产品概览

RHYTHM R3920: 带预配置的 DSP 系统，用于助听器

欲看完整文档，请参阅数据表。

RHYTHM™ R3920 是一款基于 DSP 平台的预配置助听器处理器。 R3920 具有 16 沟道的宽动态范围压缩和脉冲噪声抑制，采用一套丰富的高级声音处理算法，适用于高端全功能助听器。 R3920 混合型采用业内最小外形，适用于所有助听器类型，包括深入耳道内的助听器。 SupportARK 是一组软件构造块，有助于缩短开发助听器安装软件所需的时间。ARKonline 是一款基于 Web 的高效工具，用于创建产品库和保持它们的有序组织形式。要访问 ARKonline，请转至 www.onsemi.com/arkonline.

特性

- Wide Dynamic Range Compression (WDRC): R3920 contains 16 Channels of Wide Dynamic Range Compression, each with individual settings for Squelch Attenuation and Threshold, Low Level Gain, High Level Gain, Upper and Lower Thresholds, and Compression Ratio. Independent level detectors for both Squelch and WDRC are available with customizable attack and release times set ineach channel.
- Impulse Noise Reduction (INR): Loud, impulsive sounds in the environment such as slamming doors, dropped items, or clattering dishes dropped items can become uncomfortably or dangerously loud in a traditional hearing aid. The INR algorithm actively monitors and processes the incoming acoustic signal for such sounds. It ensures that the output sound preserves the integrity of the speech signal and is descriptive of the environment, while maintaining an optimal comfort level for the hearing aid user.
- Acoustic Environment Classification: iSceneDetect analyzes incoming acoustic signals in order to determine the appropriate classification for a given acoustic environment. Six separate environments are supported by iSceneDetect: quiet, speech in quiet, noise, speech in noise, music, and wind. The feature uses this classification to automatically adjust settings of other features for optimum audio performance.
- Datalogging 4.0: Enables the recording of various hearing aid parameters such as program selection, volume setting and ambient sound levels. The sampling interval can be configured to record from every 4 seconds up to once every 60 minutes. The manufacturer can program the fitting system to retrieve the data for further analysis after an extensive period of wearing the hearing aid. This allows the audiologist to fine tune the hearing aid and further counsel the end-user.
- Automatic Adaptive Directionality: The Automatic Adaptive Directional Microphone (ADM) algorithm automatically reduces the level of sound sources that originate from behind or to the side of the hearing aid wearer without affecting sounds from the front. The algorithm can also gather input from the acoustic environment classifier algorithm and automatically select whether directionality is needed or not, translating into additional current savings.
- Adaptive Feedback Canceller: Automatically reduces acoustic feedback. It allows for an increase in the stable gain while minimizing artifacts for music and tonal input signals. Additional tuning parameters make for more precise tuning of the algorithm to the hearing aid. The development tools for the R3920 offer a special calibration module to help assert the feedback present in the hearing aid the manufacturer has built to further optimize the Adaptive Feedback Canceller algorithm.
- Adaptive Noise Reduction: The Adaptive Noise Reduction algorithm monitors noise levels independently in 128 individual bands and employs advanced psychoacoustic models to reduce noise and provide user comfort. The algorithm can be set for varying levels of aggressiveness from 3 dB up to 12 dB.
- Tinnitus Masking: R3920 is equipped with a noise source that can be used to mask tinnitus. The noise can be shaped and attenuated and then summed into the audio path either before or after the volume control. A white noise signal is generated and inserted into the audio path either before or after the volume control. Filtering can be performed on the white noise signal in order to shape the noise signal to a desired frequency and bandwidth. The tinnitus masker can be used as a stand alone tinnitus making device or as part of a hearing aid.
- EVOKE Advanced Acoustic Indicators: Allows hearing aid manufacturers to provide more pleasing, multi-frequency tones simulating musical notes or chords to indicate events such as program or volume changes.
- In-situ Tone Generator: The narrow-band noise stimulus feature can be used for in-situ validation of the hearing aid fitting. The frequency, level and duration of the stimuli are individually adjustable.

  For more features, see the data sheet

应用

- Digital Audio Processing

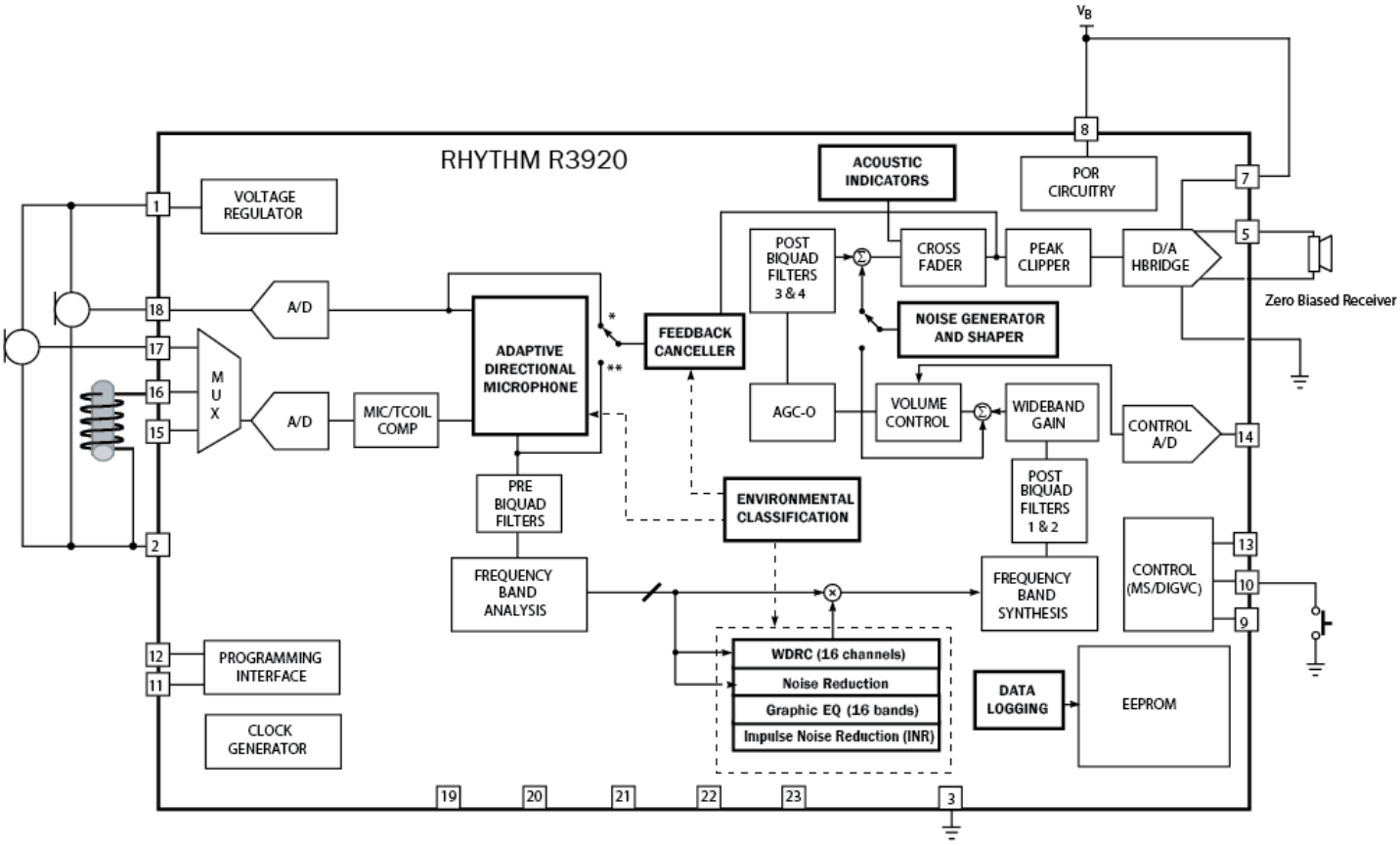
终端产品

- Hearing Aids

器件电气规格

产品	Pricing ($/Unit)	Compliance	Status	WDRC Channels	Graphic EQ Bands	Program Modes	Advanced Algorithms	Acoustic Indicators	Other Features	Wireless Standards	Package Type
R3920-CFAB-E1B	67.465	Pb-free Halide free	Active	16	16	6	Automatic Adaptive Directionality Adaptive Noise Reduction Impulse Noise Reduction Environmental Classification Adaptive Feedback Cancellation FrontWave Directional Microphone	EVOKE	Datalogging Software Configurable Digital Volume Control	-	SIP-25
R3920-CFAB-E1T	67.465	Pb-free Halide free	Active	16	16	6	Automatic Adaptive Directionality Environmental Classification Adaptive Noise Reduction Impulse Noise Reduction FrontWave Directional Microphone Adaptive Feedback Cancellation	EVOKE	Datalogging Digital Volume Control Software Configurable	-	SIP-25

应用框图



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