



EAS DigiGaN-200S Product Brief



Class-D High-Performance eGaN FET Amplifier Module w/DSP

Gallium Nitride

Complete Class-D Amplifier Solution

- I²S Digital Audio Input
- S/PDIF Input/Output
- GaN FET Half-Bridge Output Stages
- Half-Bridge or Bridge-Tied Load (BTL) Output Topology
- Easy Integration w/EAS SMPS Solutions

High-Performance Audio Reference

- 50W per Channel x 4 into 8 ohms
- 200W per Channel (BTL) x 2 into 8 ohms
- > 112dB SNR and Dynamic Range
- < 0.1% THD+N (8Ω, 1W, 20Hz to 20kHz)
- 20Hz-20kHz +/-0.2dB Frequency Response (8Ω)

96% Efficiency Reduces Heat and System Size

Graceful Protection and Auto Recovery

- Complete Non-Intrusive Short-Circuit, Thermal and Over-Current Protection
- Over-Voltage and Under-Voltage Protection
- Graceful Handling of Complex and Lower Impedance Loads

Package Configurations

- Complete GaN FET Class-D Amplifier Module

Integrated Fully Programmable DSP

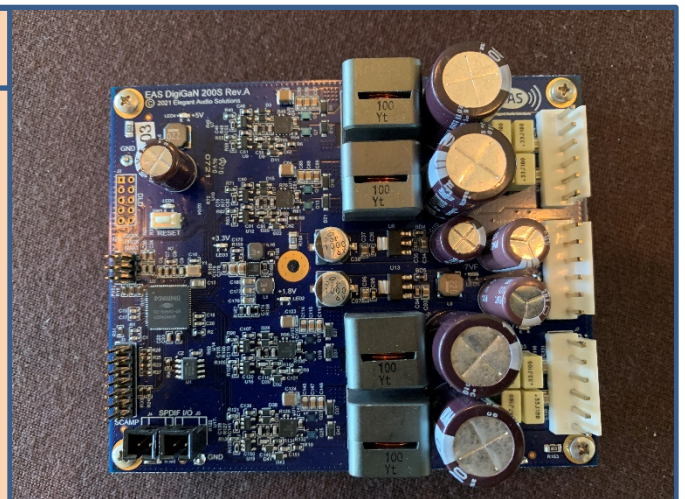
- EAS DSP Solution w/D2Audio DAE-3HT
- Customer Programming of DSP Audio Signal Flow
- Integrated I²S and S/PDIF Digital Inputs

The EAS™ DigiGaN0502 is a self-contained 200 watts per channel Class-D Amplifier Module for manufacturers of Powered Loudspeakers and stand-alone Stereo and Multi-Channel Amplifiers. The DigiGaN0502 is developed around the next-generation Driver technology and the new eGaN FET Power Device technology. These next-generation technologies are combined with highest quality Output Filters for uncompromised audio quality and sound. The DigiGaN0502 is designed as two independent Half-Bridge Outputs, for use in both Stereo and Single-Channel applications. The DigiGaN0502 includes a fully programmable DSP with Open-Loop Output Stage Topology.

The Module is designed with best-practices EMI considerations, and for compliance with FCC, UL, CSA and CE requirements.

EAS™ DigiGaN-200S

- Complete Stand-alone Class-D Amplifier Module
- 200 watts/channel, 8 ohms, BTL x 2
- 50 watts/channel, 8 ohms, x 4 Half-Bridge
- < 0.1% THD+N, > 110dB SNR
- Digital I²S and Digital S/PDIF Inputs
- Dual Half-Bridge or Single Bridge-Tied-Load (BTL) Topology for Ground-Referenced Output
- Integrated, non-intrusive over-current, short-circuit and over-voltage protection



1. PERFORMANCE PLOTS

To be replaced

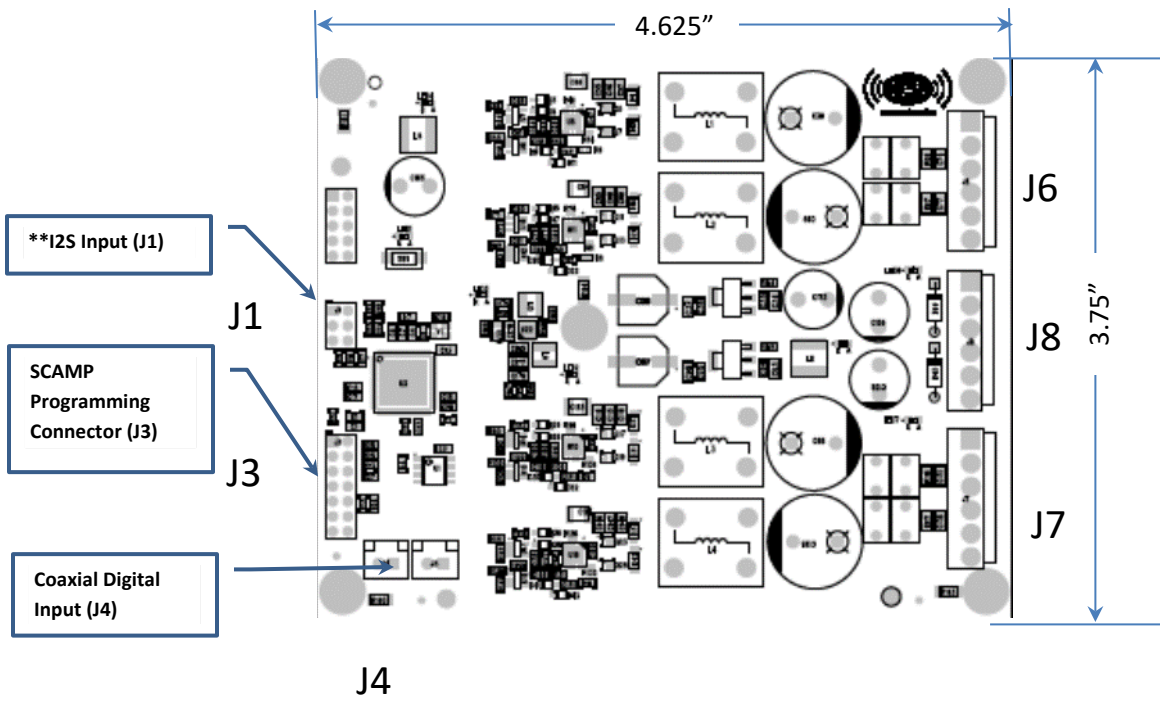
ABSOLUTE MAXIMUM RATINGS

Operation beyond these limits may cause catastrophic and irreversible damage

| Parameter | Rating | Units | Comments |
|-----------------------|--------|-------|----------------------------------|
| Power Supply Voltage | +/- 32 | V | Over-Voltage will Shut-Down Unit |
| Peak Output Current | 16 | A | Maximum Current Limit @ 18A |
| Ambient Temperature | 25 | °C | Normal Operation w/o Heat Sink |
| Heat Sink Temperature | 90 | °C | |

RECOMMENDED OPERATING CONDITIONS

| Parameter | Min | Typical | Max | Units | Comments |
|------------------------------------|--------|---------|--------|-------|---|
| Power Supply Voltage | +/- 20 | - | +/- 32 | V | UnderVoltage @ +/-18V |
| Load Impedance | 2 | 8 | - | Ω | |
| Source Impedance | - | - | - | Ω | N/A |
| Effective Power Supply Capacitance | 1000μ | - | - | F | Per rail, per attached Amplifier Module |



****NOTE: SCLK, LRCK and SDAT for a single I2S Input (2 Channels) is provided**

3. CONNECTIVITY

Connector: J8 (Mating JST Connector: VHR-6N; Pin: SVH-41T-P1.1)

| Pin | Type | Description |
|------|-------|-----------------------|
| 1, 2 | Input | +HV Power Supply Rail |
| 3, 4 | Input | Power Supply Ground |
| 5, 6 | Input | -HV Power Supply Rail |

Connector: J4

| Pin | Type | Description |
|-----|-------|------------------------------|
| 1 | Input | S/PDIF Coaxial Digital Audio |
| 2 | Input | Digital Ground |

Connector: J1

| Pin | Type | Description |
|-----|-------|-------------|
| 1 | Input | Ground |
| 2 | Input | I2S SCLK |
| 3 | Input | Ground |
| 4 | Input | I2S LRCK |
| 5 | Input | Ground |
| 6 | Input | I2S SDAT0 |

Connector: J6 (Mating JST Connector: VHR-2N; Pin: SVH-41T-P1.1)

| Pin | Type | Description |
|-----|--------|--|
| 1,2 | Output | Positive BTL Audio Amplifier #1 Output |
| 3,4 | Output | Ground (Not Used w/BTL Output |
| 5,6 | Output | Negative BTL Audio Amplifier #1 Output |

Connector: J7 (Mating JST Connector: VHR-2N; Pin: SVH-41T-P1.1)

| Pin | Type | Description |
|------------|-------------|--|
| 1,2 | Output | Positive BTL Audio Amplifier #2 Output |
| 3,4 | Output | Ground (Not Used w/BTL Output) |
| 5,6 | Output | Negative BTL Audio Amplifier #2 Output |