The W682310 & W682510 Dual-Channel CODECs

Preliminary Product Bulletin

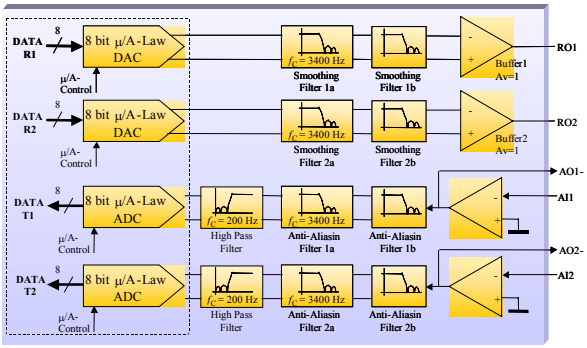
The W682X10 series are dual channel voice CODECs featuring analog-to-digital and digital-to-analog conversion. They include complete μ-Law and A-Law companders (pin selectable) that comply with the specifications of the ITU-T G.711.

In order to provide the cleanest signal possible, the W682X10 CODECs comply with the ITU-T G.712 recommendation for the Analog-to-Digital pre filters (also known as anti-aliasing filters) and the Digital-to-Analog post filter (signal smoothing filter).

The W682310 & W682510 CODECs both contain an input analog power amplifier for the incoming voice. The power amplifier gain levels can be adjusted via a set of external resistors.

The PCM interface for the W682X10 produces 8-bit digital data (μ-Law or A-Law) at a sampling rate of 6kHz to 9kHz. It can communicate in two ways; parallel data output (each channel has its own data in and data out pins) or serial data output (single input and output pins contain both channels data in consecutive order).

For evaluation and prototyping purposes, development kits, the W682310DK and W682510DK, provide the system designer with a flexible method of developing and testing an application on a single, standalone platform.



W682310 and W682510 Signal Path

Features

- Single supply voltage:
  - W682310: 2.7 – 3.8V
  - W682510: 4.5 – 5.5V
- Typical power dissipation: 25mW, power-down: 0.5μW
- Can directly drive 1.2 KΩ load (W682310) or a 600 Ω transformer (w682510)
- 6 kHz to 9 kHz sampling rate (spec guarantied at 8 kHz)
- Built-in PLL eliminates the need for a master clock
- Supported data rates of: 64 / 128 / 256 / 512 / 1024 / 2048 kHz, 96 / 192 / 384 / 768 / 1536 / 1544 / 200 kHz
- Pin-selectable μ-Law and A-Law companding (fully compliant with ITU-T G.711)
- PCM interface can be switched between serial or parallel data delivery
- Temperature range: Industrial grade (-40˚C to 85˚C)
- Packaging:
  - W682310: 24-pin SOP, 20-pin SSOP
  - W682510: 24-pin SOP, 20-pin SSOP, PDIP

Benefits

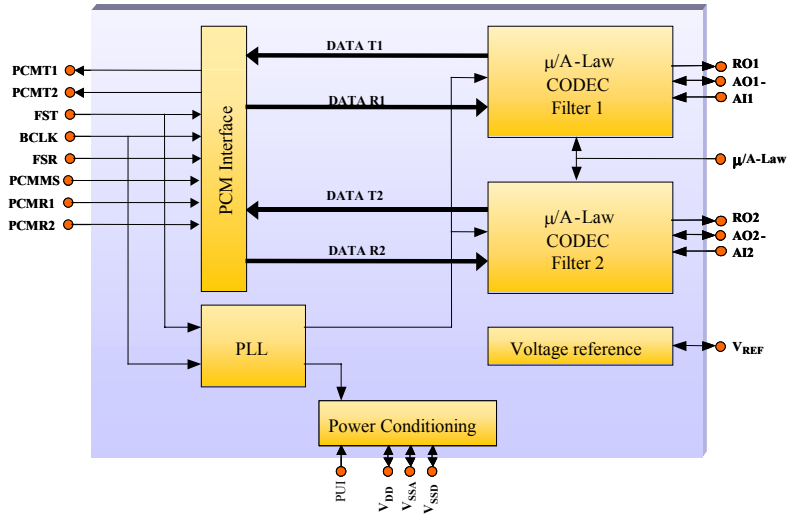
- Low power, competitive solutions
- System level customization
- Reduces board footprint and number of external components
- Cross references with other dual channel CODECs:
  - W682310 = OKI MSM7704-01
  - W682510 = OKI MSM7533V

CODEC Applications

- PABX/SOHO systems
- Local loop card
- Fiber-to-the-curb equipment
- Enterprise phones
- Digital telephone systems
- ISDN equipment
- Speakerphones
- Automotive/Telematics

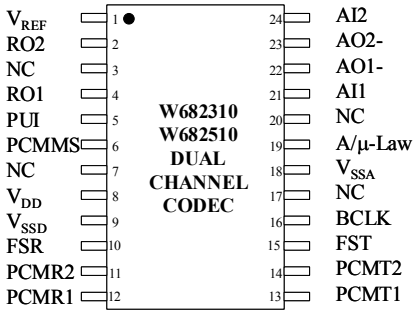
Development System Features

- 9V power supply that enables use of a standard battery cell
- Dedicated board space for prototyping
- Two handset hookups
- Adjustable bit rate
- A large set of dip switches to control various arguments (e.g. bit rate, A/μ-Law, PCM interface)

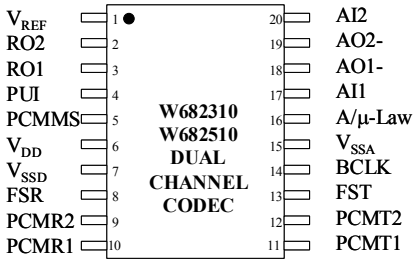


W682310 /W682510 Block Diagram

PDIP SSOP	***SOP***	***Pin Name***	**Functionality (CH1 = Channel 1, CH2 = Channel 2)**
1	1	V_{REF}	A bypass for the on-chip signal ground voltage reference.
2	2	RO2	CH2 Non-Inverting receive output.
3	4	RO1	CH1 Non-Inverting receive output.
4	5	PUI	Power up indicator.
5	6	PCMMS	PCM mode select input (serial or parallel data interface)
6	8	V_{DD}	Positive power supply.
7	9	V_{SSD}	Digital ground power supply.
8	10	FSR	Receive Frame Sync input.
9	11	PCMR2	CH2 PCM input data receive.
10	12	PCMR1	CH1 PCM input data receive.
11	13	PCMT1	CH1 PCM output data transmit pin.
12	14	PCMT2	CH2 PCM output data transmit pin.
13	15	FST	Transmit Frame Sync input.
14	16	BCLK	CH1 and CH2 transmit and receive bit clock input.
15	18	V_{SSA}	Analog ground power supply.
16	19	A/μ-Law	A-Law / μ-Law companding select pin.
17	21	AI1	CH1 Non-Inverting Transmit input.
18	22	AO1-	CH1 inverting Transmit Output of the first gain stage.
19	23	AO2-	CH2 inverting Transmit Output of the first gain stage.
20	24	AI2	CH2 Non-Inverting Transmit input.



SOP



PDIP/SSOP

To order products or for more information:

Winbond Electronics Corporation America
2727 N. First Street
San Jose, CA 95134
Tel: 1-800-677-0769 (U.S. Only), 408-943-6666
Fax: 408-544-1789
E-mail: info@winbond-usa.com
Web: www.winbond-usa.com

Note: For more details on Winbond's W682310 & W682510 CODEC solutions, please refer to Winbond America's web site: http://www.winbond-usa.com

Winbond CIDPB1-0901

This document contains advanced information and is subject to change at any time.