FOUR CHANNEL HD AUDIO CODECS

LOW POWER OPTIMIZED

92HD71B

DESCRIPTION

The 92HD71B codecs are low power optimized, high fidelity, 4-channel audio codecs compatible with Intel's High Definition (HD) Audio Interface. The 92HD71B codecs provide stereo 24-bit resolution with sample rates up to 192kHz. Dual SPDIF provides connectivity to consumer electronic equipment that is WLP compliant. The 92HD71B provides high quality, HD Audio capability to notebook and business desktop PC applications.
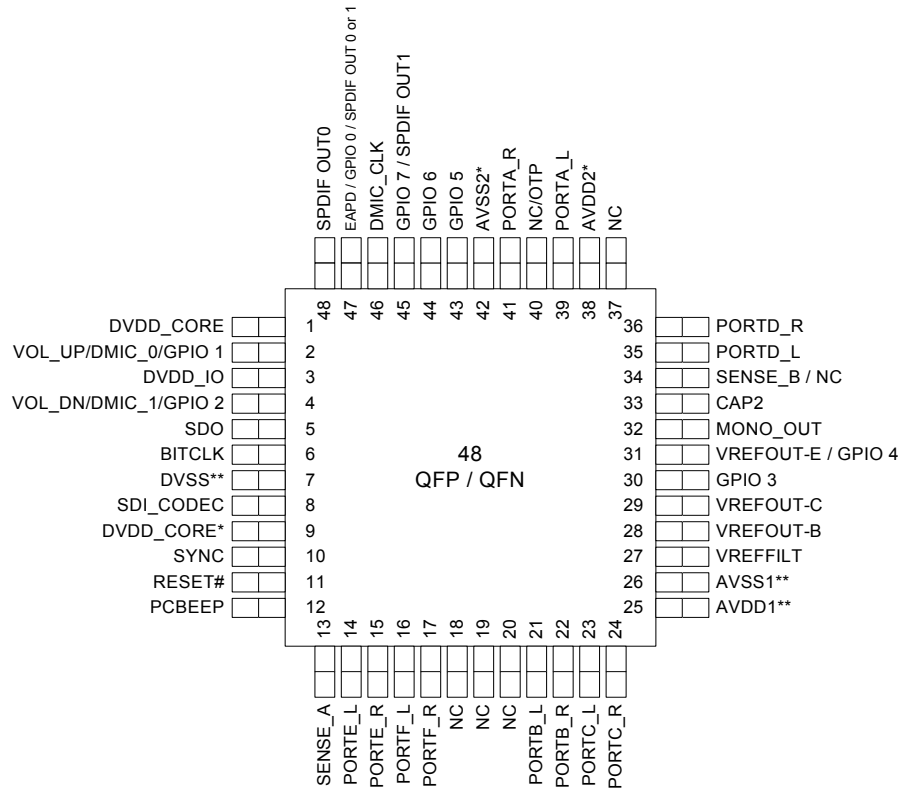
FEATURES

- **4 Channels (2 stereo DACs and 2 stereo ADCs) with 24-bit resolution**
  - Supports full-duplex stereo audio and simultaneous VoIP
  - Provides a mono output for laptop sub-woofer
- **Microsoft WLP 3/4 premium logo compliant, as defined in WLP 3.09**
- **Optimized and flexible power management with pop/click mitigation**
- **2 independent S/PDIF Output converters for WLP compliant HDMI/SPDIF support.**
- **Support for 1.5V and 3.3V HDA signaling with runtime selection**
- **Digital microphone input (mono, stereo, or quad array)**
- **3 adjustable VREF Out pins for microphone bias**
- **High performance analog mixer option**
- **4 or 6 analog ports with port presence detect**
- **Two-pin volume up/down control**
- **Digital PC Beep to all outputs**
- **Integrated headphone amp**
- **Sample rates up to 192kHz**
- **+3.3 V, +4 V, +4.75 V and +5 V analog power supply options**
- **48-pin QFP and 48-pad QFN RoHS packages**

SOFTWARE SUPPORT

- **SKPI (Kernel Processing Interface)**
  - Enables plug-ins that can operate globally on all audio streams of the system
- **12 band fully parametric equalizer (SKPI plug-in)**
  - Constant, system-level effects tuned to optimize a particular platform can be combined with user-mode "presets" tailored for specific acoustical environments and applications
  - System-level effects automatically disabled when external audio connections made
- **Dynamics Processing (SKPI plug-in)**
  - Enables improved voice articulation
  - Compressor/limiter allows higher average noise level without resonances or damage to speakers.
- **IDT Vista APO wrapper**
  - Enables multiple APOs to be used with the IDT Driver
- **Microphone Beam Forming, Acoustic Echo Cancellation, and Noise Suppression**
- **Dynamic Stream Switching**
  - Improved multi-streaming user experience with less support calls
- **Dolby PC Entertainment Experience Logo Program**
  - Dolby Home Theater™ (HT)
  - Dolby Sound Room™ (SR)
- **Dolby Technologies**
  - Dolby Headphone™, Dolby Virtual Speaker™
  - Dolby ProLogic II™, Dolby ProLogic IIx™
  - Dolby Digital Live™ (DDL)
- **Maxx Player™ from Waves**
- **WOW™ and Tru Surround™ from SRS**

PIN OUT

Top pins (left to right, 48–37): SPDIF OUT0 · EAPD / GPIO 0 / SPDIF OUT 0 or 1 · DMIC_CLK · GPIO 7 / SPDIF OUT1 · GPIO 6 · GPIO 5 · AVSS2* · PORTA_R · NC/OTP · PORTA_L · AVDD2* · NC

Left pins (1–12):
Pin	Name
1	DVDD_CORE
2	VOL_UP/DMIC_0/GPIO 1
3	DVDD_IO
4	VOL_DN/DMIC_1/GPIO 2
5	SDO
6	BITCLK
7	DVSS**
8	SDI_CODEC
9	DVDD_CORE*
10	SYNC
11	RESET#
12	PCBEEP

Center: 48 QFP / QFN

Right pins (36–25):
Pin	Name
36	PORTD_R
35	PORTD_L
34	SENSE_B / NC
33	CAP2
32	MONO_OUT
31	VREFOUT-E / GPIO 4
30	GPIO 3
29	VREFOUT-C
28	VREFOUT-B
27	VREFFILT
26	AVSS1**
25	AVDD1**

Bottom pins (left to right, 13–24): SENSE_A · PORTE_L · PORTE_R · PORTF_L · PORTF_R · NC · NC · NC · PORTB_L · PORTB_R · PORTC_L · PORTC_R

PART NUMBER TABLE

92HD71B8X5PRGXyyX	6port, 103dB, 5V, Analog Mixer, 48QFP
92HD71B8X5NLGXyyX	6port, 103dB, 5V, Analog Mixer, 48QFN
92HD71B8X3PRGXyyX	6port, 103dB, 3.3V, Analog Mixer, 48QFP
92HD71B8X3NLGXyyX	6port, 103dB, 3.3V, Analog Mixer, 48QFN
92HD71B7X5PRGXyyX	6port, 95dB, 5V, Analog Mixer, 48QFP
92HD71B7X5NLGXyyX	6port, 95dB, 5V, Analog Mixer, 48QFN
92HD71B7X3PRGXyyX	6port, 95dB, 3.3V, Analog Mixer, 48QFP
92HD71B7X3NLGXyyX	6port, 95dB, 3.3V, Analog Mixer, 48QFN
92HD71B5X5PRGXyyX	4port, 95dB, 5V, Digital Mixer, 48QFP
92HD71B5X5NLGXyyX	4port, 95dB, 5V, Digital Mixer, 48QFN
92HD71B5X3PRGXyyX	4port, 95dB, 3.3V, Digital Mixer, 48QFP
92HD71B5X3NLGXyyX	4port, 95dB, 3.3V, Digital Mixer, 48QFN

NOTE: When ordering these parts the "yy" will be replaced with the CODEC revision. Add an "8" to the end for Tape and Reel delivery, minimum/multiple order quantity is 2,000 units.

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