Microchip Technology offers design engineers a broad portfolio of products for Fan Speed Control (FSC) and Fan Fault Detection Solutions. The dedicated fan controller products are ideal for analog engineers since there is no firmware development required resulting in faster time to market. Some of these devices also feature onboard temperature sensor options in small space saving packages such as MSOP and SOT-23. For additional specialized requirements, flexibility and individual control over multiple fans, Microchip’s range of small PIC® microcontrollers enables designers to customize designs to meet their requirements.

### Microchip Fan Management Solutions

**Dedicated Fan Controllers**

**Fan fault detection/prediction only?**
- Yes: TC670
  - FanSense™ technology, Programmable Threshold
- No: TC650
  - Over temperature alert

**FSC + Integrated Temperature Sensor?**
- Yes: TC654 – Dual Fan
  - FanSense™ technology, RPM data
- No: TC642 & TC642B
  - FanSense™ technology, Minimum speed control

**FSC + SMBus™ Interface?**
- Yes: TC655 – Dual Fan
  - FanSense™ technology, RPM data, Over temperature alert
- No: TC646 & TC646B
  - FanSense™ technology, Auto-shutdown

**Small Microcontroller Solutions**

### Program Memory (bytes) | RAM (bytes) | EEPROM (bytes) | Sense Peripherals | Communication Peripherals | Control Peripherals
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**8-Pin PIC Microcontrollers**
- PIC12C508/509 768/1536 25/41 – – –
- PIC12F629 1792 64 128 1x Compare – –
- PIC12F675 1792 64 128 1x Compare, 4x 10-bit A/D – –
- PIC12F683 3584 128 256 1x Compare, 4x 10-bit A/D – Capture Compare PWM

**14-Pin PIC Microcontrollers**
- PIC16F630 1792 64 128 1x Compare – –
- PIC16F676 1792 64 128 1x Compare, 8x 10-bit A/D – –
- PIC16F684 3584 128 256 2x Compare, 8x 10-bit A/D – Enhanced Capture Compare PWM

**18/20-Pin PIC Microcontrollers**
- PIC16F716 3584 128 – 4x 8-bit A/D – Enhanced Capture Compare PWM
- PIC16F627A/628A 1792/3584 224/224 128/128 2x Compare – Capture Compare PWM
- PIC16F818/819 1792/3584 128/256 128/256 5x 10-bit A/D I²C™, SPI Interface Capture Compare PWM

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**Microchip Technology Incorporated**
Demonstration/Evaluation Boards and User Guides:

Microchip offers a number of boards, along with User Guides, to help evaluate device families. Contact your local Microchip Sales Office for more information.

- **TC642 Fan Control Demo Board** - This fan control circuit board allows the user to quickly evaluate and prototype Microchip's TC64X and TC64XB Pulse Width Modulation (PWM) Fan Control ICs. (User's Guide, DS21401)
- **TC642 Fan Control Evaluation Board** - This fully assembled 4" x 6" circuit board allows the user to evaluate and prototype fan control circuits based on Microchip's TC64X and TC64XB DC brushless fan controllers. (User's Guide, DS21403)
- **TC650 Fan Control Demo Board** - An evaluation tool that allows the user to quickly prototype fan control circuits based on Microchip's TC650 or TC651 Pulse Width Modulation (PWM) Fan Control ICs. (User's Guide, DS51304)
- **TC652 Fan Control Demo Board** - An evaluation tool that allows the user to quickly prototype fan control circuits based on Microchip's TC652 or TC653 Pulse Width Modulation (PWM) Fan Control ICs. (User's Guide, DS21506)
- **TC670 Fan Control Demo Board** - An evaluation tool that provides an optimal way to evaluate the TC670 integrated fan speed sensor. (User's Guide, DS51273)

Samples/Purchasing Information:

- Online Sampling: [www.sample.microchip.com](http://www.sample.microchip.com)
- Online Purchasing: [www.microchipdirect.com](http://www.microchipdirect.com)
- Technical Training: [www.microchip.com/training](http://www.microchip.com/training)