



INTEGRATED SILICON SOLUTION, INC.

ISSI Expands Audio Portfolio with I2S Class-D Audio Amplifiers

Supports 20W Stereo or 40W Mono with 20 Band Equalizer and Dynamic Range Control

MILPITAS, Calif., Nov. 2, 2015 /PRNewswire/ -- Integrated Silicon Solution, Inc. (Nasdaq:ISSI), a leader in advanced memory and analog IC solutions, continued to grow its audio amplifier portfolio with the release of two high performance Class-D power amplifiers. The IS31AP2111 and IS31AP2121 are the first I2S Digital Input Class D amplifiers to address the needs of medium-power multimedia applications such as Bluetooth speakers, sound bars, LCD projectors, HDTVs, media docking stations and radio equipment.

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Audio designs employing the IS31AP2111 or IS31AP2121 will benefit from an I2S (Inter-IC Sound) serial bus interface. The I2S interface transfers audio signals in digital format to maintain maximum audio quality when distributed between audio devices. The I2S bus separates clock and serial data signals, resulting in significantly lower jitter and higher noise immunity than analog audio amplifiers.

"ISSI's new I2S input interface devices enable system designers to deliver what consumers have come to expect from high quality personal and home audio solutions. These devices incorporate a host of features to enhance audio quality and reliability at a low cost by simplifying the audio signal chain," stated Ven Shan, VP of Analog Products at ISSI. "The new products will address medium- to high-power audio amplifier needs in consumer, industrial and aftermarket automotive applications."

The IS31AP2111 and IS31AP2121 are 20 Watt power amplifiers with advanced audio processing capabilities, such as 3D surround sound, audio mixing, 20 band equalizer, dynamic range and volume control -- all programmable via an I2C interface. Both devices operate in a BTL (Bridge-Tied Load) mode, which efficiently doubles the available power to the speaker load. In BTL operation, there is no need for a DC blocking capacitor between the amplifier and speaker, which saves cost and space, all without power loss even at low frequencies. In addition, the IS31AP2121 supports 2.1 mode and Parallel Bridge-Tied Load (PBTL) to efficiently deliver even more power (40W) to a 4 ohm speaker load.

The IS31AP2111 and IS31AP2121 have advanced built-in controls for seamless audio operation. Appropriate control signals suppress pop sounds during initial power on/off, power up/down and mute, while also offering a volume fade-in/fade-out design for power down and mute functions. The 3D virtual surround sound technology provides greater separation and depth of voice quality for stereo signals. The devices also have built-in protection circuits including thermal, short-circuit and under-voltage for reliable and robust operation.

Price and Availability

The IS31AP2111 is available in a thermally enhanced 24 pin eTSSOP type package while the IS31AP2121 is available in a thermally enhanced 48 pin eLQFP type package. The IS31AP2111 is priced at \$1.20 each and the IS31AP2121 is priced at \$1.30 each in 1,000 piece quantities.

Speaker Amplifier Devices

ISSI's audio amplifier product family includes Class-D, Class-G, Class-K and Class-AB devices with output power levels from less than 1W up to 40W. The audio product line offers high performance in small packages to save board space, extend battery life and reduce system cost. For more information on ISSI's audio amplifier devices, visit the ISSI Analog products website at <http://www.issi.com/US/product-analog-audio-amp.shtml>.

About Integrated Silicon Solution, Inc.

ISSI is a fabless semiconductor company that designs and markets high performance integrated circuits for the following key markets: (i) automotive, (ii) communications, (iii) industrial, medical, and military, and (iv) digital consumer. The Company's primary products are high speed and low power SRAM and low, medium, and high density DRAM. The Company also designs and markets NOR flash products and high performance analog and



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mixed signal integrated circuits. ISSI is headquartered in Silicon Valley with worldwide offices in Taiwan, Japan, Singapore, China, Europe, Hong Kong, India, and Korea. Visit our web site at <http://www.issi.com/>

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