

## Features

- **Next Generation ZL880 VoicePort Family with Enhanced Features and Performance**
  - Low BOM cost shared power supplies
  - Optional low BOM cost shared protection circuitry
  - Same API interface as the VE880 Series
- **Complete BORSCHT Functions for Two FXS Channels in a Single 64-Pin 9x9 QFN Package**
- **Choice of Low cost, Energy Efficient Switching Regulator Architectures**
  - Patent-pending Shared Buck-Boost Automatic Battery Switching (BBABS)
  - Shared Tracking Battery (STB)
- **Integrated Power Management**
  - STB switching regulator tracks line voltage minimizing active power dissipation
  - Low Power Idle Mode
  - Integrated real-time power monitoring tool
- **Ringing**
  - 50 V<sub>RMS</sub> open circuit with 5 REN load (BBABS)
  - 60 V<sub>RMS</sub> open circuit with 3 REN load (STB)
  - Adaptive ringing for power management
- **Worldwide Programmability**
  - Narrowband or Wideband mode
  - Input impedance, balance impedance, gain
  - DC feed voltage and current limit
  - Ringing frequency, voltage and current limit
  - G.711  $\mu$ -law, A-law, or 16-bit linear coding
  - Call progress tone and Caller ID generation
  - Sample coefficients for more than 50 countries
- **Pin-Selectable PCM/MPI or ZSI Interfaces**
  - MPI Mode with support for SPI Mode 3 and no inter byte chip select off time
  - ZSI Mode for a smaller number of interface signals to the host and less expensive isolation
- **VoicePath™ SDK and VP-API-II Software Available to Implement FXS Functions**
- **VeriVoice™ Software Suites Available for Manufacturing and Subscriber Loop Testing**
  - Utilizes integrated test tool box

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### Ordering Information

Device OPN <sup>(1)</sup>	Device Type	Package	Packing
ZL88801LDF1	100V-Tracker	64-pin QFN (9x9)	Tape & Reel
ZL88801LDG1	100V-Tracker	64-pin QFN (9x9)	Tray

1. The Green package meets RoHS Directive 2002/95/EC of the European Council to minimize the environmental impact of electrical equipment.

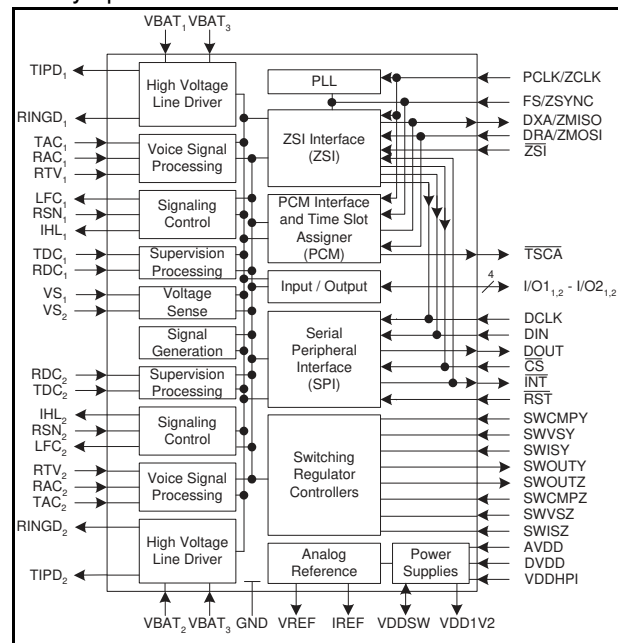
## Applications

- **DSL Residential Gateways and Integrated Access Devices (IADs)**
- **PON Single Family Units (SFUs)**

## Description

The Microsemi® ZL88801 Dual Channel Shared Battery Wideband VoicePort Device provides complete BORSCHT functions for two telephone line FXS ports. This device is a part of the new ZL880 Series featuring enhanced functionality, lower BOM cost, and greater power efficiency. The ZL880 Series maintains software compatibility with the industry leading VE880 Series.

The ZL88801 uses energy efficient shared power supply topologies for reduced BOM cost. The ZL88801 can be configured for patent-pending inverting Buck-Boost Automatic Battery Switching or Shared Tracking Battery operation.



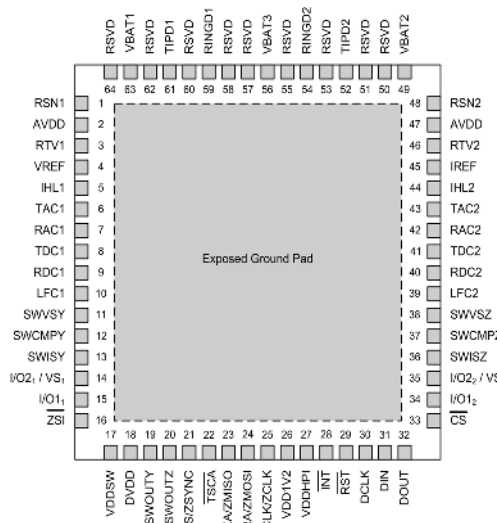
**ZL88801 Device Block Diagram**

### Selected Electrical Specifications

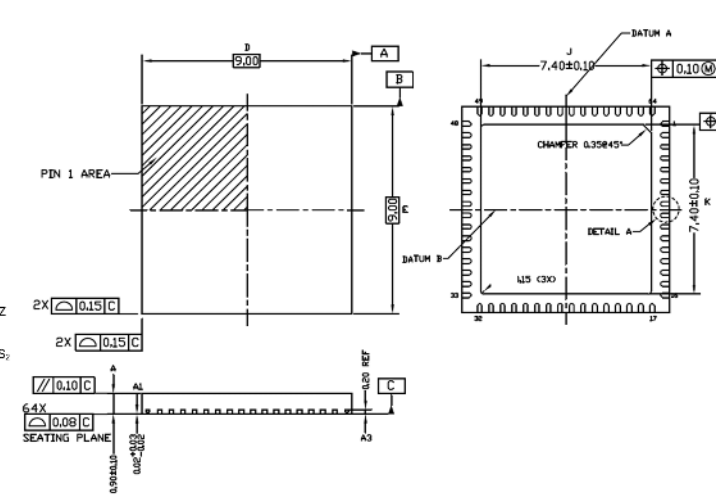
Description	Symbol	Switching Regulator / Test Condition	Min.	Typ.	Max.	Unit
Ambient Temperature, under Bias	T <sub>A</sub>	BBABS operation STB operation	-40 0		+85 +45	°C
Digital and Analog Supply Voltages	DVDD,AVDD		3.135	3.3	3.465	V <sub>DC</sub>
Host Port Interface Supply Voltage	VDDHPI		1.71	3.3	DVDD	V <sub>DC</sub>
High Battery Voltage	VBAT	BBABS operation, VSW = +12 V STB operation	-60 -12		-90 -105	V <sub>DC</sub>
Line Current	I <sub>LA</sub>	BBABS operation STB operation	18 18	20	30 25	mA
Ringing Voltage	V <sub>RING</sub>	BBABS operation / 5 REN STB operation / 3 REN			50 60	V <sub>RMS</sub>
Two-Wire Return Loss	R <sub>L</sub>	200 to 3400 Hz		30		dB
Longitudinal Balance		1 kHz		58		dB
Maximum Device Power Dissipation Capability	P <sub>D(max)</sub>	Continuous		2.1		W
Junction to Ambient Thermal Resistance	θ <sub>JA</sub>			26		°C/W

Device Power Consumption	Symbol	Test Conditions	BBABS	STB	Power	Unit
Shutdown	P <sub>D</sub>	Switcher off	5	5	Per Channel	mW
Disconnect			25	–		
Low Power Idle Mode (LPIM)		On-Hook	47	39		
Idle		On-Hook	99	–		
Active		Off-Hook, 300 Ω, I <sub>LA</sub> = 25 mA	520	470		
1 line LPIM, 1 line Ringing		BBABS: 50 V <sub>RMS</sub> , 5 REN STB: 60 V <sub>RMS</sub> , 3 REN	839	952	Both Channels	

### Device Pinout



### Package Drawings



### Related Collateral

- ZL88801 Dual Channel Shared Battery Wideband VoicePort Device - ZL880 Series Data Sheet, Document ID# 146161
- ZL880 VP-API-II Reference Guide, Document ID# 143271