



10XPRESS[®] SFT9001

10GBASE-T/1000BASE-T/100BASE-TX TRANSCEIVER FOR CATEGORY 5/5E/6/6A/7 COPPER CABLING

HIGHLIGHTS

- Monolithic single chip 10GBASE-T PHY with 100m reach
- IEEE Std 802.3an™-2006 compliant
- Auto-negotiated, multi-speed 10G/1G/100Mbps operation
- Link-up <3 seconds (power, reset, or cable insertion)
- Commanded 100m and 30m dual reach modes
- XAUI™, XFI and SGMII MAC interface options
- Advanced cable plant diagnostics
- Wake on LAN support
- Samples available now

IEEE STANDARDS COMPLIANCE

- IEEE Std 802.3an™-2006
- Reach
 - 100-meters on Category 6A & Category 7 cable*
 - 55 to 100-meters on Category 6 cable*
 - Support for Category 5 and 5e cable
- *Under worst-case standard-compliant channel, with 4 connectors in the presence of ANEXT (injection and six around one) on Category 6/6a/7 cable
- BER better than 10⁻¹²
- Latency < 2.5 μs
- Startup time less than 2 seconds
- IEEE Std 802.3an™-2006 DSQ128 line side modulation
- IEEE Std 802.3ae™-2005 Clause 47 compliant XAUI
- IEEE Std 802.3™ Clause 28 compliant auto-negotiation
- IEEE Std 802.3ae™-2005 compliant MDIO Interface
 - 100BASE-TX/1000BASE-T Clause 22 register set support via Clause 45
 - IEEE Std 802.3ae™-2005 and IEEE Std 802.3an™-2006 Clause 45 support

Solarflare Communications' third generation PHY transceiver SFT9001 is a mixed-signal solution that performs physical layer functions for 10Gbps transmission over twisted pair wiring compliant with the 10GBASE-T standard published as IEEE Std 802.3an™-2006. The SFT9001 also supports 1000Mbps and 100Mbps speeds compliant with the IEEE Std 802.3™-2005. The SFT9001 is based on a multi-patented and proven 10Xpress[®] PHY architecture that has demonstrated best in class performance and is currently in volume production.

Key features of the SFT9001 include small foot-print, low power consumption, support for both the mandatory 100-meter reach mode and the optional 30-meter short-reach modes. The SFT9001 is fully compliant with the IEEE Std 802.3an™-2006, and also supports 100BASE-TX and 1000BASE-T, with clause 28 auto-negotiation. The transceiver interfaces to the host over either XAUI or XFI interfaces, with modifications to support SGMII.

SFT9001 is an ideal solution for single and dual port Ethernet server adapters, LAN switch to server, LAN switch to switch, iSCSI based IP storage and test equipment designs.

Block Diagram:

