S12ZVH: S12 MagniV Mixed-Signal Microcontroller for Automotive Instrument Cluster Applications ☆

The S12ZVH platform, part of the S12 MagniV mixed-signal microcontroller family, is the first automotive instrument cluster solution with the most integration in a single chip. It integrates a sophisticated microcontroller (MCU) together with a voltage regulator, CAN and LIN physical layer, display controller and instrument gage drivers to address entry level requirements for automotive instrument clusters.

Features

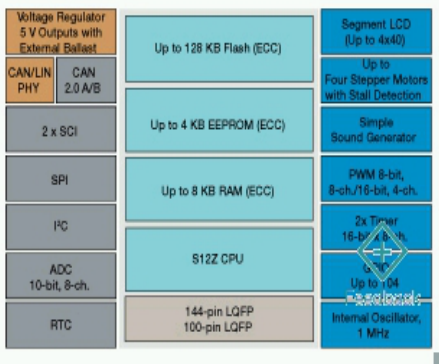
- Enhanced S12Z core at 32 MHz bus speed
- Up to 128 KB flash (ECC)
- Up to 4 KB EEPROM
- Up to 8 KB RAM (ECC)
- Up to four stepper motor drivers with stall detect
- Segment LCD driver (4x40)
- CAN with physical layer
- LIN with physical layer
- Real time clock
- Temperature sensor

Related Products

MPC560xS:Freescale 32-bit MCU for Instrument Cluster Applications
MPC564xS:Freescale MCU for Instruments Cluster
S12HY:Scalable Value Line Cluster Solutions with CAN

More ▾

S12ZVH: S12 MagniV Mixed-Signal MCU Block Diagram



Featured Documentation

S12ZVHFS: S12 MagniV S12ZVH - Fact Sheet
MC9S12ZVHYRMV1: MC9S12ZVHY/MC9S12ZVHL Families Reference Manual and Data Sheet
MC9S12ZVHRMV1: MC9S12ZVH Family - Reference Manual and Data Sheet

Featured Software and Tools

TRK-S12ZVH128: MagniV for Automotive Instrument Cluster Applications
S12ZVH-REF-V1: Automotive Cluster Reference Design
TRK-S12ZVFP64: S12 MagniV for Heating, Ventilation and Air Conditioning (HVAC) Applications

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Jump Start Your Design

CW MCU v10.6 for S12ZVHL Service Pack
To setup your CodeWarrior development environment for ...

Target Applications

⊞ Automotive

Product Specifications

Internal Flash (KB)	32, 64, 128
Operating Temperature (Min -Max) (°C)	-40 to 85, -40 to 105
GPIOs	100, 78, 73, 104

View all Parametrics

Featured Training & Events

On-Demand Training
Design an Instrument Cluster from Scratch Using the S12 MagniV S12ZVH Mixed-Signal MCU Fam...

Featured Video



Auto instrumentation cluster based on Freescale S12 MagniV - Demo (01:46 min)

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by Freescale's automotive experts

Comparison table

Part Number	Package Description	Internal Flash	RAM	EEPROM	Stepper Motor Controller	High Current IO	LCD Segments	CAN Phy	LIN Phy	Ambient Operating Temperature (Min to Max)
S912ZVH128F2CLQ	LQFP 144 20*20*1.4P0.5	128K	8K	4K	4	-	40x4	1	-	-40 to 85
S912ZVH128F2CLL	LQFP 100 14*14*1.4P0.5	128K	8K	4K	2	-	32x4	-	-	-40 to 85
S912ZVH64F2CLQ	LQFP 144 20*20*1.4P0.5	64K	4K	4K	4	-	40x4	1	-	-40 to 85
S912ZVHY64F1CLQ	LQFP 144 20*20*1.4P0.5	64K	4K	2K	2	-	40x4	-	-	-40 to 85
S912ZVHY32F1CLQ	LQFP 144 20*20*1.4P0.5	32K	2K	2K	2	-	40x4	-	-	-40 to 85
S912ZVHY64F1CLL	LQFP 100 14*14*1.4P0.5	64K	4K	2K	2	-	32x4	-	-	-40 to 85
S912ZVHY32F1CLL	LQFP 100 14*14*1.4P0.5	32K	2K	2K	2	-	32x4	-	-	-40 to 85
S912ZVHL64F1CLQ	LQFP 144 20*20*1.4P0.5	64K	4K	2K	2	-	40x4	-	1	-40 to 85
S912ZVHL32F1CLQ	LQFP 144 20*20*1.4P0.5	32K	2K	2K	2	-	40x4	-	1	-40 to 85
S912ZVHL64F1CLL	LQFP 100 14*14*1.4P0.5	64K	4K	2K	2	-	32x4	-	1	-40 to 85
S912ZVHL32F1CLL	LQFP 100 14*14*1.4P0.5	32K	2K	2K	2	-	32x4	-	1	-40 to 85
S912ZVFP64F1CLQ	LQFP 144 20*20*1.4P0.5	64K	4K	2K	-	8	40x4	-	1	-40 to 85
S912ZVFP64F1CLL	LQFP 100 14*14*1.4P0.5	64K	4K	2K	-	8	32x4	-	1	-40 to 85
S912ZVH128F2VLQ	LQFP 144 20*20*1.4P0.5	128K	8K	4K	4	-	40x4	1	-	-40 to 105
S912ZVH128F2VLL	LQFP 100 14*14*1.4P0.5	128K	8K	4K	2	-	32x4	-	-	-40 to 105
S912ZVH64F2VLQ	LQFP 144 20*20*1.4P0.5	64K	4K	4K	4	-	40x4	1	-	-40 to 105
S912ZVHY64F1VLQ	LQFP 144 20*20*1.4P0.5	64K	4K	2K	2	-	40x4	-	-	-40 to 105
S912ZVHY32F1VLQ	LQFP 144 20*20*1.4P0.5	32K	2K	2K	2	-	40x4	-	-	-40 to 105
S912ZVHY64F1VLL	LQFP 100 14*14*1.4P0.5	64K	4K	2K	2	-	32x4	-	-	-40 to 105
S912ZVHY32F1VLL	LQFP 100 14*14*1.4P0.5	32K	2K	2K	2	-	32x4	-	-	-40 to 105
S912ZVHL64F1VLQ	LQFP 144 20*20*1.4P0.5	64K	4K	2K	2	-	40x4	-	1	-40 to 105

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