ProSLIC® Voice Solutions

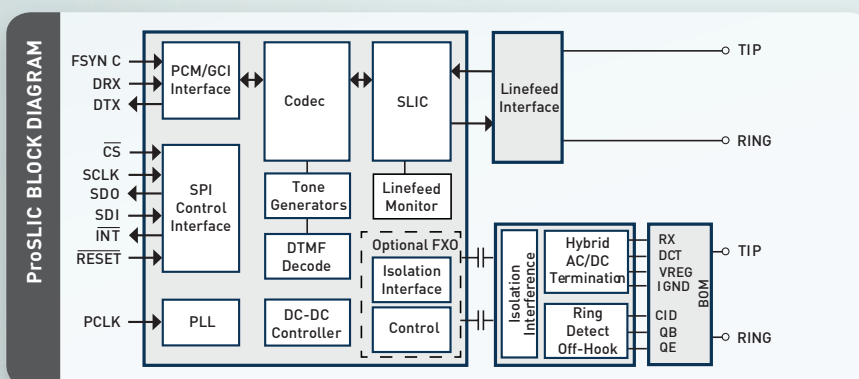www.silabs.com/proslic

FEATURES

- Performs all BORSCHT functions (battery, test overvoltage, ringing, supervision, coding, hybrid)
- 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
- Configurable integrated dc-dc controllers
- Comprehensive remote diagnostics
- Powered using a single 3.3 V supply
- PCM/SPI, ISI and analog interface options
- Available integrated DAA system side for FXO

BENEFITS

- Global compliance with single hardware design
- Easily configured to support a wide range of customer requirements
- Smallest PCB area and lowest cost per channel

APPLICATIONS

- VoIP gateways and routers
- xDSL IADs
- Optical Network Terminals/Units (ONT/U)
- Analog Terminal Adapters (ATA)
- Cable eMTA
- Wireless Fixed Terminals (WFT)
- Wireless Local Loop (WLL)
- WiMAX CPE
- Private Branch Exchange (PBX)
- VoIP MDU gateways

DESCRIPTION

The ProSLIC® family of products provides complete analog telephone interfaces ideal for customer premise equipment (CPE) and enterprise 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.

HIGHLY INTEGRATED SINGLE AND DUAL SUBSCRIBER LINE INTERFACE CIRCUIT SOLUTIONS

ProSLIC BLOCK DIAGRAM

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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, and dual 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.

Development Tools

Si32176 ProSLIC
(with battery supply)
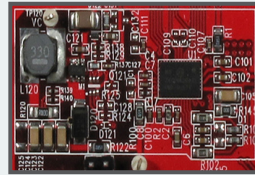
Si3226x Dual ProSLIC
(with battery supply)
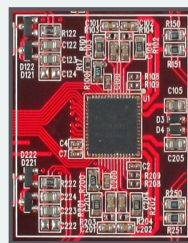
Single Channel Applications
- EMTAs, ONTs, IADs, ATAs, WFTs, etc.
- High voltage (-110 to -140 V) battery options
- Patented low power ringing
- Lowest power consumption
- Smallest board area
- GR-909 MLT and self test diagnostics
- Optional FXO using Si32178 (integrated DAA system side) and Si32919 (DAA line side device)
- Short and medium loops
- 1 FXS channel with optional FXO channel

Dual Channel Applications
- Cable EMTAs, DSL IADs, FTTH, FTTB, PBX
- High voltage (-110 to -140 V) battery options
- Patented low power ringing
- Lowest power consumption
- Smallest board area
- Tracking or shared battery support
- GR-909 MLT and self test diagnostics
- Short and medium loops
- 2 or more FXS channels

Digital PCM Interface ProSLICs

PART NUMBER	# OF FXS CHANNELS	# OF FXO CHANNELS	MAX V BATTERY	WIDEBAND	DTMF DETECTION	PULSE METERING	TRACKING DC-DC	SHARED DC-DC	DAISY-CHAIN MODE	PACKAGE
Si32170-C	1		-140 V		•	•	•		•	LGA42; 5x7 mm
Si32171-C	1		-110 V		•	•	•		•	LGA42; 5x7 mm
Si32174-C	1		-110 V	•	•		•		•	LGA42; 5x7 mm
Si32176-C	1		-110 V	•			•		•	LGA42; 5x7 mm
Si32177-C	1		-140 V	•			•		•	LGA42; 5x7 mm
Si32178-B	1	1	-110 V	•	•		•		•	LGA42; 5x7 mm
Si32179-B	1	1	-136 V	•	•		•		•	LGA42; 5x7 mm
Si32260-C	2		-110 V	•	•	•	•			LGA47; 6x8 mm
								•	•	LGA60; 8x8 mm
Si32261-C	2		-140 V	•	•	•	•			LGA47; 6x8 mm
								•	•	LGA60; 8x8 mm

Digital Integrated Serial Interface (ISI) ProSLICs

PART NUMBER	# OF FXS CHANNELS	# OF FXO CHANNELS	MAX V BATTERY	WIDEBAND	DTMF DETECTION	PULSE METERING	TRACKING DC-DC	SHARED DC-DC	DAISY-CHAIN MODE	PACKAGE
Si32172-C	1		-110 V	•			•			LGA42; 5x7 mm
Si32173-C	1		-140 V	•			•			LGA42; 5x7 mm
Si32175-C	1		-110 V		•	•	•			LGA42; 5x7 mm
Si32266-C	2		-110 V	•	•	•	•			LGA50; 6x8 mm
Si32267-C	2		-140 V	•	•	•	•			LGA50; 6x8 mm
Si32268-C	2		-110 V	•	•	•		•		LGA50; 6x8 mm
Si32269-C	2		-140 V	•	•	•		•		LGA50; 6x8 mm

Analog Interface ProSLICs

PART NUMBER	# OF FXS CHANNELS	# OF FXO CHANNELS	MAX V BATTERY	WIDEBAND AUDIO	DTMF DETECTION	PULSE METERING	TRACKING DC-DC	SHARED DC-DC	DAISY-CHAIN MODE	PACKAGE
Si32391-B	1		-136 V	•			•			QFN48; 6x6mm, 7x7 mm
Si32392-B	2		-136 V	•			•			QFN48; 6x6mm, 7x7 mm

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