

NXP Automotive MCUs and MPUs



S32 MCUs Built on Arm® Cortex®-A 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	I²C	SPI	UART	Ethernet	PIT	3.3 V GPIO	Operating Voltage	Temp. Range	Package Options
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	MIPI-CSI, VIU-Lite	TFT, up to 150 MPixels/sec (e.g. 1920 x 1080 60 Hz)	x64 LPDDR2, DDR3 and DDR3L	Quad Serial Flash Controller (QuadSPI)	2 x CAN-FD	1	3	4	2	1 GB with IEEE® 1588	2	P	1.0 ± 5% for digital core input supply voltage	V	621 Flip Chip BGA

S32 MCUs Built on Arm® Cortex-M Technology

Device	Core	FPU	Frequency	Flash	RAM	ECC	EEPROM	MPU	DMA	Security	CRC	UART/LIN	SPI	CAN /ISO CAN-FD	I²C	FlexIO (configurable # of UART, SPI, I2C, I2S, LIN, PWM)	Ethernet 100MBit	Serial Audio Interface (SAI)	External Memory Interface	FlexTimer (16-bit counter)	ADC Trigger (PDB)	ADC 12 bit	Operating Voltage	Temp. Range	Debug	Package Options
S32K148	M4F	IEEE-754	112 MHz	2 MB	256 KB	Flash + RAM	4 KB emulated	8 entry	16-ch.	CSEc	1	3	3	3 / 3	2	1	1x IEEE-1588 MAC w/ Timestamping	2 modules (I2S, TDM, AC97)	1x QuadSPI /w HyperBus	8 x 8-ch.	2 modules	2 x 32-ch.	2.7 - 5.5	V.M	JTAG, SWD, ITM, ETM, SWO, SWV	144, 176 LQFP 100 MAPBGA
S32K146	M4F	IEEE-754	112 MHz	1 MB	128 KB	Flash + RAM	4 KB emulated	8 entry	16-ch.	CSEc	1	3	3	3 / 2	1	1				6 x 8-ch.	2 modules	2 x 24-ch.	2.7 - 5.5	V.M	JTAG, SWD, ITM, SWO, SWV	64, 100, 144 LQFP 100 MAPBGA
S32K144	M4F	IEEE-754	112 MHz	512 KB	64 KB	Flash + RAM	4 KB emulated	8 entry	16-ch.	CSEc	1	3	3	3 / 1	1	1				4 x 8-ch.	2 modules	2 x 16-ch.	2.7 - 5.5	V.M	JTAG, SWD, ITM, SWO, SWV	64, 100 LQFP 100 MAPBGA
S32K142	M4F	IEEE-754	112 MHz	256 KB	32 KB	Flash + RAM	4 KB emulated	8 entry	16-ch.	CSEc	1	2	2	2 / 1	1	1				4 x 8-ch.	2 modules	2 x 16-ch.	2.7 - 5.5	V.M	JTAG, SWD, ITM, SWO, SWV	64, 100 LQFP
S32K118	M0+		48 MHz	256 KB	25 KB	Flash + RAM	2 KB emulated	8 entry	4-ch.	CSEc	1	2	2	1 / 1	1	1				2 x 8-ch.	1 module	1 x 16-ch.	2.7 - 5.5	V.M	SWD, MTB (1 KB), (JTAG)	48, 64 LQFP
S32K116	M0+		48 MHz	128 KB	17 KB	Flash + RAM	2 KB emulated	8 entry	4-ch.	CSEc	1	2	1	1 / 1	1	1				2 x 8-ch.	1 module	1 x 13-ch.	2.7 - 5.5	V.M	SWD, MTB (1 KB), (JTAG)	32 QFN, 48 LQFP
KEAZN8	M0+		48 Mhz	8 KB	1 KB		Emulated				1	1	1		1					6-ch. + 2-ch.		1 x 12-ch.	2.7 - 5.5	C,V,M	SWD	16 TSSOP, 24 QFN
KEAZN16	M0+		40 Mhz	16 KB	2 KB		256 B				1	3	2		2					6-ch. + 2-ch. + 2-ch.		1 x 16-ch.	2.7 - 5.5	C,V,M	SWD	32 LQFP, 64 LQFP
KEAZN32	M0+		40 Mhz	32 KB	4 KB		256 B				1	3	2		2					6-ch. + 2-ch. + 2-ch.		1 x 16-ch.	2.7 - 5.5	C,V,M	SWD	32 LQFP, 64 LQFP
KEAZN64	M0+		40 Mhz	64 KB	4 KB		256 B				1	3	2		2					6-ch. + 2-ch. + 2-ch.		1 x 16-ch.	2.7 - 5.5	C,V,M	SWD	32 LQFP, 64 LQFP
KEAZ64	M0+		48 Mhz	64 KB	8 KB		Emulated				1	3	2	1	2					6-ch. + 2-ch. + 2-ch.		1 x 16-ch.	2.7 - 5.5	C,V,M	SWD	64 LQFP, 80 LQFP
KEAZ128	M0+		48 Mhz	128 KB	16 KB		Emulated				1	3	2	1	2					6-ch. + 2-ch. + 2-ch.		1 x 16-ch.	2.7 - 5.5	C,V,M	SWD	64 LQFP, 80 LQFP

32-bit Radar Microcontrollers Built on Power Architecture® Technology

Device	Core Platform	Bus Frequency	Program Flash	SRAM	DMA	Security	SCI (LINFlex)	DSPI	CAN	I²C	FlexRay™	Ethernet	External ADC I/F	Radar Processing	Other Peripherals	Motor Control Timers	Safety Level	Operating Voltage	Temp. Range	Debug	Package Options
MPC5775K	Dual Z7 Processor, lockstep Z4	Z7 cores at 266 Mhz, Z4 cores at 133 Mhz	4 MB with ECC	1.5 MB with ECC	Safe DMA		4	4	4 (1 CAN-FD)	3	√	1 (10 / 100 Mbps)	PDI	SPT (Signal Processing Unit) 1.0 8 x Delta Sigma with 10 MSps; 4 x 12 bit SAR ADC; 1 x 12 bit DAC with 2 MSps	2 x Cross Trig Unit, 3 x eTimers, 2 x SENT, Temp Sensor		ASIL-D Enabled	3.3 I/O, 1.2 Core	W	Nexus 3+	356 PBGA
S32R274	Dual Z7 Processor, lockstep Z4	Z7 cores at 240 Mhz, Z4 cores at 180 Mhz	2 MB with ECC	1.5 MB with ECC	Safe DMA	CSE2	1	2	3 (2 CAN-FD)	2	√	1 (10 / 100 & > 100 Mbps)	MIPI CSI2 4 Lane	SPT (Signal Processing Unit) 2.0 4 x Delta Sigma with 10 MSps; 2 x 12 bit SAR ADC 1 x 12 bit DAC with 10 MSps	1x Cross Trig Unit, 2x eTimers, 2x SENT, Temp Sensor	1 x PWM	ASIL-D Enabled	3.3 I/O, 1.2 Core	W	Nexus 3+	257 PBGA
S32R372	Dual Z7 Processor, lockstep Z4	Z7 cores at 240MHz	1.2 MB with ECC	Up to 1MB with ECC	Safe DMA	Yes (CSE2)	1	1	2 CAN-FD	2	-	-	MIPI CSI2 2 Lane	SPT (Signal Processing Unit) 2.5	1x Cross Trig Unit, 1x eTimers, Temp Sensor	1xPWM	ASIL-B Enabled	3.3 V I/O, 1.2 V Core	-40 to 150 Tj	Nexus 3+	14x14 257 PBGA



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)	DSPI	CAN	IC	FlexRay™	Ethernet (100Base-T)	MLB	Other Peripherals	eTPU/GTM	eMIOS	Motor Control Timers	PIT	Analog (ADC)	Operating Voltage	Temp. Range	Debug	Package Options	
	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	3.3, 5	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 Dec Filters	3.3, 5	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 Dec Filters	3.3, 5	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-ch.		5-ch.	Dual 40-ch. + 2 Dec Filters	3.3, 5	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-ch.		5-ch.	Dual 40-ch. + 2 Dec Filters	3.3, 5	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-ch.		5-ch.	Dual 40-ch. + 2 Dec Filters	3.3, 5	M	Nexus 3+ VertiCal Calibration System	176 LQFP, 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	5 (Internal 3.3 and 1.2)	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	5 (Internal 3.3 and 1.2)	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	5 (Internal 3.3 and 1.2)	M	Nexus 2+ (Calibration N/A on MPC5632M) and JTAGC	144 LQFP	
Ⓢ	MPC5643L	Dual e200z4	80/120 MHz	1 MB	128 KB	16-ch.	64 KB Data Flash	16 Entry	√		2	3	2		√						3 x 6-ch. E-Timer/2 x 12-ch. PWM	4-ch.	Dual 16-ch., 12-bit	3.3	M	Nexus 3+	100 LQFP, 144 LQFP, 257 MAPBGA	
Ⓢ	MPC5604P	e200z0	40/64 MHz	512 KB	40 KB	16-ch.	64 KB Data Flash		√		2	4	2		√							20-ch. E-Timer/PWM	4-ch.	Dual 13-ch., 10-bit	3.3, 5	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. E-Timer/PWM	4-ch.	Dual 13-ch., 10-bit	3.3, 5	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. E-Timer/PWM	4-ch.	16-ch., 10-bit	3.3, 5	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. E-Timer	4-ch.	11-ch., 10-bit	3.3, 5	C, V, M	Nexus 1 (Emulation with MPC5604P)	64 LQFP, 100 LQFP
Ⓢ	MPC5668G/E	e200z6 + e200z0	116 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	3.3, 5	V	Nexus3 on z6 and Nexus 2+	208 MAPBGA	
Ⓢ	MPC5646C	e200z6 + e200z0	120 MHz, 60 MHz	3 MB	256 KB	16-ch.	64 KB Data Flash	16 Entry	√	CSE Option	10	8	6	1	√	√				64-ch., 16-bit		Up to 8-ch.	Up to 29-ch., 12-bit, up to 33-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+, JTAG	256 BGA, 208 LQFP, 176 LQFP	
Ⓢ	MPC5646B	e200z4	120 MHz	3 MB	192 KB	16-ch.	64 KB Data Flash	16 Entry	√	CSE Option	10	8	6	1	√					64-ch., 16-bit		Up to 8-ch.	Up to 29-ch., 12-bit, up to 33-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+, JTAG	208 LQFP, 176 LQFP	
Ⓢ	MPC5645C	e200z4 + e200z0	120 MHz, 60 MHz	2 MB	256 KB	16-ch.	64 KB Data Flash	16 Entry	√	CSE Option	10	8	6	1	√	√				64-ch., 16-bit		Up to 8-ch.	Up to 29-ch., 12-bit, up to 33-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+, JTAG	256 BGA, 176 LQFP, 208 LQFP	
Ⓢ	MPC5645B	e200z4	120 MHz	2 MB	160 KB	16-ch.	64 KB Data Flash	16 Entry	√	CSE Option	10	8	6	1	√					64-ch., 16-bit		Up to 8-ch.	Up to 29-ch., 12-bit, up to 33-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+, JTAG	176 LQFP, 208 LQFP	
Ⓢ	MPC5644C	e200z4 + e200z0	120 MHz, 60 MHz	1.5 MB	192 KB	16-ch.	64 KB Data Flash	16 Entry	√	CSE Option	10	8	6	1	√	√				64-ch., 16-bit		Up to 8-ch.	Up to 29-ch., 12-bit, up to 33-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+, JTAG	256 BGA, 176 LQFP, 208 LQFP	
Ⓢ	MPC5644B	e200z4	120 MHz	1.5 MB	128 KB	16-ch.	64 KB Data Flash	16 Entry	√	CSE Option	10	8	6	1	√					64-ch., 16-bit		Up to 8-ch.	Up to 29-ch., 12-bit, up to 33-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+, JTAG	176 LQFP, 208 LQFP	
Ⓢ	MPC5675K	Dual e200z7	2 x 180 MHz	2 MB	512 KB	2 x 32-ch.	64 KB	Yes	2		4	3	4	3	√	√					3 x PWM, 3 x E-Timer	1	4 x 12-bit, 34-ch.	3.3, 1.2	C, V, M	Nexus 3+	365 MAP	
Ⓢ	MPC5674K	Dual e200z7	2 x 180 MHzMHz	1.5 MB	384 KB	2 x 32-ch.	64 KB	Yes	2		4	3	4	3	√	√					3 x PWM, 3 x E-Timer	1	4 x 12-bit, 34-ch.	3.3, 1.2	C, V, M	Nexus 3+	365 MAP	
Ⓢ	MPC5673K	Dual e200z7	2 x 180 MHz	1 MB	256 KB	2 x 32-ch.	64 KB	Yes	2		3	2	4	2	√	√					3 x PWM, 3 x E-Timer	1	4 x 12-bit, 34-ch.	3.3, 1.2	C, V, M	Nexus 3+	257 MAP, 473 MAP	
Ⓢ	MPC5604E	e200z0	64 MHz	512 KB	96 KB	16-ch.	64 KB	Yes			2	3	1	3		√						1 x E-Timer	1	1 x 10-bit, 8-ch.	3.3, 1.2	C, V, M	Nexus 2+	64 LQFP
Ⓢ	MPC5606E	e200z0	64 MHz	512 KB	96 KB	16-ch.	64 KB	Yes			2	3	1	3		ü		BCM89810 BroadR-Reach® compatible phy				1 x E-Timer	1	1 x 10-bit, 8-ch.	3.3, 1.2	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	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LQFP, 144 LQFP, 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		Up to 8-ch.	Up to 24-ch., 10/12-bit + 29-ch., 10-bit	3.3, 5	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	100 LQFP, 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						Up to 64-ch., 16-bit		Up to 8-ch.	Up to 24-ch., 10/12-bit + 29-ch., 10-bit	3.3, 5	C, V, M	Nexus 2+ (208 MAPBGA 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	Up to 3	3	1						Up to 56-ch., 16-bit		Up to 6-ch.	Up to 36-ch., 10-bit	3.3, 5	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	64 LQFP, 100 LQFP, 144 LQFP	
Ⓢ	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	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	64 LQFP, 100 LQFP, 144 LQFP	
Ⓢ	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	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	64 LQFP, 100 LQFP, 144 LQFP	
Ⓢ	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	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	64 LQFP, 100 LQFP	
Ⓢ	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	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	64 LQFP, 100 LQFP	
Ⓢ	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	C, V, M	Nexus 2+ (208 MAPBGA Emulation Only Package) JTAG	64 LQFP, 100 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	3.3, 5	C, V, M	JTAG	64 LQFP, 100 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	3.3, 5	C, V, M	JTAG	64 LQFP, 100 LQFP	

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)	DSPI	CAN	I ² C	FlexRay™	Ethernet (100Base-T)	MLB	Other Peripherals	eTPU/GTM	eMIOS	Motor Control Timers	PIT	Analog (ADC)	Operating Voltage	Temp. Range	Debug	Package Options
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	M, K	Nexus 3+, MDO and Aurora interface	144 LQFP, 257 MAPBGA
MPC5743P	Dual e200z4	200MHz	2MB	256KB	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	M, K	Nexus 3+, MDO and Aurora interface	144 LQFP,257 MAPBGA
MPC5742P	Dual e200z4	200MHz	1.5MB	192KB	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	M, K	Nexus 3+, MDO and Aurora interface	144 LQFP,257 MAPBGA
MPC5741P	Dual e200z4	200MHz	1MB	128KB	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	M, K	Nexus 3+, MDO and Aurora interface	144 LQFP,257 MAPBGA
MPC5746R	e200z4 x 3	3 x 200 MHz	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	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	M	Nexus 3+, JTAG	176 LQFP, 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	M	Nexus 3+, JTAG	144 LQFP, 176 LQFP
MPC5746G	Dual e200z4, e200z2	160 MHz, 80 MHz	3 MB	768 KB	32-ch.	Emulated	32-ch. MPU	√	HSM Option	Up to 18	10	8	4	√	√	√	USB		Up to 96- ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+	176 LQFP, 256 MAPBGA, 324 MAPBGA
MPC5747C	e200z4, e200z2	160 MHz, 80 MHz	4 MB	512 KB	32-ch.	Emulated	24-ch. MPU	√	HSM Option	Up to 18	10	8	4	√	√				Up to 96- ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+	176 LQFP, 256 MAPBGA, 324 MAPBGA
MPC5747G	Dual e200z4, e200z2	160 MHz, 80 MHz	4 MB	768 KB	32-ch.	Emulated	32-ch. MPU	√	HSM Option	Up to 18	10	8	4	√	√	√	USB		Up to 96- ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+	176 LQFP, 256 MAPBGA, 324 MAPBGA
MPC5748C	e200z4, e200z2	160 MHz, 80 MHz	6 MB	768 KB	32-ch.	Emulated	24-ch. MPU	√	HSM Option	Up to 18	10	8	4	√	√				Up to 96- ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+	176 LQFP, 256 MAPBGA, 324 MAPBGA
MPC5748G	Dual e200z4, e200z2	160 MHz, 80 MHz	6 MB	768 KB	32-ch.	Emulated	32-ch. MPU	√	HSM Option	Up to 18	10	8	4	√	√	√	USB		Up to 96- ch., 16-bit		16	Up to 32-ch., 12-bit, 48-ch., 10-bit	3.3, 5	C, V, M	Nexus 3+	176 LQFP, 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	√	√				248- ch.		8	12 x SAR, 10 x SD	3.3, 5	M	Nexus 3+, Zipwire, Aurora, JTAG	416 PBGA, 512 PBGA
MPC5775K	Dual Z7 Processor, lockstep Z4	Z7 cores at 266 Mhz, Z4 cores at 133 Mhz	4 MB with ECC	1.5 MB with ECC	Safe DMA					4	4	4 of which 1 is FD	3	√	√		SPT (Signal Processing Unit) for Radar Algorithms, 2 x Cross Trig Unit, 3 x eTimers, 2 x SENT, Temp Sensor			2 x PWM		8xDelta Sigma @ 10 MHz; 4x12bit SAR @ 1Mz; 2M/s 8-bit DAC	3.3 V I/O, 1.2 V Core	W	Nexus 3+	356 PBGA
MPC5774K	Dual Z7 Processor, lockstep Z4	Z7 cores at 266 Mhz, Z4 cores at 133 Mhz	3 MB with ECC	1 MB with ECC	Safe DMA					4	4	4 of which 1 is FD	3	√	√		SPT (Signal Processing Unit) for Radar Algorithms, 2 x Cross Trig Unit, 3 x eTimers, 2 x SENT, Temp Sensor			2 x PWM		8xDelta Sigma @ 10 MHz; 4x12bit SAR @ 1Mz; 2M/s 8-bit DAC	3.3 V I/O, 1.2 V Core	W	Nexus 3+	356 PBGA
MPC5775B	e200z7 x 3	3 X 220MHz	4 MB	512 KB	2 x 64-ch	Emulated in Program Flash	32 Entry		CSE	5	5	6 of which 2 support CAN FD			√		SENT		32-ch		4	2 x eQADC	3.3, 5	M	Nexus 3+, JTAG	416 PBGA
MPC5775E	e200z7 x 3	3 X 264MHz	4 MB	512 KB	2 x 64-ch	Emulated in Program Flash	32 Entry		CSE	5	5	6 of which 2 support CAN FD			√		SENT	96-ch eTPU	32-ch		4	4 x eQADC, 4 x SD	3.3, 5	M	Nexus 3+, JTAG	416 PBGA
MPC5777C	e200z7 x 3	3 X 264MHz 300MHZ option	8 MB	512 KB	2 x 64-ch	Emulated in Program Flash	32 Entry		CSE	5	5	6 of which 2 support CAN FD			√		Zipwire, SENT	96-ch	32-ch		4	2 x eQADC, 3 x SD	3.3, 5	M	Nexus 3+, JTAG	416 PBGA, 516 PBGA

32-bit MPC56xx MCUs Built on Power Architecture® Technology

Device	Core Platform	Bus Frequency	Program Flash	SRAM	eDMA	Emulated EEPROM	TFT Drive	Stepper Drive	SCI (LINFlex)	DSPI	CAN	I ² C	LCD	Sound Generator	Memory Expansion	MPU	eMIOS	Timers	Analog (ADC)	Operating Voltage	Temp. Range	Debug	Package Options
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	Quad SPI	16 Entry		RTC, API, 8-ch., 32-bit PIT and S/W Watchdog Timer	Up to 20-ch., 10-bit	3.3, 5	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)	Quad SPI	12 Entry	2-ch.	RTC, API, 4-ch., 32-bit PIT and S/W Watchdog Timer	16-ch., 10-bit	3.3, 5	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	3.3, 5	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	3.3, 5	C, V, M	Nexus 1	144 LQFP

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)	I ² C	Ethernet	Sound Generator	DRAM Support	Flash Support	Operating Voltage	Temp. Range	Debug	Security
MAC57D54H	Arm Cortex-A5, Arm Cortex-M4, Arm Cortex M0+	(A5)320 MHz, (M4)160 MHz, (M0+)80 MHz	4 MB	2x 512 KB	1.3 MB (1 MB Flex ECC option)	2x 16-ch.	Emulated: 2x (4x16kB + 64kB)	Up to 2x 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	2x Dual DDR Quad SPI	3.3, 5	V	JTAG, Trace	CSE2
MAC57D53M	Arm Cortex-A5, Arm Cortex-M4, Arm Cortex M0+	(A5)320 MHz, (M4)160 MHz, (M0+)80 MHz	3 MB	2x 512 KB	1.3 MB (1 MB Flex ECC option)	2x 16-ch.	Emulated: 2x (4x16kB + 64kB)	Up to 2x 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	2x Dual DDR Quad SPI	3.3, 5	V	JTAG, Trace	CSE2
MAC57D52L	Arm Cortex-A5, Arm Cortex-M4, Arm Cortex M0+	(A5)320 MHz, (M4)160 MHz, (M0+)80 MHz	2 MB	2x 512 KB	1.3 MB (1 MB Flex ECC option)	2x 16-ch.	Emulated: 2x (4x16kB + 64kB)	Up to 2x 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	2x Dual DDR Quad SPI	3.3, 5	V	JTAG, Trace	CSE2

16-bit S12 MagniV MCUs

Device	Bus Frequency	Flash	RAM	EEPROM	ECC	CAN	CAN-PHY	SCI	LIN-PHY	SPI	I ² C	Ext. Analog (ADC)	Int. Analog (ADC)	PWM	Timer	KWU	Motor	High-Voltage Input	Other Analog	Vreg	Ext. Supply	Operating Voltage	Temp Range	Packaging Options
S12ZVCA	32 Mhz	64–192 KB	4–12 KB	1–2 KB	√	1	1	2		1–2	1	10–16-ch., 12-bit	5-ch., 12-bit	Up to 4+4-ch., 16-bit	8+4-ch., 16-bit	34		2-ch. HVI, V _{SUP} Sense	2-ch. ACMP, DAC/OpAmp, 4ch NGPIO (5V/25mA)	2	5 V/20 mA	5.5 to 18	C, M, V, W	48 LQFP, 64 LQFP-EP
S12ZVC	32 Mhz	64–192 KB	4–12 KB	1–2 KB	√	1	1	2		1–2	1	10–16-ch., 10-bit	5-ch., 10-bit	Up to 4+4-ch., 16-bit	8+4-ch., 16-bit	34		2-ch. HVI, V _{SUP} Sense	4ch NGPIO (5V/25mA)	2	5 V/20 mA	5.5 to 18	C, M, V, W	48 LQFP, 64 LQFP-EP
S12ZVLA	32 MHz	64–128 KB	4–8 KB	1–2 KB	√	1		2	1	1	1	6–10-ch., 12 bit	5-ch., 12-bit	8-ch., 16-bit	6+2-ch., 16-bit	23		1-ch. HVI, V _{SUP} Sense	3-ch. NGPIO (5V/25mA), 1ch ACMP, DAC/OpAmp, PGA	1	5 V/20 mA	5.5 to 18	V, M	48-LQFP, 32-LQFP, 32-QFN
S12ZVL	32 MHz	8–128 KB	1–8 KB	0.1–2 KB	P	0-1		2	1	1	1	6–10-ch., 10 bit	5-ch., 10-bit	8-ch., 8-bit or 4-8-ch., 16-bit	6+2-ch., 16-bit	23		1-ch. HVI, V _{SUP} Sense	3-ch. NGPIO (5 V/25 mA)	1	5 V/20 mA	5.5 to 18	C, V, M, W	48 LQFP, 32 LQFP, 32 QFN
S12ZVLS	32 Mhz	16–32 KB	1 KB	128 KB	√			2	1	1	1	6-ch., 10-bit	5-ch., 10-bit	8-ch., 8-bit or 4-ch., 16-bit	6+2-ch., 16-bit	15		1-ch. HVI, V _{SUP} Sense	3-ch. NGPIO (5V/25mA)	1	5 V/20 mA	5.5 to 18	C, V, M	32 QFN
S12ZVML	50 MHz	32–128 KB	4–8 KB	0.1–0.5KB	√	1		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 _{SUP} Sense	6-ch. Gate Drive Unit	1	5 V/20 mA	3.5 to 20	V, M, W	48 LQFP-EP, 64 LQFP-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 _{SUP} Sense	6-ch. Gate Drive Unit	2	5 V/20 mA + CAN-supply	3.5 to 20	V, M, W	64 LQFP-EP
S12ZVM	50 MHz	16–32 KB	2–4 KB	128 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 _{SUP} Sense	6-ch. Gate Drive Unit, HV-PHY (PWM)	1	5 V/20 mA	3.5 to 20	V, M, W	64 LQFP-EP, 48 LQFP-EP
S12VR	25 MHz	16–64 KB	2 KB	0.1–0.5 kB	√			1-2	1	1		2-6 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 _{BAT} Sense, V _{SUP} Sense		1	5 V/20 mA	5.5 to 20	C, V, M	32 LQFP, 48 LQFP
S12VRP	25 MHz	48-64 KB	6 KB	2 - 4 KB	P			1-2	1			6-ch., 10-bit	4-ch., 10-bit	8-ch., 8-bit or 4-ch. 16-bit	2-ch. + 2-ch., 16-bit	16	DC (bidirectional, relay)	4-ch. HVI, V _{BAT} Sense, V _{SUP} Sense	3-ch. low-side, 1-2-ch. high-side	1	5 V/20 mA	5.5 to 20	C, V, M	32 LQFP, 48 LQFP
S12ZVH	32 Mhz	64–128 KB	4–8 KB	4 KB	√	1	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	4 Stepper	V _{BAT} Sense, V _{SUP} Sense	10 Open Drain IO's	2		5.5 to 20	C, V	100 LQFP, 144 LQFP
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 _{BAT} Sense, V _{SUP} Sense	10 Open Drain IO's	1		5.5 to 20	C, V	100 LQFP, 144 LQFP
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 _{BAT} Sense, V _{SUP} Sense	10 Open Drain IO's	1		5.5 to 20	C, V	100 LQFP, 144 LQFP
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 _{BAT} Sense, V _{SUP} Sense	8 High Current IO's, 10 Open Drain IO's	1		5.5 to 20	C, V	100 LQFP, 144 LQFP
S12ZVMB	32 MHz	48-64 KB	4 KB	512 B	√			2	1	1		5-9-ch., 10-bit	8-ch., 10-bit	6-ch., 15-bit	8+4ch., 16-bit	17	DC (bidirectional, H-Bridge)	V _{SUP} Sense	4-ch. gate drive unit, current sensing	1	5 V/20 mA	5.5 to 20	V, M, W	64 LQFP, 48 LQFP
S12ZVMA	32 MHz	16-32 KB	1-2 KB	128 B	√			1	1	1		8-ch., 10-bit	8-ch., 10-bit	6-ch., 15-bit	2+2ch., 16-bit	17	DC (unidirectional, Half-Bridge)	V _{SUP} Sense	2-ch. gate drive unit, current sensing	1	5 V/20 mA	3.5 to 20	V, M, W	32 LQFP, 48 LQFP

16-bit S12(X) MCUs

Device	Bus Frequency	Flash	RAM	Data Flash	EEPROM	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
S12XE	UP to 55 MHz	256 KB–1 MB	16–64 KB		Up to 4 KB	√	√	√		2–5	Up to 6	Up to 3	Up to 2	Up to 2 x 32-ch., 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	C, V, M	80 QFP, 112 LQFP, 144 LQFP, 208 MAPBGA
S12XF	50 MHz	Up to 512 KB	Up to 32 KB		Up to 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, 144 LQFP
S12XH	40 MHz	256–512 KB	Up to 32 KB		Up to 4 KB	√		√		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 40x4	Up to 25	√	4.5 to 5.5	C, V, M	100/112 LQFP, 144 LQFP	
S12XS	40 MHz	64–256 KB	4–12 KB	4–8 KB				√		1	2	1		Up to 16-ch., 12-bit	8-ch., 8-bit				8-ch., 16-bit	Up to 4-ch.		Up to 18		3.13 to 5.5	C, V, M	64 LQFP, 80 QFP, 112 LQFP
S12P	32 MHz	32–128 KB	2–6 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
S12G	25 MHz	16–240 KB	1–12 KB		512 B–4 KB			√		Up to 1	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	C, V, M	20 TSSOP, 32 LQFP, 48 LQFP, 64 LQFP, 100 LQFP
S12H	UP to 32 MHz	32–128 KB	2–6 KB	UP to 4 KB	1–2 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. + 8-ch., 16-bit		Up to 40x4	Up to 22		3.13/4.5 to 5.5	C, V, M	64 LQFP, 80 QFP, 100 LQFP, 112 LQFP


8-bit S08 MCUs

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
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	C, V, M	32 LQFP, 48 LQFP, 64 LQFP, 100 LQFP
S08DV	20 MHz	Up to 128 KB	Up to 6 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	C, V, M	32 LQFP, 48 LQFP, 64 LQFP, 100 LQFP
S08DN	20 MHz	Up to 60 KB	Up to 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
S08AW	20 MHz	Up to 60 KB	Up to 2 KB			2 x SCI	1	1		Up to 16-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, 64 QFP, 64 LQFP, 44 LQFP
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	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	C, V, M	28 TSSOP, 20 TSSOP
S08SG	20 MHz	Up to 32 KB	Up to 1 KB			1 x SCI	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	C, V, M, W	28 TSSOP, 20 TSSOP, 16 TSSOP, 8 SOIC
S08SC4	20 MHz	4 KB	256 B			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
S08LG	20 MHz	Up to 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
S08MP	20 MHz	16 KB	1 KB			1 x SCI	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 (3x), Temp Sensor	2.7 to 5.5	C, V, M	48 LQFP
S08RN	20 MHz	Up to 60 KB	Up to 4 KB	Up to 256 B		Up to 3	Up to 2	Up to 1		Up to 16-ch., 12-bit	Up to 6-ch. + 2-ch. + 2-ch.	ICS	TSI, Watchdog, BDM, RTC Analog Comparator	2.7 to 5.5	C, V, M	64, 48, 32 LQFP; 20, 16 TSSOP
S08QD	8 MHz	Up to 4 KB	Up to 256 B							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

Automotive Microcontrollers and Processors - Enablement

	S32 Design Studio	AUTOSAR Software	Automotive Math and Motor Control Library Set	CodeWarrior® Development Tools	Enhanced Time Processor Unit	S32 FreeMASTER	Generic Timer Module Config Tool	Model-Based Design Toolbox	Analog Expert Software and Tools	Automotive Motor Control Development Solutions	Ultra-Reliable MCUs DEV-KIT Development Boards	StarterTRAK Development Boards
S32 Cortex®-A based	S32V234	S32V234						S32V234				
S32 Cortex-M based	S32K KEA	S32K14x	S32K KEA					S32K	S32K	KEA128BL	S32K KEA	KEA8 KEA64 KEA128
ADAS Radar MCUs	S32R27	S32R27 MPC577xK	MPC577xK									
MPC57xx	MPC574xB-C-G MPC574xP MPC5746R MPC5777C MPC577xK MPC5777M	MPC574xB-C-G MPC574xP MPC5746R MPC5777C MPC577xK MPC5777M	MPC574xP MPC5746R MPC5777C MPC577xK MPC5777M		MPC5777C	MPC5746R MPC574xB-C-G MPC574xP MPC5777C MPC5777M	MPC5777M	MPC574xP	MPC574xP		MPC5744P MPC5748G	
MPC56xx	MPC560xS MPC5676R MPC564xL MPC560xP MPC560xP MPC5674F MPC563xM MPC564xB-C MPC567xK MPC564xA MPC560xB	MPC560xB MPC560xE MPC560xP MPC563xM MPC564xA MPC564xB-C MPC564xL MPC5668G MPC5674F MPC5676R MPC567xK	MPC560xB MPC560xP MPC564xL MPC5674F MPC567xK	MPC563xM MPC564xL MPC5674F MPC564xA	MPC563xM MPC5674F MPC564xA MPC5646R	MPC560xE MPC564xA MPC567xK MPC560xB MPC5676R MPC560xP MPC563xM MPC5674F MPC5668G MPC564xB-C		MPC564xL MPC567xK	MPC5643L	MPC5643L MPC5604P MPC5606B MPC5643L		MPC5604P MPC5606B MPC5634M MPC5602P MPC5604B MPC5643L
MAC57Dxxx	MAC57D5xx											
MagniV			S12ZVM			S12ZVM		S12ZVM S12ZVMB S12ZVMC S12ZVML S12ZVC		S12ZVML	S12ZVL S12VR64 S12ZVC S12VRP64	S12VR S12ZVL S12ZVFP64 S12ZVH128 S12ZVH64
S12						S12D S12GC S12E S12XF S12NE S12XD S12B S12K S12XE S12A S12XS					S12G128 S12XE	S12G

Acronym Legend				Temperature Legend	
• ADC	Analog-to-Digital Converter	• EEPROM	Electrically Erasable Programmable	• PWM	Pulse Width Modulation
• API	Autonomous Periodic Interrupt	• eMIOS	Enhanced Multiple Input Output System	• QFP	Quad Flat Package
• BDM	Background Debug Mode	• ESAI	Enhanced Serial Audio Interface	• RAM	Random Access Memory
• CAN	Controller Area Network	• eTPU	Enhanced Timer Processing Unit	• RTC	Real-Time Clock
• COP	Computer Operating Properly	• GPIO	General-Purpose Input/Output	• SCI	Serial Communication Interface
• CSE	Cryptographic Services Engine	• I²C	Inter-Integrated Circuit	• SLIC	Slave LIN Interface Controller
• CTU	Cross Triggering Unit	• ICE	In-Circuit Emulation	• SPI	Serial Peripheral Interface
• DCU	Display Control Unit	• ICG	Internal Clock Generator	• SRAM	Static Random Access Memory
• DMA	Direct Memory Access	• ICS	Internal Clock Source	• SSD	Stepper Stall Detect
• DSPI	Deserial Serial Peripheral Interface	• I/O	Input/Output	• UART	Universal Asynchronous Receiver and Transmitter
• EBI	External Bus Interface	• KBI	Keyboard Interrupt	• XGATE	Coprocessor Available on S12X Platform
• ECC	Error Correction Coding	• KWU	Key Wakeup Port		
• ECT	Enhanced Capture Timer				
		• LCD	Liquid Crystal Display		
		• LIN	Local Interconnect Network		
		• LQFP	Low-Profile Quad Flat Package		
		• MAPBGA	Mold Array Process Ball Grid Array		
		• MCG	Multi-Purpose Clock Generator		
		• MLB	Media Local Bay		
		• MPU	Memory Protection Unit		
		• MSB	Microsecond Bus		
		• OSC	Oscillator On-Chip		
		• PBGA	Plastic Ball Grid Array		
		• PDI	Parallel Data Interface		
		• PIT	Periodic Interrupt Timer		
		• POR	Power On Reset		

A = -55°C TO +125°C	SYMBOL LEGEND  PRODUCTS AVAILABLE THROUGH THE CHANNEL
C = -40°C TO +85°C	
V = -40°C TO +105°C	
M = -40°C TO +125°C	
J = -40°C TO +140°C	
W = -40°C TO +150°C	

