Microsemi.

Features

- **Next Generation ZL880 VoicePort Family with Enhanced Features and Performance**

  - Same API interface as the *VE880 Series*

  - Lowest Bill of Materials (BOM) cost for 2 to 8 channel applications

- **Complete BORSCHT Functions for Two FXS Channels in a Single 64-Pin 9x9 QFN Package**

  - **B**attery feed, **O**ver-voltage support, integrated **R**inging, line **S**upervision, **C**odec, **H**ybrid (2W/4W), and **T**est

- **Integrated Power Management**

  - Single power supply using integrated battery switches for lowest BOM cost

  - Low Power Idle Mode with 60 mW consumption

  - Internal FET drive circuit for lower BOM count

  - Integrated real-time power monitoring tool

- **Ringing**

  - 5 REN with pin for pin compatible 100-V (ZL88601) and 120-V (ZL88602) devices

  - Internally generated sinusoidal or trapezoidal ringing with programmable DC offset

- **Worldwide Programmability**

  - Input impedance, balance impedance, gain

  - DC feed voltage and current limit

  - Ringing frequency, voltage and current limit

  - G.711 µ-law, A-law, or 16 bit linear coding

  - Call progress tone and Caller ID generation

  - Sample coefficients for more than 70 countries

- **Pin-Selectable PCM/MPI or ZSI Interfaces**

  - SPI Mode 0 and 3 support and no inter byte $\overline{CS}$ off time. Also supports legacy MPI Interface.

  - 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 [1]	Device Type	Package	Packing
ZL88601LDF1	100V-ABS	64-pin QFN (9x9)	Tape & Reel
ZL88601LDG1	100V-ABS	64-pin QFN (9x9)	Tray
ZL88602LDF1	120V-ABS	64-pin QFN (9x9)	Tape & Reel
ZL88602LDG1	120V-ABS	64-pin QFN (9x9)	Tray

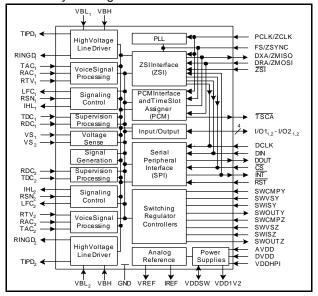1. The Green package meets RoHS Directive 2002/95/EC of the European Council to minimize the environmental impact of electrical equipment.

Applications

- **DSL Residential Gateways and Integrated Access Devices (IADs)**

- **Cable eMTAs**

- **PON Single Family Units (SFUs)**

- **Fiber to the Premise/Home/Building (FTTx) Multiple Dwelling Units (MDUs)**

Description

The Microsemi® ZL88601/602 Dual Channel Wideband Automatic Battery Switching (ABS) VoicePort Device provides complete BORSCHT functions for two telephone line FXS ports. This device is part of the new *ZL880 Series* featuring enhanced functionality, lower BOM cost, and greater power efficiency, while maintaining software compatibility with the industry leading *VE880 Series*.

VoicePort Device Block Diagram
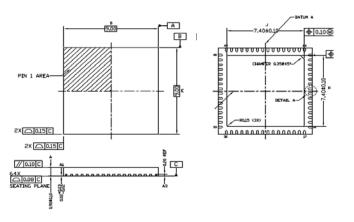
1

Selected Electrical Specifications

Description	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Ambient Temperature, under Bias	T_A		-40°C		+85	°C
Digital and Analog Supply Voltages	DVDD,AVDD		3.135	3.3	3.465	V_{DC}
Host Port Interface Supply Voltage	VDDHPI		1.71	3.3	DVDD	V_{DC}
High Battery Voltage						
For the ZL88601	VBH		-15	-81	-100	V_{DC}
For the ZL88602			-15	-105	-120	
Line Current	I_{LA}		18	25	45	mA
Ringing Voltage						
For the ZL88601	VRING	ABS Flyback, 5 REN			57	V_{RMS}
For the ZL88602					67	
Two-Wire Return Loss	R_L	200 to 3400 Hz		30		dB
Longitudinal Balance		1 kHz		58		dB
Device Power Consumption (Per Channel)	P_D	VBH = -81 V_{DC}, VBL = -27 V_{DC}				mW
Disconnect		Switcher on, no DC feed to line		31		
Low Power Idle (On-Hook)		Switcher on, limited feed to line		60		
Idle (On-Hook)		Normal feed to line		128		
Talk (Off-Hook)		300 Ω, ILA = -25 mA, VBL feed		650		
Ringing		50 V_{RMS} into 3 REN		625		
Maximum Device Power Dissipation Capability, Continuous	$P_{D(max)}$	T_A = 85°C		2.1		W
Junction to Ambient Thermal Resistance	θ_{JA}			26		°C/W

 Note: Refer to the *ZL88601/602 Data Sheet* for test circuits and additional details

Device Pinout

Package Drawings

Related Collateral

- *ZL88601/602 Dual Channel Wideband Auto Battery Switching (ABS) VoicePort Device - ZL880 Series Data Sheet*, Document ID# 141956
- *ZL880 VP-API-II Reference Guide*, Document ID#: 143271