

# ProSLIC® Voice Solutions

SLIC AND CODEC SOLUTIONS FOR  
SHORT, MEDIUM AND LONG LOOP APPLICATIONS

**Globally Compliant  
Highly Configurable  
Cost Effective**

## FEATURES

- Performs all battery, overvoltage, ringing, supervision, coding, hybrid and test (BORSCHT) functions
- Software programmable parameters for global compliance with one hardware solution
  - 2 wire ac impedance and transhybrid balance
  - Ringing amplitude, frequency, cadence and waveform
  - DC linefeed characteristics
  - Ring trip/loop closure thresholds and filtering
  - In-field programmable
- Available wideband audio codecs
- Adaptive battery voltage generation using integrated dc-dc controller
- Comprehensive remote diagnostics
- Powered using a single 3.3 V supply
- Configurable PCM/SPI and GCI digital interface

## BENEFITS

- Global compliance using a single hardware design
- Easily configured to support a wide range of customer requirements
- Reduced size and cost per channel

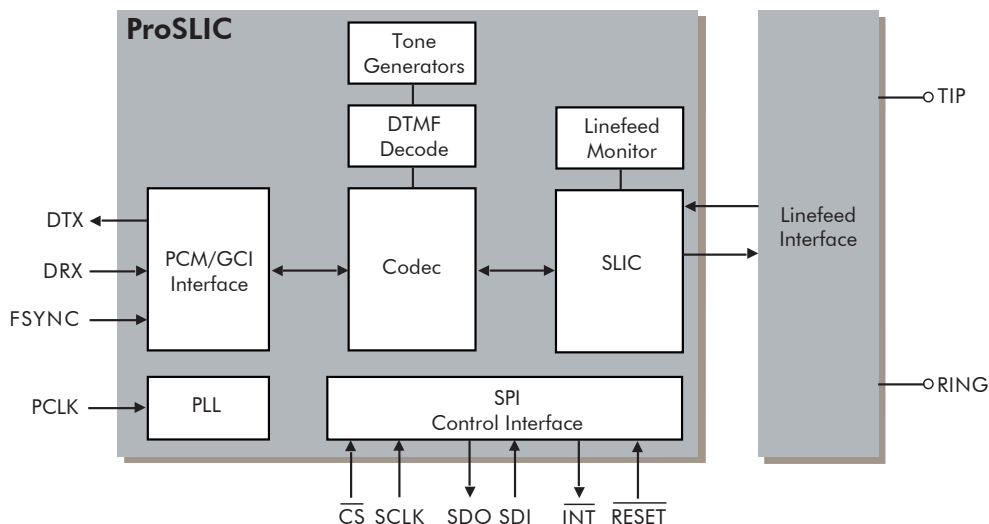
## APPLICATIONS

- Cable and DSL VoIP modems
- PBX, IP-PBX and key telephone systems
- Central office and DLC line cards
- Voice gateways
- Terminal adapters: ISDN, Ethernet, USB
- Computer telephony
- Pair gain remote terminals

## DESCRIPTION

The ProSLIC family of products provides complete analog telephone interfaces ideal for customer premise equipment (CPE), enterprise and central office applications. These highly-integrated circuits offer global compliance using a single hardware design and bill-of-materials while reducing the PCB size and cost per channel. Fully programmable parameters such as two-wire ac impedance, ring amplitude, ring waveshape and dc linefeed characteristics are provided via a programmable DSP based architecture that provides the flexibility and performance necessary to address the most demanding customers and service providers. These combined SLIC and codec solutions integrate a comprehensive set of telephony features including DTMF generation/decoding, FSK caller ID generation, GR-909 loop diagnostics, pulse metering and battery switching control. Select models include an integrated dc-dc controller that continuously adapts to the line voltage to minimize thermal dissipation and maximize power efficiency. All devices are powered using a single 3.3 V supply and can be controlled using a standard PCM/SPI or GCI digital interface.

## ProSLIC BLOCK DIAGRAM



## SOLUTIONS GUIDE

**HIGHLY INTEGRATED  
SINGLE, DUAL AND QUAD  
SLIC AND CODEC SOLUTIONS**



## HIGHLY INTEGRATED SLIC, CODEC AND BATTERY SUPPLY

### Globally Compliant

The ProSLIC can be easily configured to country-specific requirements such as ac impedance, ring frequency, ring cadence and ring waveform using a single hardware design and bill-of-materials.

### Flexible

The device's highly programmable feature set provides the flexibility to optimize performance across the broadest range of customer applications. All SLIC and codec parameters are 100% configurable using software programmable registers. Silicon Labs' API accelerates and simplifies code development with a ready-made set of functions common to the ProSLIC family.

### Cost Effective

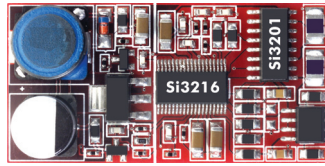
The ProSLIC's complete integration of an analog telephony interface into a single low-voltage CMOS device enables designers to realize an extremely compact solution at an attractive price point. Availability of single, dual and quad channel devices offers the right balance between size and cost per channel.

### Integrated Battery Supply

Select devices incorporate an on-chip tracking dc-dc controller that eliminates the need for bulky, expensive high-voltage power supplies. The generated supply continuously adapts to the line conditions to minimize thermal dissipation and maximize power efficiency.

## Full Range of Channel Densities

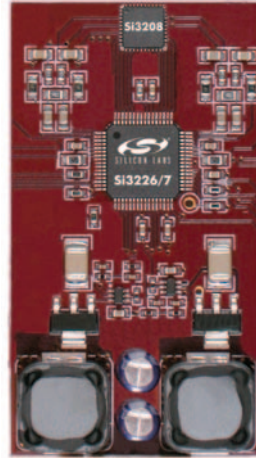
**Si3210/5/6 ProSLIC**  
(with battery supply)



### Single Channel Applications

- DSL VoIP modems, terminal adapters, computer telephony
- Short and medium loops (<6 kft, 1.8 km)
- 1–3 voice channels

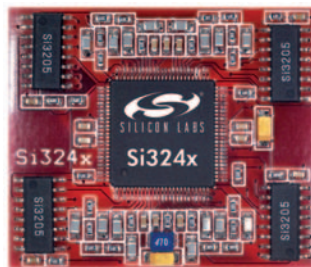
**Si3226/7 Dual ProSLIC**  
(with battery supply)



### Dual Channel Applications

- Cable and DSL VoIP modems, FTTH, PBX
- Short, medium and long loops (<20 kft, 6.1 km)
- 2–8 voice channels

**Si3241/5 Quad ProSLIC**



### Quad Channel Applications

- CO linecards, PBX, IP-PBX
- Short, medium and long loops (<20 kft/6.1 km)
- ≥4 voice channels

## ProSLIC Product Matrix

	Si3210	Si3215	Si3216	Si3226	Si3227	Si3241	Si3245
Number of Channels	single	single	single	dual	dual	quad	quad
Integrated SLIC and Codec	✓	✓	✓	✓	✓	✓	✓
On-Chip DC–DC Controller	✓	✓	✓	✓	✓		
Wideband Audio			✓		✓		
Internal Ringing	✓	✓	✓	✓	✓	✓	
External Ringing							✓
DTMF Decoder	✓			✓	✓	✓	✓
Tone Generation	✓	✓	✓	✓	✓	✓	✓
GR-909 Line Diagnostics	✓	✓	✓	✓	✓	✓	✓
Silicon Labs API	✓	✓	✓	✓	✓	✓	✓