



NPI Communicator S32K388 General-Purpose Automotive MCU

The **S32K388** is the latest addition to the S32K3 family of microcontrollers designed for automotive and general purpose applications.

Based on the 32-bit Arm® Cortex®-M7, the S32K388 offers high performance with options for single, dual or lockstep core configurations. It features Ethernet TSN/AVB, CAN FD and the larger number of FlexIOs in the family (202) for versatile communications options; and is designed with low-power configuration modes and fast wake-up capabilities. It complies with ISO 26262 up to ASIL D.



S32K388 is available for ordering NOW. Mass market launch is planned in July 23rd.

Features:

- **S32K388EVB-Q289** board, featuring the [TJA1153 transceiver](#)
- 8 MB program flash memory, 128 KB data flash memory, 1MB RAM
- HSE-B + AES accelerator
- 12-bit 1 Msps ADC, 16-bit eMIOS timer with logic control unit for motor control
- Ethernet TSN/AVB (100 Mbps/1 Gbps), CAN FD, FlexIO (SPI/I2C/IIS/SENT protocol), serial audio interface, QSPI

Software Enablement:

- Full AUTOSAR® Adaptive and Classic support, advanced Real-Time Drivers (RTD), virtualization options.
- Free of charge S32 Design Studio IDE (Eclipse, GCC and debugger) and S32 Config Tool (pins, clocks, peripherals) with third-party compilers and debuggers.
- Free of charge real-time drivers for AUTOSAR and non-AUTOSAR use and up to ASIL D compliant
- Configuration tools for both AUTOSAR and non-AUTOSAR users
- Free of charge security firmware: FlexHSE compliant NXP supplied, designed for ISO 21434
- S32 Safety Software Framework (SAF): Six fault detection and reaction libraries
- Free of charge safety peripheral drivers (SPD)
- Structural core self-test (SCST)
- Free of charge inter-platform communication framework (IPCF): Middleware for multi-core, multi-OS communication in single- and multi-chip systems
- Free of charge model-based design toolbox (MBDT) for MATLAB®: NXP supplied plug-in for Simulink® environment

Memory	External Memory IF	CPU Platform	Security: HSE-B
8 MB Pflash with ECC	1 x QuadSPI	Permanent Lock	Cortex-M0+ RAM
128 KB Dflash with ECC	4-bit data width	Cortex-M7 16 KB I-cache 16 KB D-cache 320 MHz FPU, DSP	Asymmetric Hardware Accelerators
1152 KB RAM with ECC include 384 KB TCM		Lock-Step or Split-Lock	Symmetric Hardware Accelerators
		Cortex-M7 16 KB I-cache 16 KB D-cache 320 MHz FPU, DSP	XRDC Access control Lifecycle Management
System	Fabric		TRNG/PRNG
FXOSC (8-40 MHz)	Xbar (64bit)		AES Accelerator Dedicated to Communications
FIRC (48 MHz)			
SIRC (32 KHz)			
SXOSC (32 KHz)			
PLL			
32-ch. DMA			
32-ch. ext. INT/WUP			
Debug/Trace (SWD/JTAG/ETB)			
Network	Communication	Analog/Timers	Functional Safety
2x Ethernet, 1Gbps AVB/TSN	32-ch. FlexIO Emulating UART, I ² C, SPI, I ² S, SENT, PWM	3x 24-ch., 12-bit ADC	CMU
8x FlexCAN, all ch. support CAN FD	4 x LPSPI	BCTU (Body Control Trigger Unit)	MPU
	2 x LPI ² C	LCU (Logic Control Unit)	FCCU
16x LPUART (LIN)	2 x SAI (TDM, I ² S)	3x 24-ch., 24-bit eMIOS Timer	SWT
		3x LPCMP	EIM/ERM
		32-bit RTC	CRC
			STCU

S32K388EVB-Q289

Evaluation and development board for general-purpose industrial and automotive applications. The S32K388EVB-Q289 offers a multicore mode, HSE_B security engine, OTA support, advanced connectivity, 2 x 1 Gbit Ethernet ports and low power.

The S32K388EVB-Q289 offers a standard-based form factor compatible with the Arduino® UNO pin layout, providing a broad range of expansion board options for quick application prototyping.



S32K388 ENABLEMENT



COLLATERAL

AVAILABLE: [S32K3 MCU family](#) – brochure

AVAILABLE: [Motor Control Solutions based on S32K3 MCUs](#) – brochure



DEVELOPMENT RESOURCES

AVAILABLE: [S32K388EVB-Q289 tool page](#)

AVAILABLE: [S32K388EVB-Q289 online GET STARTED](#)

AVAILABLE: [S32K388EVB-Q289 Design Files](#)

AVAILABLE: [S32DS IDE for S32 Platform](#)

AVAILABLE: [RTD for S32K3](#)

AVAILABLE: [FreeMASTER debugging tool](#)

AVAILABLE: [Model-Based Design Toolbox \(MBDT\)](#)

AVAILABLE: [Inter-Platform Comms Framework \(IPCF\)](#)

AVAILABLE: [Safety Peripheral Drivers \(SPD\)](#)

AVAILABLE: [S32 Safety Software Framework \(SAF\) for S32K3xx](#)

AVAILABLE: [Structural Core Self-Test \(SCST\)](#)

AVAILABLE: [ISELED Driver](#)



SUPPORT COMMUNITIES

AVAILABLE: [S32K microcontrollers](#)

AVAILABLE: [S32 Design Studio](#)

AVAILABLE: [FreeMASTER](#)

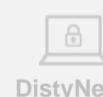
AVAILABLE: [Model-Based Design Toolbox \(MBDT\)](#)

• REMOVE THE BELOW SECTION IF YOU WANT TO RE-SEND TO CUSTOMERS .

S32K388 DISTRIBUTION-ONLY MATERIAL



- Communicator
- S32K3 SKU Requirements



- [6-pack](#)
- [SKU Requirements](#)
- [Attach List](#)



[Sneha Vadde](#) for product questions. [Dacil Cruz](#) for MarCom affairs.
Check our [S32K Engineering Support Community](#)

S32K388 SUGGESTED STOCKING

SILICON PART NUMBER	DESCRIPTION	FLASH SIZE / RAM	PACKAGE	AVAILABLE	MOQ	/SUGGESTED STOCKING	LEAD-TIME
S32K388HHT0MJBST	S32K388 Arm Cortex-M7, 320MHz, 8 MB Flash, CAN FD, HSE_B security, 289 MAPBGA – S32K MCUs for General-Purpose	8 MB / 1 MB	289 MAPBGA	NOW	760	400	18 weeks

TOOL PART NUMBER	DESCRIPTION	SUPPORTED DEVICE	AVAILABLE	/SUGGESTED STOCKING	LEAD-TIME

S32K388EVB-Q289

*S32K388EVB-Q289 Evaluation and Development Board
for General-Purpose Industrial and Automotive
applications*

S32K388

NOW

2 18 weeks

CALL TO ACTION:

Please use this communicator to build your own product and board pages and use the recommended stocking to enter your orders.



Brighter Together

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