



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.

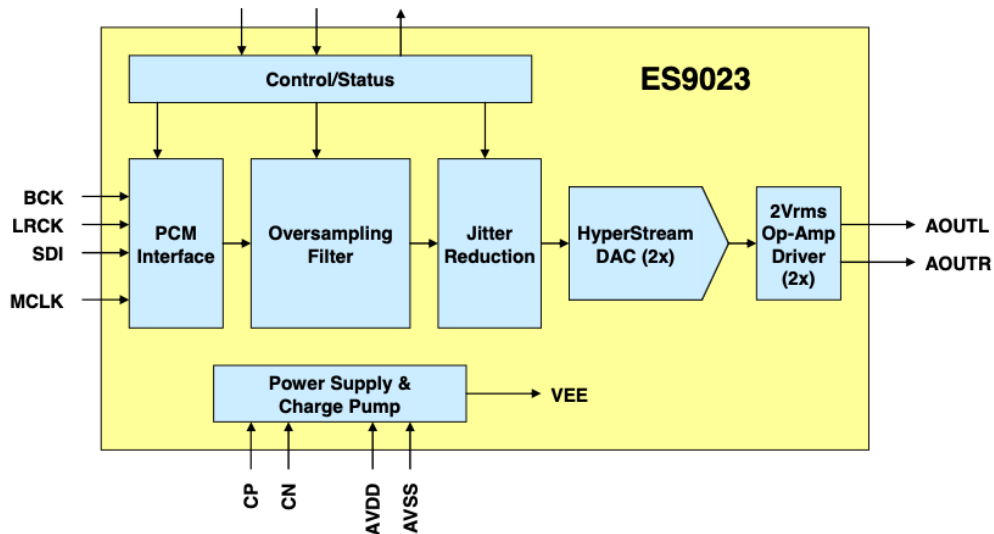
Using an integrated charge pump to generate the negative supply, the ES9023 can operate from a single AVCC supply to drive a ground-referenced 2Vrms output, eliminating the need for output dc-blocking capacitors. Optionally, the output level can be adjusted by using an external resistor, allowing for 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**

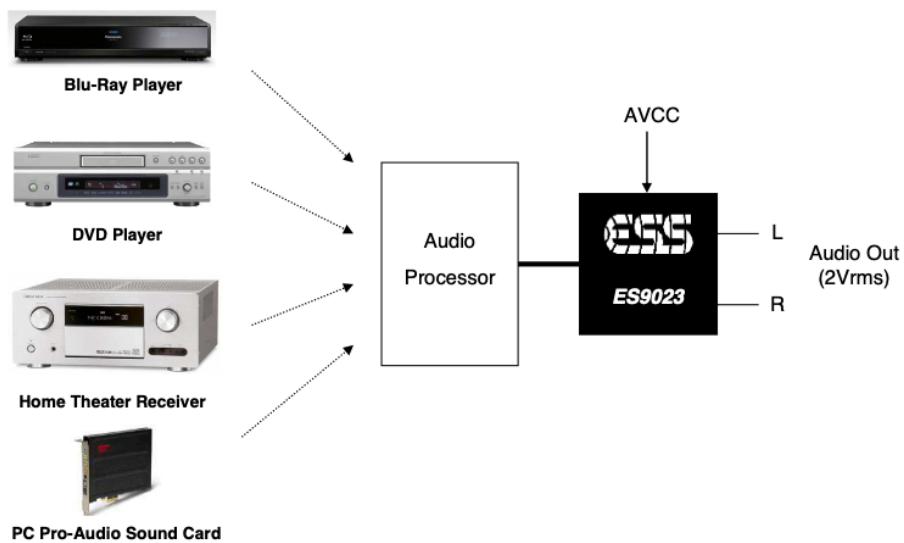
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|--|---|
| SABRE DAC and 2Vrms op-amp driver integration | <ul style="list-style-type: none"> Lowest system cost by minimizing external components Highest performance Best sounding audio – powered by SABRE DAC technology |
| Patented HyperStream™ and 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 |



FUNCTIONAL BLOCK DIAGRAM



APPLICATION DIAGRAM



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