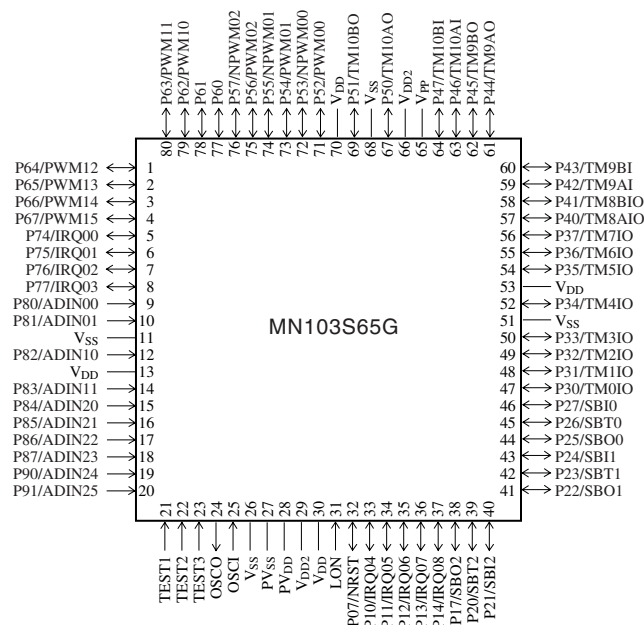


# MN103S65G

|                                    |   |    |                             |
|------------------------------------|---|----|-----------------------------|
| Type                               | MN103S65G   |    |                             |
| Internal ROM                       | 128 K-byte  |    |                             |
| Internal RAM                       | 4 K-byte SRAM   |    |                             |
| Package                            | LQFP080-P-1414A *Lead-free  |    |                             |
| Minimum Instruction Execution Time | 25 ns (at 4.3 V to 5.5 V, 10 MHz internal regulator used)<br>25 ns (at 3.0 V to 3.6 V, 10 MHz)<br>*at internal 4 times oscillation used                                     |    |                             |
| Interrupts                         | <ul style="list-style-type: none"> <li>• 9 external interrupts</li> <li>• 42 internal interrupts (watch dog timer, timer, serial I/F, PWM, A/D, system error)</li> </ul>    |    |                             |
| Timer Counter                      | Eight 8-bit timers<br>Interval timer, Event counter, Cascading<br><br>Four 16-bit timers<br>Interval timer, Event counter, PWM output, Double buffer<br><br>Watch dog timer |    |                             |
| Serial Interface                   | UART (full duplex) / synchronous interfaces selective: 3  |    |                             |
| I/O Pins                           | I/O   | 50 | exclusive: 2, selective: 48 |
|                                    | Input   | 10 | selective: 10               |
| A/D Inputs                         | 10-bits, 2 inputs: 2, 6 inputs: 1<br>Minimum conversion time 1.5us  |    |                             |
| PWM                                | 3-phase PWM output<br>16-bit counter, triangular waveform or jigsaw waveform dead time setup,<br>Double buffer  |    |                             |
| Electrical Characteristics         | T.B.D.  |    |                             |

## Pin Assignment



LQFP080-P-1414A \*Lead-free

## Support Tool

|                            |                                    |   |
|----------------------------|------------------------------------|---|
| In-circuit Emulator        | PX-ICE-103S52                      |   |
| On board Debugger          | PX-ODB103S-DO                      |   |
| Flash Memory Built-in Type | Type                               | MN103SF65G  |
|                            | ROM                                | 128 K-byte  |
|                            | RAM                                | 4 K-byte SRAM   |
|                            | Minimum instruction execution time | 25 ns (at 4.3 V to 5.5 V, 10 MHz internal regulator used) |
|                            |                                    | 25 ns (at 3.0 V to 3.6 V, 10 MHz)                         |
|                            | Package                            | LQFP080-P-1414A *Lead-free                                |

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