**S12 MagniV Mixed-Signal MCUs**
**S12ZVM Family**

Integrated solution for 3-phase BLDC motor control applications

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**Features**
- 3-Phase Motor Control
- Integrated LIN Phy
- Integrated CAN Phy
- V_{REG} for 12 V Supply
- 6-ch. MOSFET Gate Driver
- Ultra-reliable Industrial
- AEC-Q100 Grade0 (150 °C Ta / 175 °C Tj)

**Success Stories**
- Engine cooling fans
- Fuel pumps
- Water pumps
- HVAC blower
- Superchargers

**Target Applications**
- Engine cooling fan/HVAC blower
- Oil/Fuel/Water pumps
- Compressors
- Turbo/Supercharger
- Wipers

**Enablement Tools**
- Evaluation boards/hardware
  - S12ZVML12EVB LIN
  - S12ZVMC12EVB CAN
  - S12ZVM32EVB
  - S12ZVML-MINIBRD
  - S12ZVMC256EVB
- Software Tools
  - Motor Control Development Toolbox
  - Automotive Math and Motorcontrol Libraries
  - FreeMASTER Run-Time Debugging Tool
  - MCAT Motorcontrol Algorithm Parameter Tuning
- Reference Solutions
  - BLDC: MTRCKTSBNZVM128
  - PMSM: MTRCKTSPNZVM128
- Compiler/Debugger
  - CodeWarrior® IDE
  - Cosmic IDE
- LIN Stack

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**S12ZVM Specifications**
- **Core**: S12Z, 50 MHz bus
- **12 V VREG**: 70 mA (boost option to 140 mA)
- **Flash**: 16-256 KB
- **RAM**: 2-32 KB
- **PHY**: CAN, LIN or PWM
- **SCI/SCI**: Up to 2/1
- **HVI**: Up to 1
- **12 V Battery**: 12 V Supply
- **12 V VREG**: 70 mA (boost option to 140 mA)

**Orderable Sample Part Numbers**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Flash</th>
<th>Temp Range</th>
<th>Package</th>
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<tbody>
<tr>
<td>S912ZVMC12F1WKH</td>
<td>128 KB</td>
<td>-40 °C to 125 °C</td>
<td>64 LQFP-EP</td>
</tr>
<tr>
<td>S912ZVMC12F1MKH</td>
<td>128 KB</td>
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<td>64 LQFP-EP</td>
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<tr>
<td>S912ZVML31F1WKH</td>
<td>32 KB</td>
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<td>256 KB</td>
<td>-40 °C to 150 °C</td>
<td>80 LQFP-EP</td>
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</tbody>
</table>

*Limited Sample-availability for 256 KB version with CAN-PHY. Contact your local sales

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**www.NXP.com/S12ZVM**

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