Broadband & Voice Telephony Solutions

Si3216 ProSLIC®

Si3050 Voice DAA

Si3110 ADSL2+ AFE

Si2457 ISOmodem®

DESCRIPTION

Silicon Laboratories' broad array of mixed-signal communication devices brings unsurpassed integration, performance and value to broadband access and voice telephony solutions. These integrated circuits provide global compliance using a single hardware solution while reducing the PCB footprint and total solution bill-of-materials. Optimized for customer premise equipment (CPE) applications, these best-in-class solutions address global telecom standards through a high degree of programmability. Additionally, these products are designed using standard digital CMOS. This reduces power and cost while increasing system performance and flexibility through increased integration without sacrificing system performance.

SYSTEM BENEFITS

- Small footprints save board space and discrete component cost
- Requires only 3.3 V and 5 V power supplies and eliminates the need for costly additional power supplies
- Reduces system power consumption
- Line voltage/current monitoring for remote system provisioning and fault detection
- Globally compliant solutions enable a single design for all countries
- PCM/SPI or GCI digital interfaces for FXS and FXO ports

APPLICATIONS

- ADSL/cable modems
- Integrated access devices (IADs)
- PBX systems
- Voice over IP (VoIP) gateways and routers
- Pair gain systems
- Line cards
- Computer telephony

KEY PRODUCTS

Si3216 ProSLIC® and Si3220 Dual ProSLIC

- Integrated CMOS SLIC/codec
- On-chip tracking dc-dc converter controller (Si3216)
- Wideband audio codec (Si3216)
- Software programmable for global compliance
- Internal ringing up to 100 V_{PK}
- DTMF generation/decoding (Si3220)
- FSK caller ID generation
- On-chip GR-909 line diagnostics

Si3050 Voice DAA

- Integrated codec
- Globally compliant
- 16 selectable ac terminations
- Programmable hybrid
- Line voltage/current monitoring
- Loop start/ground start support
- PCM/SPI or GCI interface
- µ-law or A-law companding
- Greater than 5 kV line isolation

Si3110 ADSL2+ AFE

- Integrated line driver, codec, hybrid and VCXO
- Supports G.dmt, Annex A/B/C, ADSL2, ADLS2+ and SHDSL
- 1 W typical power consumption
- Only 3.3 V and 5 V power supplies needed
- Programmable hybrid improves rate/reach

Si2457 ISOmodem®

- Complete controller-based embedded modem
- Pin-compatible solutions from 2400 bps to 56 kbps
- AT command UART or parallel interface
- Line-in-use and parallel phone intrusion detection
- Globally compliant line interface meets all PTT standards worldwide
- More than 5 kV line isolation

SOLUTIONS GUIDE

COMPLETE MIXED-SIGNAL

SOLUTIONS FOR BROADBAND

ACCESS APPLICATIONS

SILICON LABORATORIES

Voice over ADSL Integrated Access Device (IAD)

With its fully programmable SLIC, codec functions and global compliance, the Si3216 ProSLIC is the ideal solution for adding voice capability to an existing broadband modem or for creating a full-featured Voice-over-Broadband (VoB) solution. The Si3110 delivers industry leading ADSL performance in the smallest footprint by integrating the line driver, DAC, ADC, filters, VCXO and hybrid. The Si2457 provides a fully integrated V.90 modem for broadband backup, provisioning or remote system configuration. The Si3050 offers a globally-compliant interface to the switched network for emergency "911" calling and other standard telephony features.
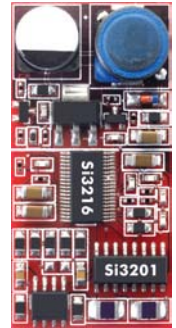
Si3110 ADSL2+ AFE

Provides higher data transfer rates and longer reach for ADSL applications.

1.86 in²
(Actual Size)

Si3216 ProSLIC

The integrated SLIC, codec and dc-dc converter provides a globally-compliant, modular telephony interface requiring only a 3.3 V or 5 V power supply. The patented on-chip tracking battery supply eliminates custom power supply design and reduces power in all operating modes.
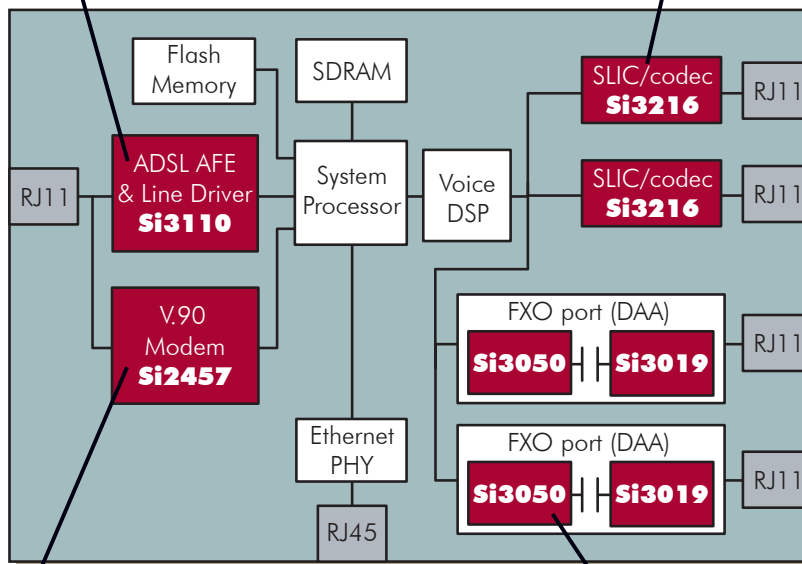
1.5 in²
(Actual Size)

Si3220/25 Dual ProSLIC

Delivers the smallest 2-channel SLIC/codec solution available. All features are software-programmable, offering global compliance using a single hardware design.

<1 in² per channel
(Actual Size)

Block diagram: RJ11 — ADSL AFE & Line Driver **Si3110** / V.90 Modem **Si2457** — Flash Memory — SDRAM — System Processor — Voice DSP — Ethernet PHY — RJ45 — SLIC/codec **Si3216** — RJ11 — SLIC/codec **Si3216** — RJ11 — FXO port (DAA) **Si3050** ‖ **Si3019** — RJ11 — FXO port (DAA) **Si3050** ‖ **Si3019** — RJ11

2.25 in²
(Actual Size)
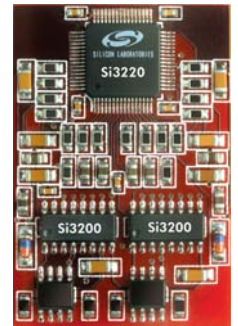
1.5 in²
(Actual Size)

Si2457 ISOmodem

Provides a complete embedded modem family for up to 56 Kbps applications. Ideal as a backup modem or for remote provisioning and diagnostics access.

Si3050 Voice DAA

The small footprint of the Si3050 DAA provides a full-featured interface to the switched network while maximizing port density. This globally compliant solution allows one board to be shipped worldwide without changing any external components. Standard telephony digital interfaces allow simple integration into any voice application.

CONTACT INFORMATION

SILICON LABORATORIES

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PRODUCT INFORMATION

ISOmodem Family

Device	Speed (bps)	Global DAA	Parallel Phone Detection
Si2401	2400	✓	✓
Si2415	14,400	✓	✓
Si2434	33,600	✓	✓
Si2457	56,000	✓	✓

ProSLIC Family

Device	Number of Channels	On-Chip Battery Supply	On-Chip Ringing	Integrated Codec	Wideband Audio Support
Si3210	single	✓	✓	✓	
Si3216	single	✓	✓	✓	✓
Si3220	dual		✓	✓	
Si3225	dual			✓	
Si3232	dual		✓		✓

ADSL AFE Family

Device	Speed (Mbps)	ADSL2+	Digital PSD Filters
Si3101	12		✓
Si3110	24	✓	

Silicon DAA Family

Device	Interface	Integrated Codec	Global DAA	Programmable Hybrid
Si3050/Si3019	PCM/SPI or GCI	✓	✓	✓