LAN8710/8720

Small-Footprint, Low-Power Consumption, Full-Featured 10/100 Ethernet Transceivers

SMSC's LAN8710 and LAN8720 are high-performance, small-footprint, low-power 10BASE-T/100BASE-TX transceivers specifically designed for today's consumer electronics, industrial and enterprise applications. The LAN8710/8720 are the industry's smallest footprint solutions with up to 40% lower power consumption than existing SMSC transceivers. The LAN8710/8720 have an integrated voltage regulator and ESD protection components to help reduce Bill of Material (BOM) costs.

The LAN8710 connects to the MAC layer using a variable voltage, digital standard MII or RMII interface, while the LAN8720 connects via an RMII interface. Both devices support HP Auto-MDIX*, employ SMSC's proprietary flexPWR® technology and are available in both extended commercial (0º to 85ºC) and industrial (-40º to 85ºC) temperature range options.

SMSC's complimentary and confidential LANCheck® online design review service is available for customers who have selected our products for their application design-in**.

Highlights

- Excellent ESD protection levels exceed IEC specifications without external protection devices
- Integrated 1.2V linear regulator
- Incorporates flexPWR technology
  - Industry-leading power consumption
    - Up to 40% reduction from existing SMSC solutions
  - Flexible I/O voltage range from 3.6V to 1.6V
  - Extremely low energy detect standby mode
- Low-cost 25MHz crystal for MII/RMII
- Industrial and extended commercial temperature range options available
- Compact package options:
  - LAN8710: 5x5mm, 32-pin QFN package (MII/RMII)
  - LAN8720: 4x4mm, 24-pin QFN package (RMII only)

Target Applications

- High-definition TVs (HDTVs)
- Set-top Boxes (STBs)
- Digital Video Recorders (DVRs)
- Personal Video Recorders (PVRs)
- Network Printers and Servers
- Gaming Consoles
- Telecommunications
- POS Terminals
- Industrial

Features / Benefits

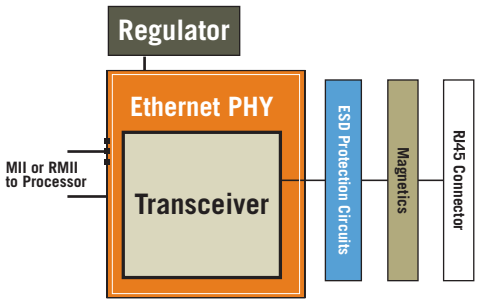
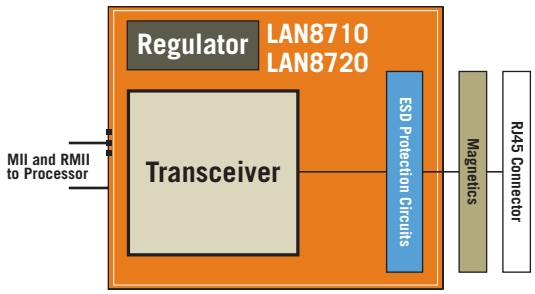
Features	Benefits
Integrated ESD Protection	Simplifies PCB design with proven ESD performance
Energy detect power-down mode	Conserves system power by shutting down inactive circuit blocks
Flexible I/O voltage capability	Interfaces to higher performance ASICs, SoCs and FPGAs without the added expense of extended level shifters
Supports Media Independent Interface (MII) and Reduced Media Independent Interface (RMII)	Covers the industry's two most popular interfaces
Low-cost, single 25MHz crystal design for RMII mode	Removes the need for an expensive 50MHz crystal or oscillator for RMII operation
HP Auto-MDIX support	Performs automatic crossover cable detection and correction

SMSC FULL-FEATURED TRANSCEIVERS VS. THE COMPETITION

	MAC Interface	I/O Voltage Range	Integrated 1.2V Linear Reg w/ Reg Disable	ESD Performance w/o External Protection Circuitry	Energy Detect Power Down Capability	Temperature Range
SMSC LAN8710/LAN8710i	MII and RMII	1.6V to 3.6V Range	Yes	Yes	Yes	Extended Commercial or Industrial
SMSC LAN8720/LAN8720i	RMII					
Other Partial-Featured Competitive Transceivers	MII Only	I/O Voltage Range	No	No	No	Commercial Only

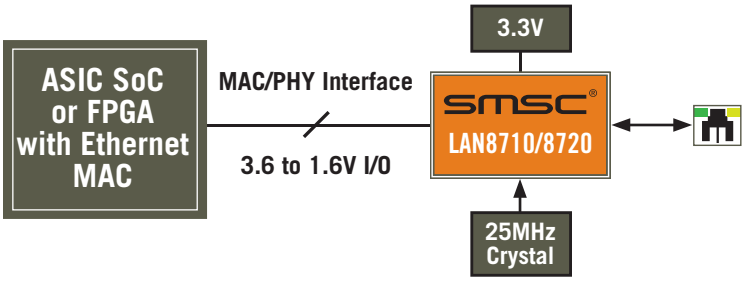
LAN8710/8720 HELPS TRIM YOUR DESIGN

Reduces external components by integrating the highest ESD protection and a voltage regulator

Function	Other Solutions	SMSC Solutions
		
Ethernet Transceiver	Discrete	SINGLE SOLUTION!
Regulator	Discrete	
ESD Protection	External	
Passive	30+	20

Reduces power consumption by 25% when the 1.2V on-chip regulator is disabled and 1.2V is supplied by the system

Reduces BOM cost by incorporating a low-cost 25MHz crystal for both MII/RMII interfaces



*HP Auto-MDIX eliminates the need for special "crossover" cables when connecting LAN devices together.

**LANCheck online design review service requires an SMSC e-Services account and is subject to the terms and conditions listed on SMSC's website.

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For more information visit www.smsc.com or call 1.800.443.SEMI

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For RoHS compliance and environmental information, please visit www.smsc.com/rohs

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