



**THE DATASHEET OF  
LE88111BLCT**



# VE880 Series

## Single Channel VoicePort™ Device Le88111/131



### APPLICATIONS

- Voice enabled Cable and DSL Modems
- Voice over IP/ATM - Integrated Access Devices (IAD)
- Smart Residential Gateways (SRG) and Routers
- Media Terminal Adapters (MTA) Standalone & Embedded
- Fiber to the User/Premise/Home (FTTH/P/H), Fiber in the Loop (FITL) Optical Network Terminals (ONT)
- Wireless Local Loop (WLL), PBX, ISDN NT1/TA
- Set-Top Box, Home Side Box

### FEATURES

- **Complete BORSCHT function in a single VoicePort™ device**
  - Battery Feed, Over-voltage support, integrated Ringing, line Supervision, Codec, Hybrid (2W/4W), Test
  - Small footprint package - Exposed pad 44-pin LQFP
  - Minimal external discrete components required
- **Integrated Power Management**
  - Integrated high voltage switching regulator controller
    - Wide input voltage range (VSW =+3.3V to +35 V)
    - Switching power supply tracks line voltage minimizing active & ringing state power dissipation
  - Low power Idle and On-hook transmission states
- **Ringing**
  - 5 REN with pin for pin compatible 100-V (Le88111) and 150-V (Le88131) devices
  - Up to 140-Vpk internal balanced sinusoidal or trapezoidal ringing with programmable DC offset
  - Unbalanced ringing for PBX trunk compatibility (Le88131 device)
- **Pin selectable PCM/MPI or GCI interface**
- **Worldwide Programmability**
  - Two-wire AC impedance, Balance Impedance, Gain
  - DC feed voltage and current limit
  - Ringing frequency, voltage and current limit
  - 12 kHz and 16 kHz Metering
  - Programmable loop closure and ring trip thresholds
- **G.711  $\mu$ -law, A-law, or 16 bit linear coding**
- **Powerful signal generator**
  - Universal Caller ID generation
  - Up to four simultaneous tones
  - Automatic cadencing feature
- **Subscriber Loop Test/Self Test support**
  - Comprehensive line sensing
  - Integrated self test capabilities
  - Line fault detection and reporting
    - Loop supervision, AC/DC faults
  - Test load switch (Le88131)
- **Integrated 150 mW 3-V or 5-V Relay Driver**

### ORDERING INFORMATION

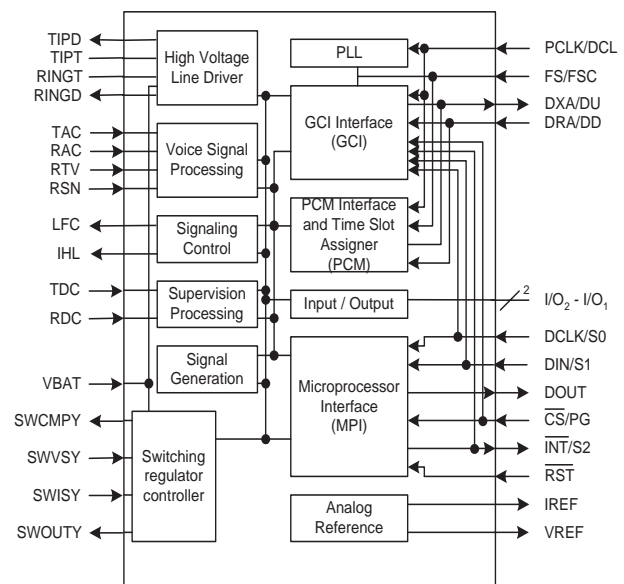
Device	Package
Le88111BLC*	44-pin eLQFP (Green package*)
Le88131BLC	

\*Green Package. meets RoHS Directive 2002/95/EC of the European Council to minimize the environmental impact of electrical equipment.

### DESCRIPTION

The Zælj \ Le88111/131 Tracking Battery VoicePort™ device implements a single-channel telephone line interface by providing all the necessary voice interface functions from the high voltage subscriber line to the  $\mu$ P/DSP digital interface. This device reduces system level cost, space, and power by achieving the highest level of voice integration possible. Designers benefit by having a simple, cost effective, low power and dense, interface design without sacrificing features or functionality. The programmable, feature-rich VoicePort devices provide a highly functional line interface which meets the requirements of short and medium loop (up to 1500 Ohms total) applications. Features include: high voltage switching regulator, self-test, line test capabilities, integrated ringing (up to 140-Vpk), worldwide software programmability, flexible signal generator with tone cadencing, caller ID generation and all BORSCHT functions. These VoicePort device features are crucial for designing cost-effective, full-featured Voice over Broadband solutions.

### VOICEPORT™ BLOCK DIAGRAM



FEATURES	BENEFITS
• Highest level of integration	• Reduces system BOM and discrete component count
• Smallest footprint	• Saves board space
• Pin-compatible options	• Provides design flexibility to develop one design and populate the voice socket with the right features for a given market—100 V or 150 V, narrow band or wide band, internal balanced (sinusoidal or trapezoidal) or unbalanced ringing
• Lowest power solution across all operating modes	• Provides best solution for battery-backed and power-sensitive applications
• Highly programmable	• Offers design flexibility to develop one application for worldwide markets
• Integrated ring cadencing and system state control	• Reduces real-time software overhead
• Comprehensive line sensing	• Enables high performance 909 diagnostics and subscriber loop test and self test support
• Integrated switching regulator	• Enables lowest component count and highest efficiency in all states of operation

## Related Literature

### ■ 081165 Le88111/131 VoicePort™ Device Data Sheet\*

\*Contact your Zø|ä \ Sales Representative to obtain the data sheet.

## Packaging and Availability

See *Ordering Information* on first page.

## For More Information:

To find the Zø|ä \ Sales Office nearest you, visit our website at

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**TECHNICAL DOCUMENTATION - NOT FOR RESALE**

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