STE101P

10/100 Fast ethernet 3.3V transceiver

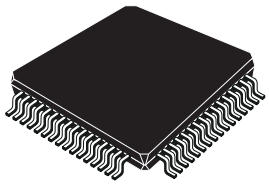
Data Brief

Feature summary

- IEEE802.3u 100Base-TX and IEEE802.3 10Base-T transceiver
- Support for IEEE802.3x flow control
- MII /RMII / SMII interface
- Auto MDIX supported
- Provides Full-duplex operation on both 100Mbps and 10Mbps modes
- Provides MLT-3 transceiver with DC restoration for Base-line wander compensation
- Provides loop-back modes for diagnostics
- Supports external transformer with turn ratio 1.414:1 on Tx/Rx side.
- Five LED display for operating mode and functionaliity signalling
- Operation from single 3.3V supply
- High Cable ESD tolerance
- Standard 64-pin QFP package pinout
- Industrial temperature compliant
- Self termination transceiver for external components and power saving
- Power dissipation < 200mW

Applications

- Switches/Routers/Hubs
- Nic adapters
- Game consoles
- VoIP gateways/phones
- Network Printers
- DTVs/DVD-Rs



TQFP64
(10x10x1.4mm)

Description

The STE101P is a high performance Fast Ethernet physical layer interface for 10Base-T and 100Base-TX applications.

It was designed with advanced CMOS technology to provide MII, RMII and SMII interfaces for easy attachment to 10/100 Media Access Controllers (MAC) and a physical media interface for 100Base-TX of IEEE802.3u and 10Base-T of IEEE802.3.

The STE101P supports both half-duplex and full-duplex operation at 10 and 100 Mbps operation. Its operating mode can be set using auto-negotiation, parallel detection or manual control. It also allows for the support of auto-negotiation functions for speed and duplex detection. The Automatic MDI / MDIX feature compensates for using a cross over cable. With Auto MDIX, the STE101P automatically detects what is on the other end of the network cable and switches the TX & RX pins accordingly.

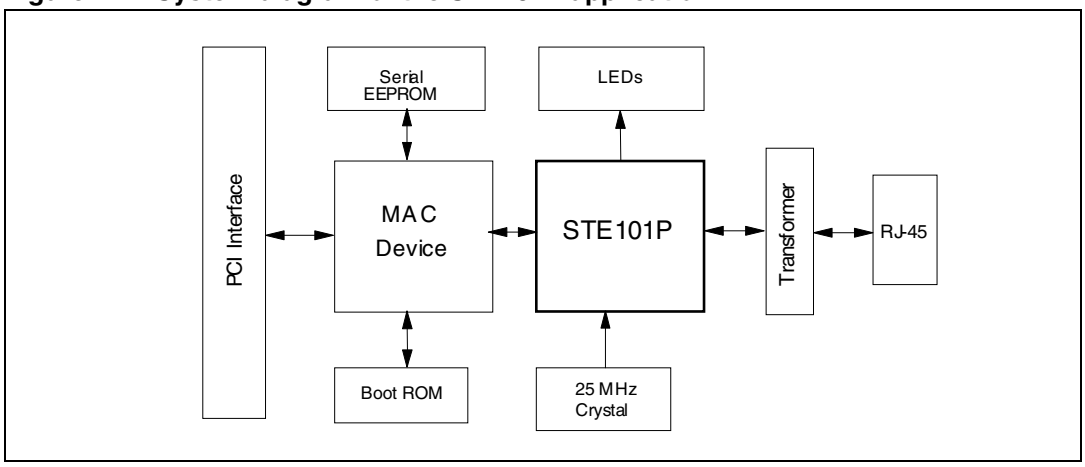
Order codes

Part number	Temp range, °C	Package	Packing
E-STE101P(1)	-40 to 85	TQFP64 (14x14x1.4mm)	Tube

(1) E-: ECOPACK® (see *Chapter 2*)

1 System diagram of the STE101P application

Figure 1. System diagram of the STE101P application



2 Package information

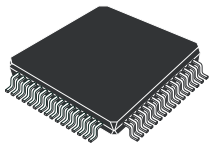
In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a Lead-free second level interconnect. The category of second Level Interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label.

ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com.

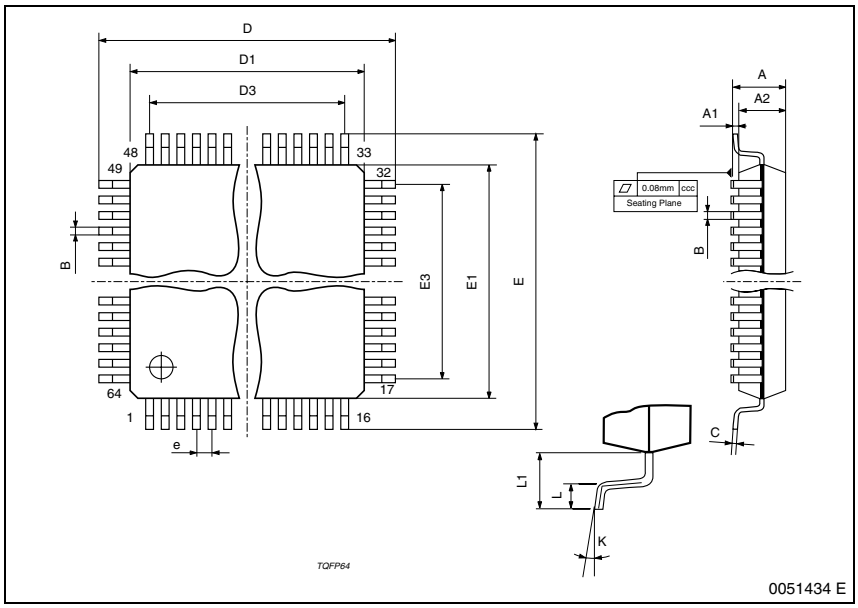
Figure 2. TQFP64 (10 x 10 x 1.4mm) Mechanical Data & Package Dimensions

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.60			0.063
A1	0.05		0.15	0.002		0.006
A2	1.35	1.40	1.45	0.053	0.055	0.057
B	0.17	0.22	0.27	0.0066	0.0086	0.0106
C	0.09			0.0035		
D	11.80	12.00	12.20	0.464	0.472	0.480
D1	9.80	10.00	10.20	0.386	0.394	0.401
D3		7.50			0.295	
e		0.50			0.0197	
E	11.80	12.00	12.20	0.464	0.472	0.480
E1	9.80	10.00	10.20	0.386	0.394	0.401
E3		7.50			0.295	
L	0.45	0.60	0.75	0.0177	0.0236	0.0295
L1		1.00			0.0393	
K	0° (min.), 3.5° (min.), 7° (max.)					
ccc			0.080			0.0031

OUTLINE AND MECHANICAL DATA



TQFP64 (10 x 10 x 1.4mm)



3 Revision history

Table 1. Document revision history

Date	Revision	Changes
10-Feb-2006	1	Initial release.

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