

## VINETIC

Enhanced Next Generation  
Analog Telephony Solutions  
PEB/PEF 33xx



INFINEON's VINETIC family of analog voice access ICs includes two, four and eight-channel codecs that are optimized for Customer Premises Equipment (CPE) as well as Central Office (CO) access network applications.

FEATURING FOUR levels of integrated DSP performance, the VINETIC offers system providers a wide range of flexible solutions from pure TDM functionality, up to full blown VoIP or VoATM packet and voice processing engines.

WITH THIS comprehensive set of specially designed packet based voice transmission features, the VINETIC provides the DSP power required for each specific application.

TOGETHER with Infineon's extended family of SLIC devices, each system can be tailored with an optimum combination of devices.

### Applications

- Residential Gateways, VoIP Routers, ATAs
- Integrated Access Devices (IAD)
- Cable Modems, eMTAs, SMTAs
- Access Network, DLC, Central Office, WLL, FTTH, DSLAMs
- PBX, VoIP-PBX

### Voice over Packet Features

- ATM AAL2 and RTP packetization including fixed and adaptive Jitter Buffer up to 200 ms for optimum voice quality
- Integrated Voice Compression supports G.728, G.723.1, G.729 A/B/E, G.726 ADPCM (32, 16, 24, 40 kbit/s) and G.711, iLBC royalty free vocoder in preparation
- Patent indemnification for Vocoder Algorithms available
- T.38 Fax Relay Support including V.17/V.21/V.27ter/V.29
- Line Echo Cancellation (LEC) supports Near and Far-End-Echo with up to a 128 ms tail, and exceeds G.165 / G.168 / G.168-2000 / G.168-2002
- DSP power according to system port density
- Encapsulated Voice Processing takes care of all real-time-critical tasks within VINETIC
- Advanced Integrated Test and Diagnostic Functions (AITDF) support Line Testing and Quality of Service (QoS)

### Codec/SLIC Features

- Fully programmable 2, 4, and 8-channel CODEC with voice processing DSP
- HW and SW compatible
- Specification according to ITU-T Q.552, G.712, LSSGR
- Uses Infineon's well-known SLIC family
- AC and DC characteristic country independent programmable
- Enhanced Power Management
- Integrated DTMF Receiver
- Integrated Caller-ID Generator and Detector (FSK and DTMF)
- Internal programmable balanced ringing up to 85  $V_{RMS}$  and 50  $V_{RMS}$  unbalanced ringing
- Support of external ringing
- Metering pulse up to 2.5  $V_{RMS}$  at 200  $\Omega$  (12 / 16 kHz)

### Documentation and Development Tools

- Evaluation board EASY334 + VINETIC Tool CD-ROM
- EASY5120PS-ATA VoIP Router reference design
- EASY50510 ADSL CPE reference design
- WildPass - Wireless VoIP reference design
- Cost efficient Calculation Soft-Ware (VINETICOS)
- Data sheets, System and Soft-Ware User's Guides and Application Notes

[www.infineon.com/vinetic](http://www.infineon.com/vinetic)

## Wireline Communications



Never stop thinking.

## VINETIC Family – Overview

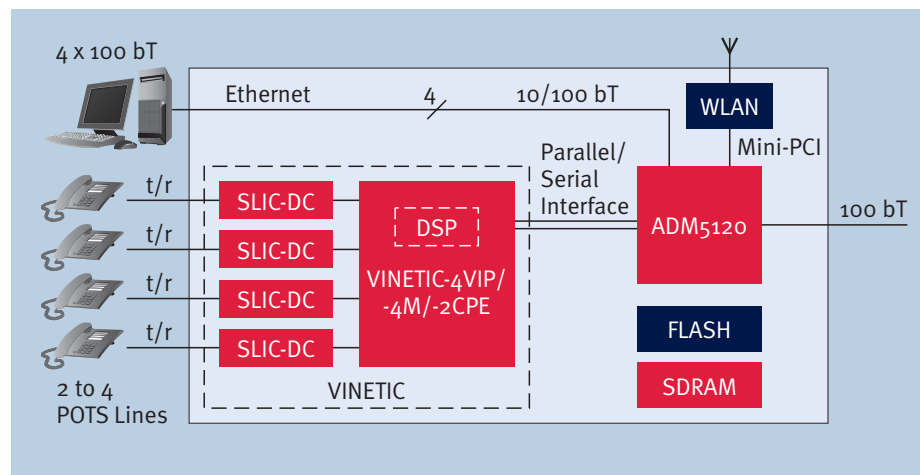
| Chip Set <sup>1)</sup>                                             | VINETIC-4 VIP                                                                                                                                                                      | VINETIC-2 CPE     | VINETIC-o                 | VINETIC-4 M                                            | VINETIC-4 C                                            | VINETIC-4 S                                            |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Sales Codes:<br>P-LBGA-176-3<br>P/PG-LQFP-176-2<br>P/PG-LBGA-144-1 | PEB 3324 E<br>PEB 3324 HL<br>PEB 3324 EL <sup>2)</sup>                                                                                                                             | PEB 3332 EL       | PEB 3320 E<br>PEB 3320 HL | PEF 3314 E<br>PEF 3314 HL<br>PEF 3314 EL <sup>2)</sup> | PEF 3394 E<br>PEF 3394 HL<br>PEF 3394 EL <sup>2)</sup> | PEF 3304 E<br>PEF 3304 HL<br>PEF 3304 EL <sup>2)</sup> |
| Analog Channels                                                    | 4                                                                                                                                                                                  | 2                 | 0                         | 4                                                      | 4                                                      | 4                                                      |
| Supported SLICs                                                    | SLIC-P (PEB 4266), SLIC-E (PEB 4265), SLIC-E2 (PEB 4265-2), SLIC-S (PEB 4264), SLIC-S2 (PEB 4264-2), TSIC-E (PEB 4365), TSIC-S (PEB 4364), SLIC-LCP (PEB 4262), SLIC-DC (PEF 4268) |                   |                           |                                                        |                                                        |                                                        |
| Echo Cancellation (G.165 / G.168)                                  | Up to 128 ms                                                                                                                                                                       | Up to 16 ms       | Up to 128 ms              | Up to 16 ms                                            | Up to 16 ms                                            | No                                                     |
| ADPCM (G.726)                                                      | Yes                                                                                                                                                                                | Yes               | Yes                       | Yes                                                    | Yes                                                    | No                                                     |
| Complex Voice Codecs (G.723, G.729, G.728) <sup>3)</sup>           | Yes                                                                                                                                                                                | Yes               | Yes                       | No                                                     | No                                                     | No                                                     |
| Fax Relay T.38                                                     | Yes                                                                                                                                                                                | Yes               | Yes                       | No                                                     | No                                                     | No                                                     |
| iLBC (Royalty free vocoder)                                        | In preparation                                                                                                                                                                     | In preparation    | In preparation            | No                                                     | No                                                     | No                                                     |
| DTMF Receiver, Caller-ID Rcv and Send, Tones                       | Yes                                                                                                                                                                                | Yes               | Yes                       | Yes                                                    | Yes                                                    | No                                                     |
| AAL2 / RTP Packetization / Jitter Buffer                           | Yes                                                                                                                                                                                | Yes <sup>4)</sup> | Yes                       | Yes                                                    | No                                                     | No                                                     |
| Simultaneous VoCoders                                              | 4                                                                                                                                                                                  | 4                 | 4                         | 4                                                      | N/a                                                    | N/a                                                    |
| External RAM Required                                              | No                                                                                                                                                                                 | No                | No                        | No                                                     | No                                                     | No                                                     |
| Integrated Code RAM for Firmware Download                          | Yes                                                                                                                                                                                | No                | Yes                       | No                                                     | No                                                     | No                                                     |
| Line Testing AITDF                                                 | Yes                                                                                                                                                                                | GR-909            | Yes                       | Yes                                                    | Yes                                                    | Yes                                                    |

1) For more members of the VINETIC family contact Infineon sales for more details on VINETIC. VINETIC devices offer pin- and SW-compatible versions

2) Version 2.1 and higher only

3) Patent Indemnification available from Infineon

4) RTP only supported



**VoIP Router and ATA**  
Application Example for  
One Hardware for All  
„Voice over Packet“ Applications

How to reach us:  
<http://www.infineon.com>

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### Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office.

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