

45 mΩ R_{ON} 20 V Quad Force/Sense Electronic Circuit Breaker with SPI

FEATURES

- ▶ Four Channel Pairs – 4× single pole single throw (SPST)
- ▶ Circuit breaker threshold up to 1.5 A programmable in 50 mA increments
- ▶ 10% accurate threshold
- ▶ 45 mΩ on resistance
- ▶ Operating range: 0 V to 20 V
- ▶ Serial-peripheral interface (SPI) with daisy-chain mode
- ▶ Common open-drain FAULT status output
- ▶ Available in 24-lead, 3 mm x 5 mm LQFN package

APPLICATIONS

- ▶ Automatic test equipment or ATE wafer probe electronics
- ▶ Scope probe protection
- ▶ Industrial control
- ▶ Relay replacement

GENERAL DESCRIPTION

The LTC4243 contains four switches, each with an independent circuit breaker function and a synchronized sense switch. Each switch can operate completely autonomously or be arbitrarily grouped with other switches that respond together to the fault of any device within its group. Optionally, channel grouping can be extended to multiple LTC4243 devices by selecting the FIN# (fault input) pin as part of a channel group. A required bias supply between 2.6 V to 5 V allows the switches to independently operate from 20 V down to 0 V. The LTC4243 provides an SPI to enable, disable, and configure the timing and current thresholds of each channel as well as provide status to each channel's fault state.

A common open-drain FAULT status output indicates if any switch has opened due to a circuit breaker event.

TYPICAL APPLICATION

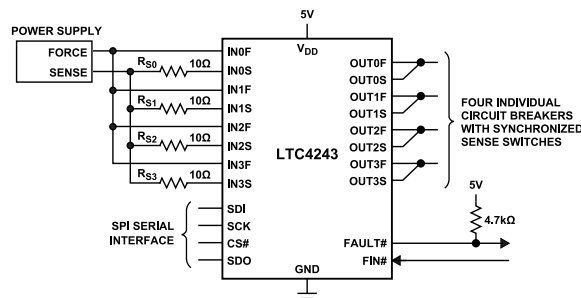


Figure 1. Typical Application

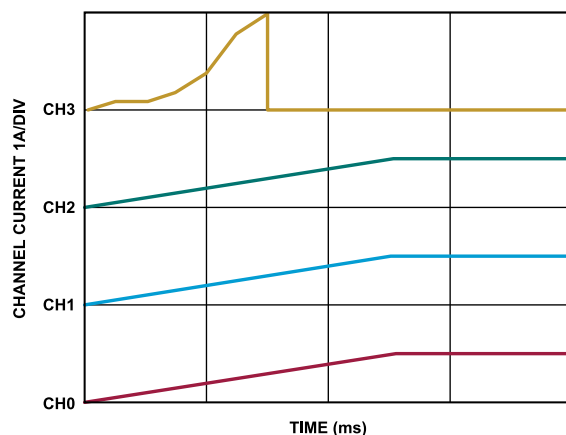


Figure 2. Startup with Fault on Channel 3

NOTES