MCP102/103/121/131 - Microcontroller Supervisor Product Family

Product Summary:
Microchip’s extensive family of low-cost, precision system supervisors allow the implementation of system reset circuits that protect the system from improper operation when the system voltage drops below a predetermined voltage level. The MCP102/103/121/131 family expands the choices available to the system designer by offering a wide range of output types, reset trip points and package options. These devices are functionally equivalent and pin-compatible with many industry standard supervisory products, offering easy migration to a lower power solution.

Systems may need to take into account noisy environments and unreliable power sources, as well as the voltage decay of the system’s battery. These issues may create a variety of system-level problems and can be eliminated by the use of a voltage supervisor device. Voltage supervisor devices are designed to output a signal that can be used as a system reset signal. Therefore, when the system voltage is below the operating range, the system is in reset. Once the voltage returns to the valid operating range, the voltage supervisor does not force a system reset. This allows the system supervisor to provide protection from system brown-outs, noisy power systems and decaying power supplies (such as battery applications and power loss).

Features:
- Multiple Trip Voltage Points Range from 1.9 - 4.75V
- Industrial Temperature Range: –40°C to +125°C
- Reset Type: Active-Low
- Output:
  - MCP102/3: Push-Pull
  - MCP121: Open-Drain
  - MCP131: Open-Drain with Internal 95 kΩ Pull-Up
- Typical Supply Current: >1 µA
- Industry-Standard Packaging:
  - SC-70-3, SOT-23-3, TO-92-3

Additional Information:
- MCP102/103/121/131 Data Sheet, Order No. DS21906
- Microchip’s Technical Library CD-ROM, Order No. DS00161
- Product Selector Guide, Order No. DS00148
- Analog & Interface Families Data Book 2002, Order No. DS00207
- Product Line Card, Order No. DS00890
- Voltage Supervisor Evaluation Board User’s Guide, Order No. DS51510
### CPU/System Supervisor Product Specifications

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<td>Push-Pull</td>
<td>120</td>
<td>1</td>
<td>—</td>
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<tr>
<td>MCP103</td>
<td>1 to 5.5</td>
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<td>Active-Low</td>
<td>Open-Drain</td>
<td>120</td>
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<td>SC70-3, SOT23-3, TO92-3</td>
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<tr>
<td>MCP121</td>
<td>1 to 5.5</td>
<td>1.9, 2.32, 2.63, 2.93, 3.08, 4.38, 4.65</td>
<td>Active-Low</td>
<td>Open-Drain</td>
<td>120</td>
<td>1</td>
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<td>SC70-3, SOT23-3, TO92-3</td>
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<tr>
<td>MCP131</td>
<td>1 to 5.5</td>
<td>1.9, 2.32, 2.63, 2.93, 3.08, 4.38, 4.66</td>
<td>Active-Low</td>
<td>Open-Drain</td>
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<td>1</td>
<td>100k internal pull-up</td>
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<tr>
<td>TC809</td>
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<td>4.63, 4.38, 4.00, 3.08, 2.93, 2.63, 2.32</td>
<td>Active-Low</td>
<td>Push-Pull</td>
<td>240</td>
<td>12</td>
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<tr>
<td>TC810</td>
<td>1.2 to 5.5</td>
<td>4.63, 4.38, 4.00, 3.08, 2.93, 2.63, 2.32</td>
<td>Active-Low</td>
<td>Push-Pull</td>
<td>240</td>
<td>12</td>
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<td>Push-Pull</td>
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<td>6</td>
<td>Manual Reset</td>
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<tr>
<td>MCP100</td>
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<td>4.72, 4.62, 4.47, 4.37, 3.075, 2.92, 2.62</td>
<td>Active-Low</td>
<td>Push-Pull</td>
<td>350</td>
<td>45</td>
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<td>SOT23-3, TO92-3</td>
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<td>Push-Pull</td>
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<td>TC1232</td>
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<td>Watchdog Timer, Manual Reset</td>
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<td>TC32</td>
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<td>Active-Low</td>
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<td>50</td>
<td>Watchdog Timer</td>
<td>TO92-3, SOT23-3</td>
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<td>1.1 to 5.5</td>
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<td>Active-High</td>
<td>Push-Pull</td>
<td>280</td>
<td>6</td>
<td>Manual Reset</td>
<td>SOT143-4</td>
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### Development Tools for Analog and Interface Products from Microchip

- **Voltage Supervisor Evaluation Board**: Easy-to-use evaluation board to accommodate most 3-pin SOT23 devices.
- **MCP1650 Evaluation Board**: Demonstrates the use of the MCP1650/51/52/53 Boost Controllers.
- **FilterLab® Software**: Active Filter Software Design Tool
- **MCP2120/2150 Developer’s Kit**: Infrared Products Developer’s Kit
- **MCP2510 CAN Developer’s Kit**: MCP2510 CAN Evaluation/Development Tool
- **MCP7382X EV**: Evaluation Kit for MCP7382X Li-Ion Battery Charger IC Family
- **MCP250XX CAN I/O Expanders Developer’s Kit**: MCP250XX CAN Evaluation/Development Tool
- **MXDEV® 1 Analog Evaluation System**: Evaluation Kit for MCP Devices
- **MCP3201/02 Evaluation Daughter Kit**: Analog-to-Digital Converter - Four Channel*
- **MCP3204/08 Evaluation Daughter Kit**: Analog-to-Digital Converter - Four Channel*
- **MCP41XXX/MCP42XXX Evaluation Daughter Kit**: Digital Potentiometers Evaluation and Demonstration*
- **TC74 Demo Board**: Demo Board for TC74 Digital Thermal Sensor
- **TC642 Demo Board**: Fan Control Module for TC64X Devices
- **TC642 Evaluation Kit**: Evaluation Kit for TC64X Fan Controllers
- **TC650 Demo Board**: Demo Board for TC650/TC651 Fan Control ICs
- **TC652 Demo Board**: Demo Board for TC652/TC653 Fan Control ICs
- **TC670 Demo Board**: Demo Board for TC670 Predictive Fan Failure Detector
- **TC3400 Demo Board**: Demo Board for TC340X Sigma-Delta ADCs
- **TC3400 Evaluation Kit**: Evaluation Kit for TC340X Sigma-Delta ADCs

*Note: Requires MXDEV® Analog Evaluation Kit.*