

LAN8710A/8720A

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

Summary

Microchip's LAN8710A and LAN8720A are high-performance, small-footprint, low-power 10Base-T/100Base-TX transceivers specifically designed for today's consumer electronics, industrial and enterprise applications. The LAN8710A/8720A are the industry's smallest footprint solutions with up to 40% lower power consumption than existing Microchip transceivers. The LAN8710A/8720A have an integrated voltage regulator and ESD protection components to help reduce Bill of Material (BOM) costs.

The LAN8710A connects to the MAC layer using a variable voltage, digital standard MII or RMII interface, while the LAN8720A connects via an RMII interface. Both devices support HP Auto-MDIX, employ Microchip's proprietary flexPWR® technology and are available in both extended commercial (0° to 85°C) and industrial (-40° to 85°C) temperature range options.

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

Target Applications

- High-definition TVs (HDTVs)
- Set-top boxes
- Digital Video Recorders (DVRs)
- Personal Video Recorders (PVRs)
- Network printers and servers
- Gaming consoles
- Telecommunications
- POS terminals
- Industrial



Highlights

- Excellent ESD protection level 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 Microchip solutions
 - Flexible I/O voltage range from 3.6V to 1.6V
 - Extremely low energy detect standby mode
- Low-cost 25 MHz crystal for MII/RMII
- Industrial (LAN8710Ai/LAN8720Ai) and extended commercial temperature range options available
- Compact package options
 - LAN8710A: 5 × 5 mm, 32-pin QFN package (MII/RMII)
 - LAN8720A: 4 × 4 mm, 24-pin WFN package (RMII only)

Key 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 24 MHz crystal design for RMII mode	Removes the need for an expensive 50 MHz crystal or oscillator for RMII operations
HP Auto-MDIX support	Performs automatic crossover cable detection and correction



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Microchip Full-Featured Transceivers vs. the Competition

	MAC Interface	I/O Voltage Range	Integrated 1.2 V Linear Reg w/ Reg Disabled	ESD Performance w/o External Protection Circuitry	Energy Detect Power Down Capability	Temperature Range
Microchip LAN8710A/ LAN8710AI	MII and RMII	1.6 V to 3.6 V Range	Yes	Yes	Yes	Extended Commercial or Industrial
Microchip LAN8720A/ LAN8720AI	RMII					
Other Partial-Featured Competitive Transceivers	MII only	I/O Voltage Range	No	No	No	Commercial Only

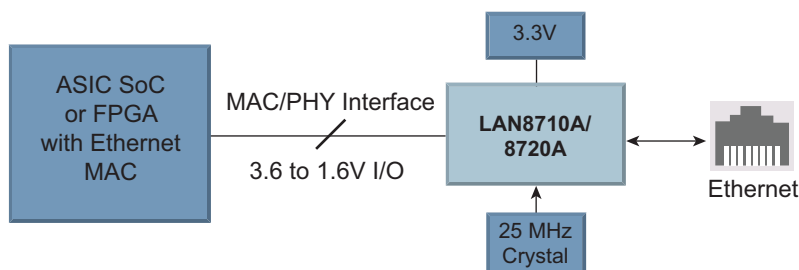
LAN8710A/LAN8720A Helps Trim Your Design

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

Function	Other Solution	Microchip Solution
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 25 MHz crystal for both MII/RMII interfaces.



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