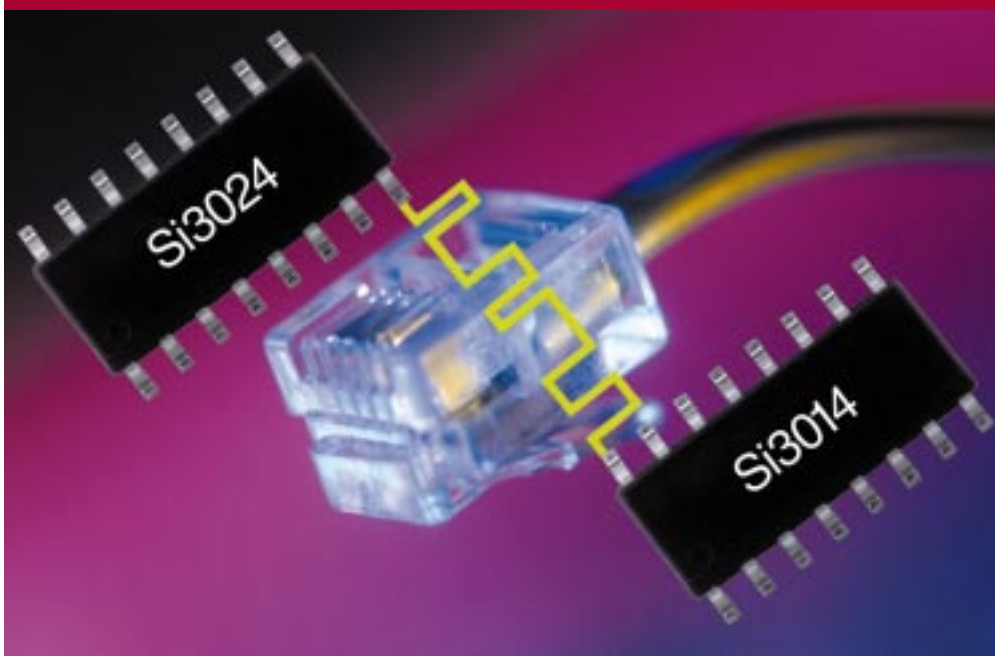


Si3038 Chip Set

INTERNATIONAL MC97 SILICON DAA WITH ISOCAP™



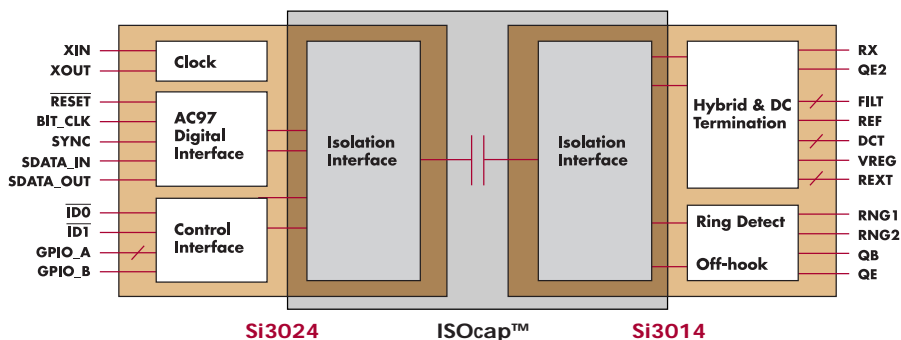
PRODUCT DESCRIPTION

The Si3038 is an integrated Silicon Direct Access Arrangement (Silicon DAA) implementing an AC97/MC97 Rev. 2.1 compliant interface. The device can operate as a primary or secondary codec on the AC-link and can be connected directly to a digital controller or system core logic. The Si3038 provides a programmable line interface which adheres to global telephone line standards including FCC, CTR21, JATE, and numerous country-specific PTTs. The Si3038 chip set is available in two 16-pin small outline packages (AC97 interface on Si3024 and phone-line interface on Si3014). The chip set eliminates the need for an AFE (analog front end), an isolation transformer, relays, opto-isolators, and 2-4 wire hybrid.

Implementing Silicon Laboratories' patented ISOCap™ technology, the Si3038 dramatically reduces the number of discrete components and cost required to implement software modems on modem riser cards (MR), audio/modem riser cards (AMR), and mobile daughter cards (MDC). The chip set is fully programmable for AC termination, DC termination, and ringer threshold to meet worldwide telephone line interface requirements.

A pin-compatible North America/Japan chip set, the Si3036, is also available for applications targeting FCC compliant designs. A single board layout can support both North America/Japan-only requirements with the Si3036 or global requirements with the Si3038 International MC97 Silicon DAA.

Si3038 CHIP SET



FEATURES

- Compliant with Intel AC97/MC97 2.1, AMR and MDC specifications
- Global compliance with telephone line standards including FCC, CTR21, JATE and other country-specific PTTs
- Primary or secondary MC97 operation with AC-link connection to digital controller or system core logic
- Integrated ring detection with wake-up on ring
- Caller ID support
- On-hook line monitoring
- Line current sensing
- 84dB dynamic range TX/RX paths
- Up to 2400V isolation
- Low power modes and cold/warm reset
- 3.3V to 5.0V power supply
- Two 16-pin low profile, small outline packages (SOIC)
- Pin-compatible with Si3036 DAA

APPLICATIONS

- Software modems
- Modem Riser cards (MR)
- Audio Modem Riser cards (AMR)
- Mobile Daughter Cards (MDC)
- Desktop and Notebook Modem on Motherboard
- Audio/Telephony sub-systems

PRODUCT BRIEF

WITH OVER 30 PATENT FILINGS,
THE Si3038 ISOCAP™ SILICON DAA
TECHNOLOGY ENABLES THE SMALLEST
BOARD SPACE AND LOWEST COST
MR-BASED DESKTOP MODEM AND
MDC-BASED NOTEBOOK MODEM
SOLUTIONS IN THE INDUSTRY.



SILICON LABORATORIES

DAA COMPARISONS

The Si3038 dramatically reduces the number of discrete components and cost required to achieve compliance with worldwide telephone line standards.

- 75% reduction in board space over discrete DAA solutions using a transformer, a dual op-amp, a codec IC and up to 35 surface mount components.
- 40% cost savings and 60% power savings over traditional DAA solutions.

COUNTRIES SUPPORTED *

FCC: Canada, Caribbean, Central

America, China, Hong Kong, Malaysia, Mexico, Saudi Arabia, South America, Taiwan, Thailand, United Arab Emirates, United States

CTR21: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom

JATE: Japan

Additional: Australia, Bulgaria, Czech Republic, Hungary, Korea, New Zealand, Philippines, Poland, Singapore, Slovakia, Slovenia, South Africa

*(Many other country-specific PTTs are supported)

CONTACT INFORMATION



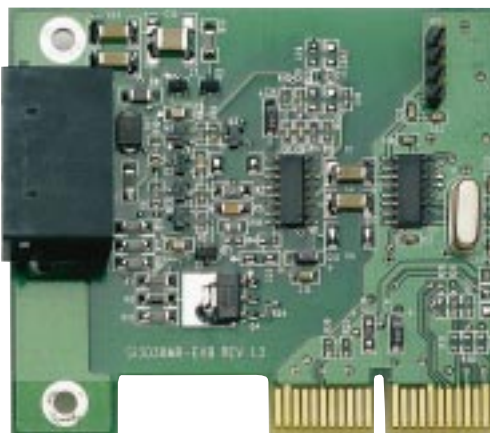
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PB-Si3038; MER 5,000-3/99-1

MC97 2.1 International Reference Designs (actual size)



Modem Riser card (MR)



Mobile Daughter Card (MDC)



Silicon Laboratories patented ISOCap technology is the secret behind the Si3038 innovation. The technology uses capacitive isolation for sending digital control and data across the isolation barrier. This approach improves performance by eliminating noise and interference present in existing analog solutions, while significantly reducing component count.

ORDERING INFORMATION

Chip Set	Part Number	Description
Si3036	Si3024-KS, Si3012-KS	North America/Japan MC97 DAA, 0 to 70°C
Si3036	Si3024-BS, Si3012-BS	North America/Japan MC97 DAA, -40 to +85°C
Si3036	Si3036MR-EVB	North America/Japan Modem Riser Reference Design
Si3038	Si3024-KS, Si3014-KS	International MC97 DAA, 0 to 70°C
Si3038	Si3024-BS, Si3014-BS	International MC97 DAA, -40 to +85°C
Si3038	Si3038MR-EVB	International Modem Riser Reference Design
Si3038	Si3038MDC-EVB	International Mobile Daughter Card Reference Design

Documentation

Si3036/38-DS	Product Data Sheets
Si3036/38MR-EVB-DS	Modem Riser Data Sheets
Si3038MDC-EVB-DS	Mobile Daughter Card Data Sheet
AN14	Si3036/38 Startup/Power Down