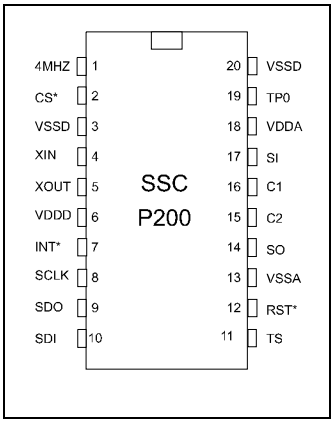
SSC P200

PL Network Interface Controller IC, CEBus Compliant

Features

- Enables low-cost networking products
- EIA-600 (CEBus® Standard) compatible channel access with unacknowledged services
- EIA-600 Physical Layer transceiver
- Spread Spectrum Carrier™ communication technology
- SPI host processor interface
- Single +5 Volt power supply requirement
- 20 pin SOIC package

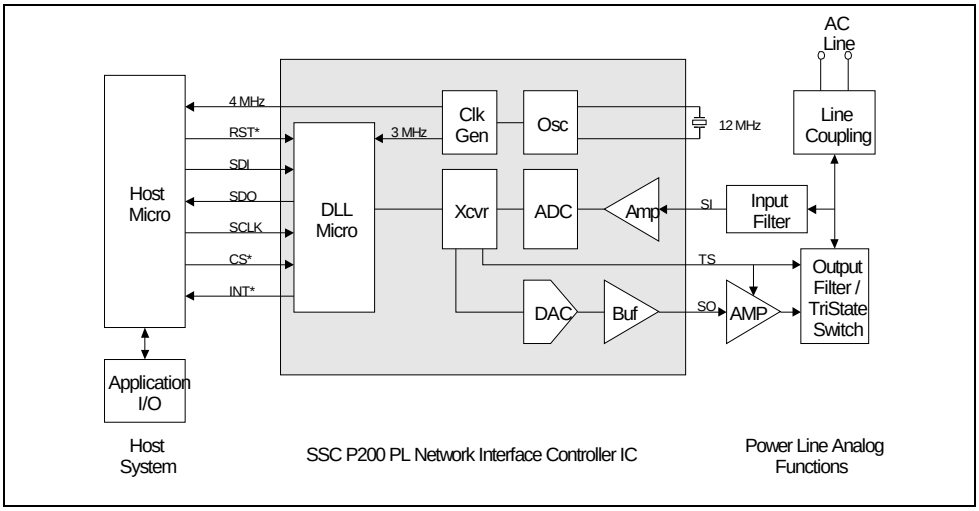


Introduction

The Intellon SSC P200 PL Network Interface Controller is a highly integrated spread spectrum communication transceiver and channel access interface for implementing low-cost networking products. The SSC P200 provides the Data Link Layer (DLL) control logic for EIA-600 channel access using unacknowledged services, a Spread Spectrum Carrier (SSC) transceiver, signal conditioning circuitry, and an SPI compatible host interface. A minimum of external circuitry is required to connect the SSC P200 to the AC power line, a twisted pair cable, or other communication medium. The SSC P200 is used with a host microcontroller to construct simple sensor and actuator devices for use in lighting control, process monitoring, access control, point-of-sale, telemetry and other systems requiring low-cost network capability.

The inherent reliability of SSC signaling technology and incorporation of basic data link functionality combine to provide substantial improvement in network and communication performance over other low-cost communication methods. The SSC P200 is the ideal basic communications element for a variety of low-cost networking applications.

SSC P200 Node Block Diagram



SSC P200 Description

The SSC P200 may be used in a variety of applications. Resource intensive Data Link functions and Physical Layer services of the protocol are provided by the SSC P200. Specific DLL services include transmission and reception of unacknowledged (UNACK) EIA-600 compatible packets, byte-to-symbol conversion for transmitted packets, symbol-to-byte conversion for received packets, transmit channel access based on packet priority and EIA-600 access rules, and CRC generation for transmitted packets and error checking of received packets.

The Host Microcontroller generates and decodes device addresses, interprets commands and data for the User Application and performs end to end protocol functions.

Output signal amplification and filtering, input signal filtering, and coupling of the node to the power line are performed using external components.

Specifications

Symbol	Parameter	Min	Typical	Max	Unit
V_{DD}	DC Supply Voltage	4.5	5.0	5.5	V
F_{OSC}	Oscillator Frequency		12 +/- 0.01%		MHz
T_A	Operating Temperature	-40	+25	+85	°C
	Humidity		non-condensing		

Electrical Characteristics

Conditions: V_{DD} = 4.5 to 5.5 V T= -40 to +85°C

Symbol	Parameter	Min	Typical	Max	Units
V_{OH}	Minimum High-level Output Voltage	2.4			V
V_{OL}	Maximum Low-level Output Voltage (1)			0.4	V
V_{IH}	Minimum High-level Input Voltage	2.0			V
V_{IL}	Maximum Low-level Input Voltage			0.8	V
Hys	Minimum Input Hysteresis	350			mV
I_{IL}	Maximum Input Leakage Current			+/-10	µA
v_{SO}	SSC Signal Output Voltage (2)		4		V_{P-P}
I_{DD}	Total Power Supply Current		25		mA

Notes: 1) I_{OL} = 2 mA 2) Z_L = 2K Ω || 10 pF

Ordering Information

Part No.	Description	Tube Qty.	Package
SSC P200	PL Network Interface Controller IC, CEBus Compliant	38	20 pin SOIC