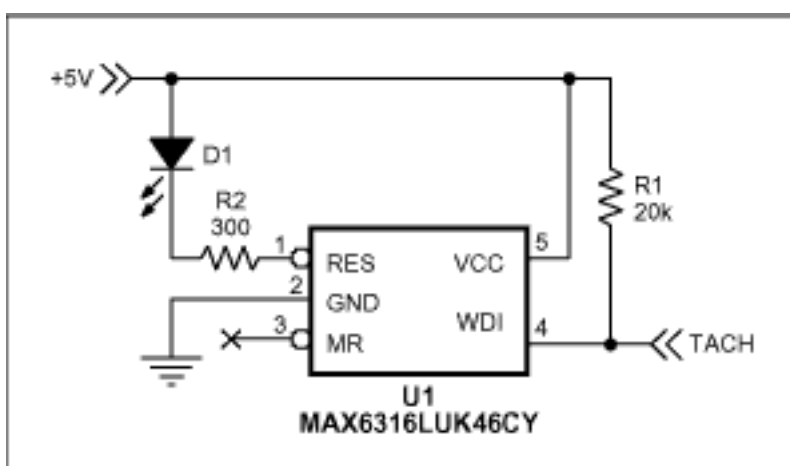# Supervisor IC indicates fan failure

*Connecting the tachometer output of a cooling fan to the watchdog input of a microprocessor-supervisor IC yields a simple circuit for detecting fan failures.*

A fan failure can cause serious damage. The circuit of Figure 1 provides a very simple and reliable way to indicate a stalled brushless DC fan.



Figure 1. This µP supervisor monitors a fan's tachometer output.

The fan's tachometer output connects to the watchdog input of a µP supervisor (U1). The LED remains off during normal operation. If the tachometer does not change state within the watchdog timeout period, U1 lights the LED by asserting its reset output. The LED pulses on and off as the supervisor goes through its watchdog/reset cycle. A sounding device can be added. The LED in this example has a 200ms on-time and flashes with a period of 1.6 seconds.

The LED signal can also be routed to a microcontroller input to initiate an orderly shutdown.

This former Design Note was published in the Nov 17, 2003 issue of *EE Times* magazine.

**More Information**

MAX6316: QuickView -- Full (PDF) Data Sheet -- Free Samples