

Si3210 ProSLIC™

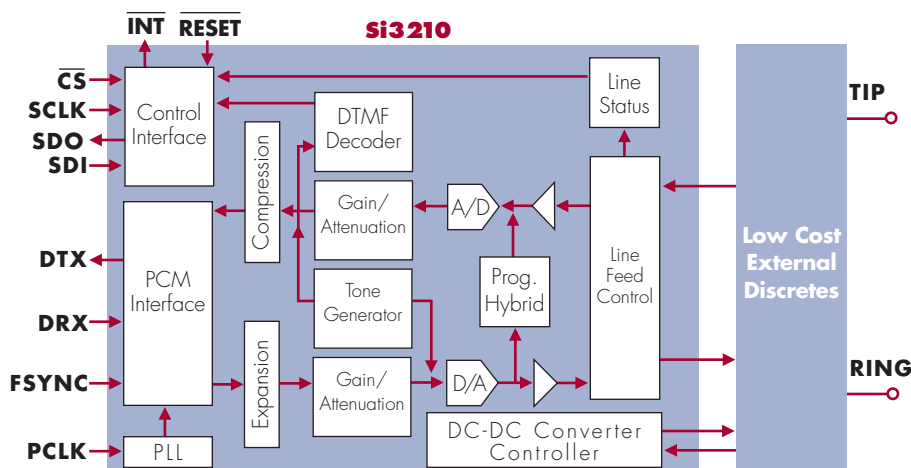
PROGRAMMABLE CMOS SLIC/CODEC WITH RINGING AND BATTERY VOLTAGE GENERATION



PRODUCT DESCRIPTION

The Si3210 ProSLIC is a monolithic, low-voltage CMOS device that provides a complete analog telephone line interface ideal for short loop (less than 2000 feet) applications. The Si3210 integrates the subscriber line interface circuit (SLIC), codec, and DC-to-DC converter controller into a single CMOS integrated circuit, providing 30% cost savings and 50% board space reduction compared to traditional multi-chip bipolar solutions. The ProSLIC also integrates a 5 REN ringing generator, DTMF decoder, and dual-tone generator, further reducing the number of external components. On-chip DC-to-DC converter control enables the Si3210 to dynamically generate line voltages from a single 9V to 30V DC supply, eliminating the need for large negative voltage supplies and saving power. The ProSLIC is programmable to meet global telephony standards, allowing single designs to be implemented worldwide for a variety of applications including cable telephony, wireless local loop, PBX, voice over IP, and ISDN terminal adapters.

ProSLIC BLOCK DIAGRAM



FEATURES

- Performs all battery, overvoltage, ringing, supervision, coding, hybrid, and test (BORSCHT) functions
- 3.3 V or 5 V operation
- Battery voltage generated dynamically with on-chip DC-to-DC converter controller
- 5 REN ringing generator with programmable waveshape, amplitude, frequency, and cadence
- Programmable AC impedance
- Programmable ring tip detect and loop closure thresholds
- Compliant with relevant LSSGR, CCITT specifications
- 8-bit A-law/ μ -law companding and 16-bit linear PCM serial data modes
- On-hook transmission, pulse metering, and polarity reversal
- DTMF decoding and generation
- FSK (caller ID) tone generation
- Programmable constant loop current feed (20-41 mA)
- Multiple loopback modes for testing
- SPI control and PCM data digital interfaces
- 38-pin TSSOP package

APPLICATIONS

- Ideal for short loop (<2 kft) applications
- ISDN terminal adapters
- Cable telephony
- PBX
- Wireless local loop
- Voice over IP

PRODUCT BRIEF

THE Si3210 OFFERS SLIC AND CODEC FUNCTIONALITY IN ONE LOW-COST CMOS DEVICE FOR A COMPLETE ANALOG TELEPHONE LINE INTERFACE.



INNOVATIVE, FLEXIBLE, ECONOMICAL, GLOBAL.

Silicon Laboratories expands its portfolio of wireline products to offer subscriber line interface solutions with the ProSLIC family of devices.

Innovative: The ProSLIC's innovative single-chip CMOS architecture enables designers to realize 30% cost savings and 50% board size savings compared to traditional multi-chip bipolar SLIC solutions. This level of integration allows system designers to double the channel density of their existing systems without exceeding space limitations.

Flexible: The ProSLIC's highly programmable feature set provides the flexibility to perform optimally in a wide range of applications. Parameters for ringing, signaling, linefeed, digital interfacing, signal processing, and line impedance matching are all configured through programmable registers.

The ProSLIC's power requirements also offer surprising flexibility. Choose the external components that optimize line performance while minimizing cost. Power the ProSLIC with either a 3.3 V or 5 V supply. Configure the DC-to-DC converter to dynamically generate battery voltages, minimize dissipated power, and eliminate large negative voltage supplies from your board.

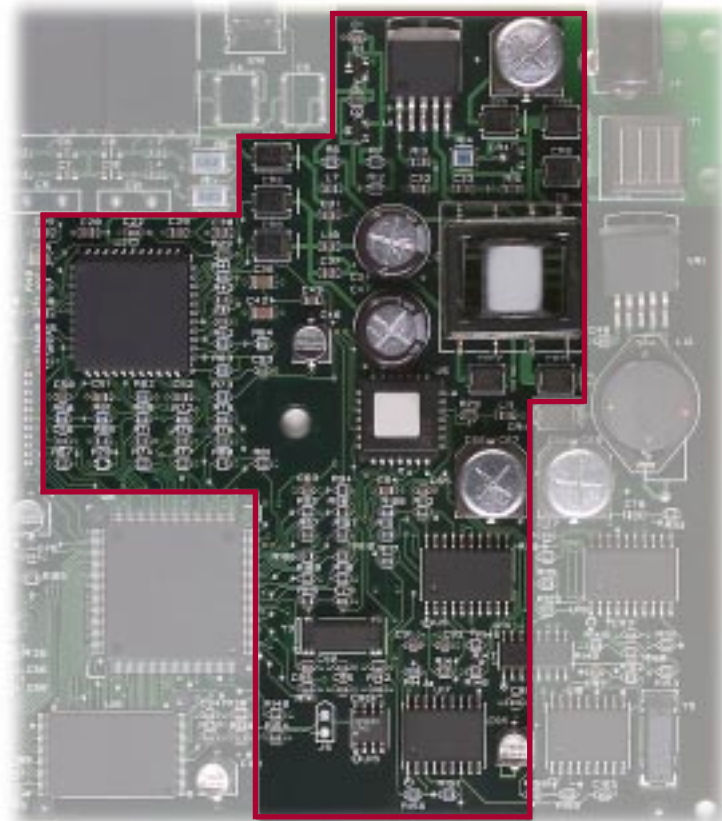
Economical: Because the ProSLIC is manufactured in CMOS, not in a custom high-voltage bipolar process, Silicon Laboratories can offer significant cost savings over traditional solutions. Internal calibration routines eliminate external component inaccuracies to offer world-class performance using low cost, standard tolerance external components.

Global: The ProSLIC contains all the features and flexibility needed for single designs to meet global telephony standards.

50% Area Reduction/30% Cost Savings



Si3210 ProSLIC Solution compared to traditional SLIC implementation.



ProSLIC Product Feature Set Comparison

Feature	Si3210	Si3211	Si3212
On-Chip DC-DC Converter Controller	✓		
External Battery Switching	✓	✓	✓
DTMF Decoding	✓	✓	
All other ProSLIC Features	✓	✓	✓

CONTACT INFORMATION



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PB: Si3210*

ORDERING INFORMATION

Part Number

Si3210-KT

Si3210-BT

Si3211-KT

Si3211-BT

Si3212-KT

Si3212-BT

Si3210PPTFVB

Si3211PPTFVB

Si3212PPTFVB

Description

ProSLIC w/ DC-DC Converter and DTMF decoding, 0 to 70°C

ProSLIC w/ DC-DC Converter and DTMF decoding, -40 to 85°C

ProSLIC w/ DTMF decoding, 0 to 70°C

ProSLIC w/ DTMF decoding, -40 to 85°C

ProSLIC, 0 to 70°C

ProSLIC, -40 to 85°C

ProSLIC evaluation board supporting Si3210

ProSLIC evaluation board supporting Si3211

ProSLIC evaluation board supporting Si3212