

**ES9023****SABRE**

Premier Stereo DAC with 2Vrms Driver

Product Brief

Device	Description	DNR (dB)	Power Supply (Output Level)	No DC-blocking capacitor	Pop-Noise Free	Package
ES9023	SABRE Premier Stereo DAC with 2Vrms Op-Amp Driver	112	+3.6V (2Vrms) +3.3V (1.9Vrms)	√	√	16-SOP

The ES9023 is a 24-bit stereo audio DAC with an integrated 2Vrms op-amp driver. Powered by the industry proven **SABRE** DAC technology, the ES9023 combines best-sounding audio with lowest system cost and highest performance into the ideal D/A converter for line-level output applications such as Blu-ray players, CD/DVD players, set-top boxes, digital TVs and audio receivers.

With patented Hyperstream™ architecture and Time Domain Jitter Eliminator, the ES9023 delivers jitter-free studio quality audio with 112dB DNR.

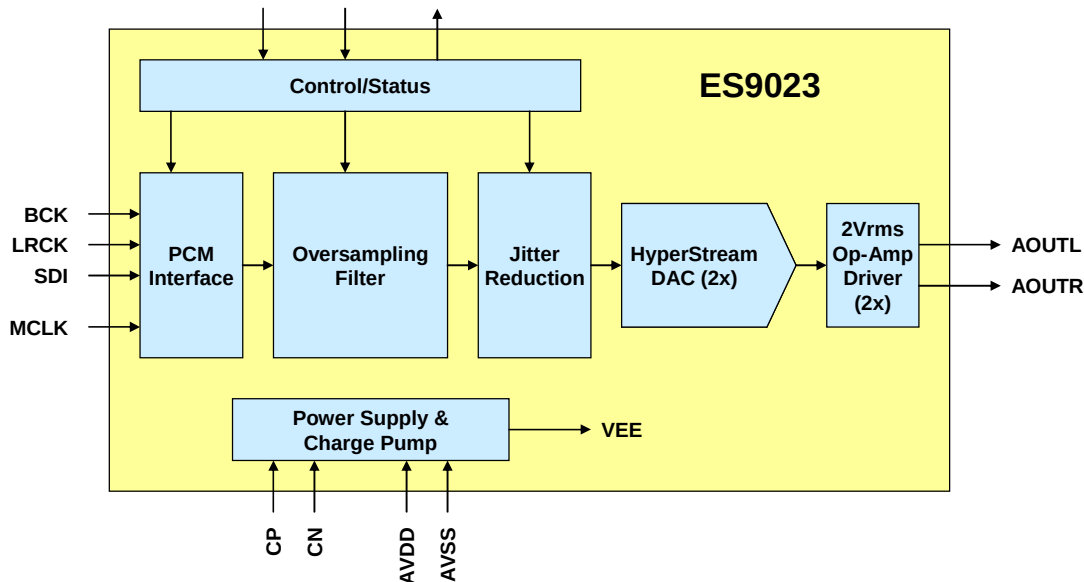
Using an integrated charge pump to generate the negative supply, the ES9023 can operate from a single AVCC supply to drive a ground-referenced 2Vrms output, eliminating the need for output dc-blocking capacitors. Optionally, the output level can be adjusted by using an external resistor, allowing for output level below 2Vrms. Pop-noise is eliminated through a comprehensive suppression on power up/down, mute, reset, loss of power or clock. Dedicated control/status pins allow easy system integration without the need for microcontroller programming.

FEATURE	BENEFIT
SABRE DAC and 2Vrms op-amp driver integration	<ul style="list-style-type: none"> Lowest system cost by minimizing external components Highest performance Best sounding audio – powered by SABRE DAC technology
Patented HyperStream™ and Jitter Elimination Architecture	<ul style="list-style-type: none"> Best dynamic range: 112dB Jitter Immune
Adjustable output level	<ul style="list-style-type: none"> Allow designer to customize output level (up to 2Vrms) based on application requirements via an external resistor
Ground reference output	<ul style="list-style-type: none"> Reduce cost by eliminating blocking capacitors
Pop-noise suppression	<ul style="list-style-type: none"> Pop-free on power up/down, mute and reset
Dedicated control/status pins <ul style="list-style-type: none"> I2S or left-justified select Soft mute enable Zero detect output 	<ul style="list-style-type: none"> Easy to use – no programming required
Charge pump for negative supply	<ul style="list-style-type: none"> Single AVCC simplifies power supply
Low power consumption in 16-SOP	<ul style="list-style-type: none"> Simply power supply and reduce PCB size

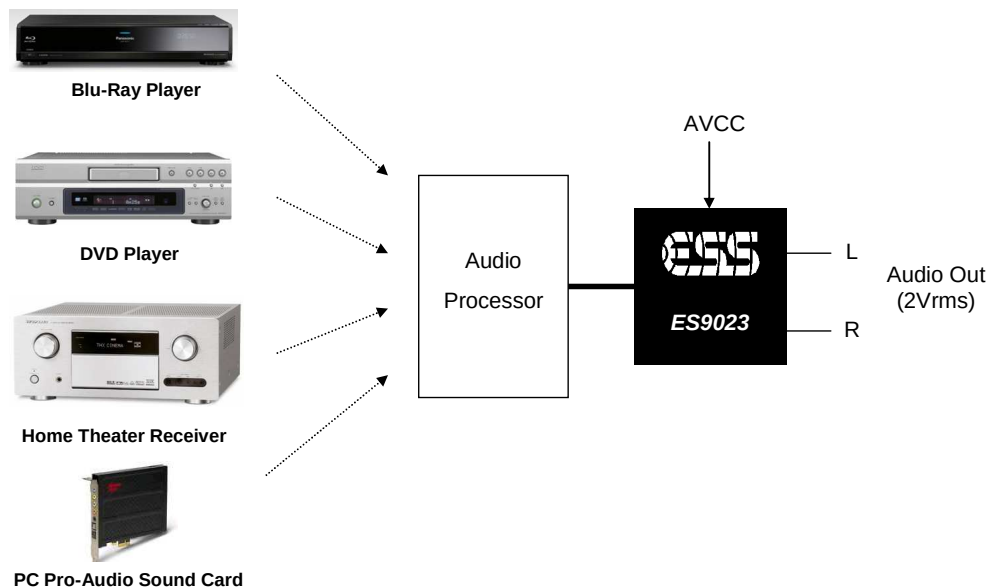


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FUNCTIONAL BLOCK DIAGRAM



APPLICATION DIAGRAM



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