elmos

KNX / EIB Transceiver Family

E981.03 / E981.23 / E981.33

RoHS compliant

Features

	E981.03	E981.23	E981.33
KNX EIB transceiver analog mode	■	■	■
KNX EIB transceiver with medium access control	■	■	
Compatible to KNX TP1-256 supporting extended frames up to 254 Bytes payload	■	■	■
Configuration pins for bus current & slope		■	■
Configuration pins for external clock frequency 8 or 7.3728 MHz		■	■
Further configuration and diagnosis via	SPI UART	UART	
UART host interface up to 115kBaud with optional CRC	■	■	
Power management functionality with host wake up on received KNX telegram content	■		
Buck voltage regulator for 3.3 or 5V for up to	70mA	100mA	100mA
Linear voltage regulator for 20V up to 25 mA	■	■	■
Over temperature monitoring/protection	■	■	■
Operating temperature range − 25°C to + 85°C	■	■	■
QFN32L7 package (all pin compatible)	■	■	■
Ordering-No.:	E98103A38B	E98123A38B	E98133A38B

General Description

The E981.x3 KNX / EIB Transceiver family has 3 members. All family members support the physical layer. The IC´s have a configurable DC/DC converter for supplying a micro-controller or other circuits (VCC). The VCC voltage is configurable to 3.3 or 5V. The V20 could supply an application circuit with 20V. A configurable max. KNX bus load (max. bus current and current slew rate) guarantees a KNX compliant behavior even in case of error conditions. The following clauses are valid for E981.03 and E981.23. Host to KNX communication is supported by an UART interface providing a service functionality that supersets TP-UART services. UART speed can be selected by pins (9.600, 19.200 or 115.200Baud). Telegram transmission from IC to host can be secured using a cyclic redundancy check (CRC).

The IC realizes several communication modes. In normal operation mode it provides KNX TP1-256 protocol handling covering L_Data, L_ExtData and L_PollData frames up to maximum allowed telegram sizes. Bus monitor mode allows silent monitoring of KNX bus activities. In analog mode UART is directly connected to the KNX physical layer.

After uploading KNX address information incoming addressed frames are acknowledged automatically. Busy mode can be activated resulting in autonomous BUSY acknowledging of addressed frames. After uploading a alarm telegram a disconnected application module from a bus coupler trigger sending of the predefined alarm telegram.

Applications

- Switch modules, actuators, sensors connected to KNX / EIB in home automation

Typical Application Circuit
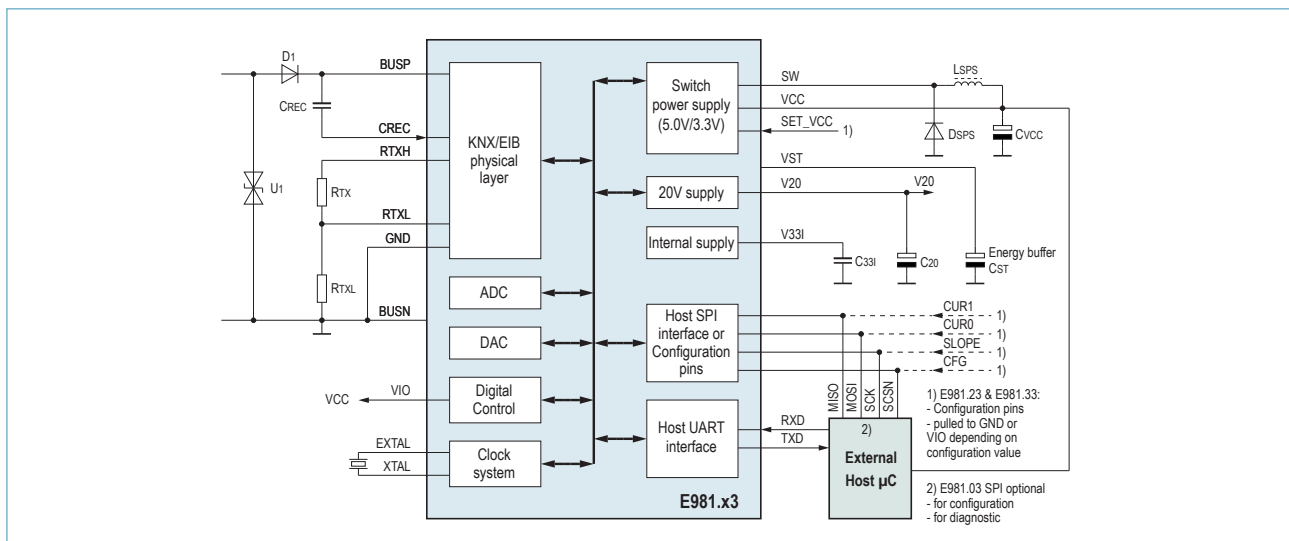
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