1	-	5.5 to 20 V	C, V	100 LOFF, 144 LOFF
S12ZVFP	32 MHz	64 KB	4 KB	2 KB	✓	1	-	2	1	1	1	8-ch., 10-bit	8-ch., 10-bit	8-ch. (8-bit), 4-ch. (16-bit)	Two 8-ch. x 16-bit	24	-	V _{REG} Sense, V _{REG} Sense	8 high-current I/Os, 10 open-drain I/Os	1	-	5.5 to 20 V	C, V	100 LOFF, 144 LOFF

32-bit ARM Cortex®-M-Based Automotive MCUs

Device	Core	FPU	Frequency	Flash	RAM	ECC	EEPROM	MPU	DMA	Security	CRC	UART/ LIN	SPI	CAN/ISO CAN-FD	PC	FlexIO (configurable # of UART, SPI, PC, FS)	Ethernet 100Mbit	Serial Audio Interface (SAI)	External Memory Interface	Timer 16 bit (FTM)	ADC Trigger (PDB)	ADC 12 bit	Operating Voltage	Temp. Range	Debug	Package Options	In Production
S32K148	M4F	IEEE-754	112 MHz	2 MB	256 KB	Flash + RAM	4 KB	8 entry	16-ch.	CSEc	1	4	3	3 / 3	1	1 x IEEE-1588 MAC w/ timestamping	4-ch. TDM, FS, AC97	1 x QuadSPI	8 x 8-ch.	2 modules	2 x 32-ch.	2.7-5.5 V	C, V, M	JTAG, SWD, ITM, ETM, SWO, SWV	176, 144 LOFF, 100 MAPBGA		
S32K146	M4F	IEEE-754	112 MHz	1 MB	128 KB	Flash + RAM	4 KB	8 entry	16-ch.	CSEc	1	4	3	3 / 2	1				6 x 8-ch.	2 modules	2 x 24-ch.	2.7-5.5 V	C, V, M	JTAG, SWD, ITM, SWO, SWV	176, 144, 100* LOFF, 100 MAPBGA		
S32K144	M4F	IEEE-754	112 MHz	512 KB	64 KB	Flash + RAM	4 KB	8 entry	16-ch.	CSEc	1	4	3	3 / 1	1				4 x 8-ch.	2 modules	2 x 16-ch.	2.7-5.5 V	C, V, M	JTAG, SWD, ITM, SWO, SWV	100, 64 LOFF, 100 MAPBGA	Sampling	
S32K142	M4F	IEEE-754	80 MHz	256 KB	32 KB	Flash + RAM	4 KB	8 entry	16-ch.	CSEc	1	3	2	2 / 1	1				4 x 8-ch.	2 modules	2 x 16-ch.	2.7-5.5 V	C, V, M	JTAG, SWD, ITM, SWO, SWV	100, 64 LOFF		
KEAZ	M0+		40-48 MHz	8-128 KB	1-16 KB			Emulate + up to 256 B				1	Up to 3	1-2	Up to 1	1-2				Up to 2 x 6-ch.	1 x 16-ch.	2.7-5.5 V	C, V, M	SWD	16 TSSOP, 24 OFN, 32 LOFF, 64 LOFF, 80 LOFF	✓	

*optional

MAC57Dxxx 32-bit ARM-Based MCUs

Device	Multi Core Platform	Core Frequency	Program Flash	SRAM	Graphics RAM	eDMA	EEPROM	Display Resolution	Display Interfaces	Segment LCD	Graphics Accelerator	Digital Video Input	Stepper Motor Driver	I/O Processor	MLB	UART/ LIN	SPI	CAN (FD)	PC	Ethernet	Sound Generator	DRAM Support	FLASH Support	Operating Voltage	Temp. Range	Debug	Security
MAC57D54H	ARM® Cortex-A5, ARM Cortex-M4, ARM Cortex-M0+	(A53)320 MHz, (M4)160 MHz, (M0+)80 MHz	4 MB	2 x 512 KB	1.3 MB (1 MB Flex ECC option)	2 x 16-ch.	Emulated: 2 x (4x16KB + 64KB)	Up to 2 x WVGA	2 x dRGB, 1 x RSDS, 1 x LVDS	4 x 40	OpenVG 1.1	Yes	6	Yes	MLB50	3	5	3	2	10/100 +AVB	Yes	16-bit SDR, 16/32-bit DDR2	2 x Dual DDR Quad SPI	3.3, 5 V	V	JTAG, Trace	CSE2
MAC57D53M	ARM Cortex-A5, ARM Cortex-M4, ARM Cortex-M0+	(A53)320 MHz, (M4)160 MHz, (M0+)80 MHz	3 MB	2 x 512 KB	1.3 MB (1 MB Flex ECC option)	2 x 16-ch.	Emulated: 2 x (4x16KB + 64KB)	Up to 2 x WVGA	2 x dRGB, 1 x RSDS, 1 x LVDS	4 x 40	OpenVG 1.1	Yes	6	Yes	MLB50	3											

32-bit MPC56xx and MPC57xx MCUs Built on Power Architecture Technology

Device	Core Platform	Bus Frequency	Program Flash	SRAM	DMA	EEPROM	MPU/MMU	CTU	CSE/HSM	SCI (LINFlex)	DSP/IC	CAN	PC	FlexRay	Ethernet (100Base-T)	MLB	Other Peripherals	eTPU/GTM	eMIOS	Motor Control Timers	PIT	Analog (ADC, DAC)	Operating Voltage	Temp. Range	Debug	Package Options	In Prod.
MPC5606E	e200z0	64 MHz	512 KB	96 KB	16-ch.	64 KB	Yes			2	3	1	3		✓		BCM89810 BroadR-Reach® compatible phy			1 x E-Timer	1	1 x 10-bit, 8-ch.	3.3, 1.2 V	C, V, M	Nexus 2+	121 MAPBGA	✓
MPC5607B	e200z0	64 MHz	1.5 MB	96 KB	16-ch.	64 KB data Flash	8 Entry	✓		10	6	6	1						64-ch., 16-bit		Up to 8-ch.	Up to 24-ch., 10/12-bit + 29-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
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		Up to 8-ch.	Up to 24-ch., 10/12-bit + 29-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5605B	e200z0	64 MHz	768 KB	64 KB	16-ch.	64 KB data Flash	8 Entry	✓		Up to 8	Up to 6	6	1						Up to 64-ch., 16-bit		Up to 8-ch.	Up to 24-ch., 10/12-bit + 29-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5604B	e200z0	64 MHz	512 KB	32 KB		64 KB data Flash	8 Entry	✓		4	Up to 3	3	1						Up to 56-ch., 16-bit		Up to 6-ch.	Up to 36-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5603B	e200z0	64 MHz	384 KB	28 KB		64 KB data Flash	8 Entry	✓		4	Up to 3	3	1						Up to 56-ch., 16-bit		Up to 6-ch.	Up to 36-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5602B	e200z0	64 MHz	256 KB	24 KB		64 KB data Flash	8 Entry	✓		3	Up to 3	2	1						Up to 56-ch., 16-bit		Up to 6-ch.	Up to 36-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5604C	e200z0	64 MHz	512 KB	48 KB		64 KB data Flash	8 Entry	✓		4	Up to 3	Up to 6	1						Up to 28-ch., 16-bit		Up to 3-ch.	Up to 28-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5603C	e200z0	64 MHz	384 KB	40 KB		64 KB data Flash	8 Entry	✓		4	Up to 3	Up to 6	1						Up to 28-ch., 16-bit		Up to 3-ch.	Up to 28-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5602C	e200z0	64 MHz	256 KB	32 KB		64 KB data Flash	8 Entry	✓		4	Up to 3	Up to 6	1						Up to 28-ch., 16-bit		Up to 3-ch.	Up to 28-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
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	3.3, 5 V	C, V, M	JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
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	3.3, 5 V	C, V, M	JTAG	100 LOFP, 144 LOFP, 176 LOFP	✓
MPC5744P	Dual e200z4	200 MHz	2.5 MB	384 KB	32-ch.	Emulated in program Flash	24 Entry	2		2	4	3		✓	✓					(3 x 6-ch., E-Timer), (2 x 12-ch., PWM)	4-ch.	Quad, 25-ch. External, 12-bit	3.3 V	M, K	Nexus 3+, MDO and Aurora interface	144 LOFP, 257 MAPBGA	✓
MPC5743P	Dual e200z4	200MHz	2 MB	256 KB	32-ch.	Emulated in program Flash	24 Entry	2		2	4	3		✓	✓					(3 x 6-ch., E-Timer), (2 x 12-ch., PWM)	4-ch.	Quad, 25-ch. External, 12-bit	3.3 V	M, K	Nexus 3+, MDO and Aurora interface	144 LOFP, 257 MAPBGA	✓
MPC5742P	Dual e200z4	200MHz	1.5 MB	192 KB	32-ch.	Emulated in program Flash	24 Entry	2		2	4	3		✓	✓					(3 x 6-ch., E-Timer), (2 x 12-ch., PWM)	4-ch.	Quad, 25-ch. External, 12-bit	3.3 V	M, K	Nexus 3+, MDO and Aurora interface	144 LOFP, 257 MAPBGA	✓
MPC5741P	Dual e200z4	200MHz	1 MB	128 KB	32-ch.	Emulated in program Flash	24 Entry	2		2	4	3		✓	✓					(3 x 6-ch., E-Timer), (2 x 12-ch., PWM)	4-ch.	Quad, 25-ch. External, 12-bit	3.3 V	M, K	Nexus 3+, MDO and Aurora interface	144 LOFP, 257 MAPBGA	✓
MPC5746R	e200z4 x 3	3 x 200MHz	4 MB	320 KB	64-ch.	256 KB	24 Entry	✓		6	7	4			✓		Zipwire, SENT	64-ch.	32-ch.		8	4 x SAR, 3 x SD	3.3, 5 V	M	Nexus 3+, JTAG	252 MAPBGA	✓
MPC5745R	e200z4 x 3	3 x 200MHz	3 MB	256 KB	64-ch.	256 KB	24 Entry	✓		6	7	4			✓		Zipwire, SENT	64-ch.	32-ch.		8	4 x SAR, 3 x SD	3.3, 5 V	M	Nexus 3+, JTAG	176 LOFP, 252 MAPBGA	✓
MPC5743R	e200z4 x 2	2 x 200MHz	2 MB	160 KB	64-ch.	256 KB	24 Entry	✓		5	5	4			✓		Zipwire, SENT	64-ch.	32-ch.		8	4 x SAR, 3 x SD	3.3, 5 V	M	Nexus 3+, JTAG	144 LOFP, 176 LOFP	✓
MPC5746G	Dual e200z4, e200z2	160 MHz, 80 MHz	3 MB	768 KB	32-ch.	Emulated 192 kbit	32-ch. MPU	✓	HSM Option	Up to 18	10	8	4	✓	Up to 2	✓	2 x USB, SDHC, 3 x PS Ethernet switch option		Up to 96-ch., 16-bit		16	Up to 64-ch., 12-bit, Up to 80-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 3+	176 LOFP, 256 MAPBGA, 324 MAPBGA	✓
MPC5747C	e200z4, e200z2	160 MHz, 80 MHz	4 MB	512 KB	32-ch.	Emulated 128 kbit	24-ch. MPU	✓	HSM Option	Up to 18	10	8	4	✓	Up to 2	✓	3 x PS, Ethernet switch option		Up to 96-ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 3+	176 LOFP, 256 MAPBGA, 324 MAPBGA	✓
MPC5747G	Dual e200z4, e200z2	160 MHz, 80 MHz	4 MB	768 KB	32-ch.	Emulated 192k	32-ch. MPU	✓	HSM Option	Up to 18	10	8	4	✓	Up to 2	✓	2 x USB, SDHC, 3x PS Ethernet switch option		Up to 96-ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 3+	176 LOFP, 256 MAPBGA, 324 MAPBGA	✓
MPC5748C	e200z4, e200z2	160 MHz, 80 MHz	6 MB	768 KB	32-ch.	Emulated 128 kbit	24-ch. MPU	✓	HSM Option	Up to 16	10	8	4	✓	Up to 2	✓	3 x PS, Ethernet switch option		Up to 96-ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 3+	176 LOFP, 256 MAPBGA, 324 MAPBGA	✓
MPC5748G	Dual e200z4, e200z2	160 MHz, 80 MHz	6 MB	768 KB	32-ch.	Emulated 192 kbit	32-ch. MPU	✓	HSM Option	Up to 18	10	8	4	✓	Up to 2	✓	2 x USB, SDHC, 3x PS Ethernet switch option		Up to 96-ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5 V	C, V, M	Nexus 3+	176 LOFP, 256 MAPBGA, 324 MAPBGA	✓
MPC5777M	3 x e200z7 + 1 x e200z4	3 x 300 MHz + 1 x 200 MHz	8 MB	596 KB	128-ch.	8 x 64 KB	Yes, No		HSM	6	8	4/1	2	✓	Up to 2				248-ch.		8	12 x SAR, 10 x SD	3.3, 5 V	M	Nexus 3+, Zipwire, Aurora, JTAG	416 PBGA, 512 PBGA	✓
MPC5775K	Dual e200z7, Lockstep dual e200z4	e200z7: 266 MHz e200z4: 166 MHz	4 MB with ECC	1.5 MB with ECC	Safe eDMA	No	No	2	No	4	4	4 inc. 1 X FD	3	✓, Dual Channel	✓	No	SPT (Signal Processing Tool-kit) with Radar Acceleration	No	No	2 x FlexPWM	No	AFE with 4 x 37-ch. 12 b SAR ADC 2 MSample/sec. 12 b DAC	3.3 V I/O, 1.2 V core	-40 to 150 Tj	Nexus 3+ / Aurora	17 x 17 356 MAPBGA	✓
MPC5774K	Dual e200z7, Lockstep dual e200z4	e200z7: 266 MHz e200z4: 166 MHz	3 MB with ECC	1 MB with ECC	Safe eDMA	No	No	2	No	4	4	4 inc. 1 X FD	3	✓, Dual Channel	✓	No	SPT (Signal Processing Tool-kit) with Radar Acceleration	No	No	2 x FlexPWM	No	AFE with 4 x 37-ch. 12 b SAR ADC 2 MSample/sec. 12 b DAC	3.3 V I/O, 1.2 V core	-40 to 150 Tj	Nexus 3+ / Aurora	17 x 17 356 MAPBGA	✓
MPC5777C	e200z7 x 3	3 X 264 MHz	8 MB	512 KB	2 x 64-ch.	Emulated in program Flash	32 Entry		CSE	5	5	6			✓		Zipwire, SENT	96-ch.	32-ch.		4	2 x eQADC, 3 x SD	3.3, 5 V	M	Nexus 3+, JTAG	416 PBGA, 516 PBGA	✓

32-bit VFXxx Controller Solutions

Device	Core Platform	Core Frequency	Cache	SRAM	DMA	Graphics Accelerator	Camera Input	Display Interface	DRAM Support	Flash Support	USB (2.0)	CAN	MLB	SD/MMC/SDIO	PC	SPI	UART	Ethernet	FS	Sample Rate Converter	SPDIF I/O	PIT	3.3 V GPIO	Operating Voltage	Temp. Range	Package Options	In Production
SVFxxR	ARM® Cortex-A5/M4	400 MHz	L1: 32 KB/32 KB I/D L2: 512 KB	Up to 1.5 MB	✓	OpenVG 1.1	18-bit Composite (4 to 1) + VADC	2 (Up to WVGA) + Segment Display (40 x 4)	DDR3 LP-DDR2	Dual Quad-SPI, NAND, FlexBus	2 x USB OTG HS + Phy	50	✓	2	4	4	6	2 x 10/100	4 x SAI 1 x ESAI	Yes	Yes		3.0 to 3.6	C	176 LOFP 364 BGA	✓	

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