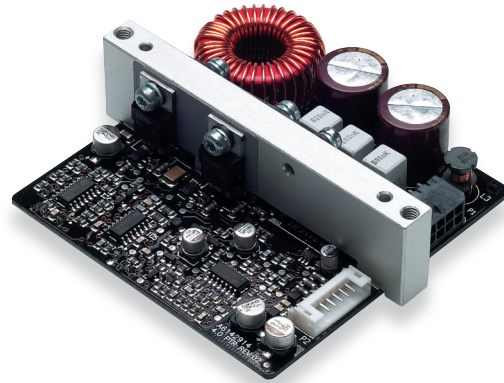


ICEpower500A

General Purpose Audio Amplifier

500W @ 0.02% THD+N



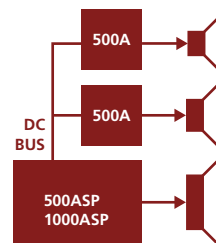
Dimensions: 9 x 9 x 2.9cm

The ICEpower500A delivers 500W high-quality output power over the full audio bandwidth in an ultra-compact and lightweight package. The high-end performance is achieved by the patented COM modulation and MECC control techniques. The ICEpower500A is intended as a versatile building block for designing innovative audio solutions and the turn-key key approach including pre-approvals for safety and EMC ensures shortest possible Time-to-Market for the end product.

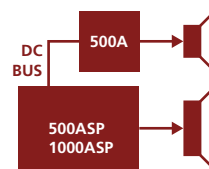
Applications

The excellent sound quality and compact size means the ICEpower500A can be used in almost any application where high performance in a small package is needed. Examples include:

- Active speakers and subwoofers for home use
- Professional audio for touring, studio and installation use
- A/V amplifiers and receivers
- Powerful automotive and marine audio systems



3-Way Speaker



2-Way Speaker



Powering Options

The ICEpower A-series can be powered from a wide range of power supplies and DC/DC-converters making them a versatile choice for audio amplification in almost any environment. Particularly useful is the ability to connect up to two A-series amplifiers to the built-in power supply of an ICEpower ASP-series amplifier. This full compatibility with the ASP-series offers a flexible and powerful concept for easy multiway or multichannel audio system design.

Key Specifications

- 500W @ 0.02% THD+N (1kHz, 4Ω)
- Peak output current > 45A
- 117dB dynamic range
- THD = 0.0009% (100mW, 5kHz)
- THD+N < 0.1% (0.1W – 500W, 4Ω)
- Efficiency = 93%
- Output impedance < 5mΩ @ 1kHz
- Power Supply Rejection Ratio > 60dB

Key Features

- Balanced input and output
- Soft start-up and mute/de-mute
- Under-voltage protection
- Standby mode for low power consumption at idle

Technical Specifications ICEpower500A

Audio Specifications

| Symbol | Parameter | Conditions | Min | Typ | Max | Units |
|------------------------|--|---|------|--------|-------|-------|
| THD+N | THD+N, in 4 Ω (AES17 measurement filter) | f = 1kHz, P _o =1W | | 0.006 | 0.01 | % |
| THD+N | Maximal THD+N, 4 Ω (AES17 filter) | 10Hz < f < 20kHz 100mW < P _o < 500W | | 0.09 | 0.12 | % |
| THD | Low level THD | f=1kHz, 100mW, R _L = 4Ω | | 0.0005 | | % |
| V _{w/o} | Output referenced idle noise | A-weighted 10Hz < f < 20kHz | 65 | 75 | 115 | μV |
| D | Dynamic range | A-weighted | | 117 | | dB |
| V _{OFF, Diff} | Output referenced offset | Terminated input | | | ±25 | mV |
| AV | Nominal Voltage Gain | f = 1kHz | 26.8 | 27.1 | 27.4 | dB |
| f | Frequency response | 20Hz – 20kHz, all loads. | | ±0.5 | ±1.0 | dB |
| f _u | Upper bandwidth limit (-3dB) | Z _L = 8 Ω | | 75 | | kHz |
| D _f | Damping factor | Z _L = 8 Ω, f = 100Hz | | 2000 | | |
| Z _L | Load impedance range | | 2 | 4 | ∞ | Ω |
| IMD1 | Intermodulation (CCIF) | f = 19kHz, 20kHz, P _o =10W | | 0.0005 | 0.001 | % |
| IMD2 | Intermodulation (SMPTE) | f = 60Hz, 7kHz(1:4), P _o =10W | | 0.02 | 0.03 | % |
| PSRR | Power Supply Rejection Ratio of V _o | Voltage ripple @ f = 100 – 120 Hz | 60 | | | dB |

Power Specifications

| Symbol | Parameter | Conditions | Min | Typ | Max | Units |
|------------------|---|--|-----|------------|-----|-------|
| V _p | Power Supply | Operation | 42 | 75 | 80 | V |
| P _o | Max output power 1kHz @ 0.1% THD+N (AES17 filter) | R _L = 4Ω, V _p = 80V R _L = 8Ω, V _p = 80V | | 600 300 | | W |
| I _{VP} | Quiescent current | V _p = 80V | 20 | 25 | 30 | mA |
| I _{VCC} | Quiescent current | V _{CC} = 12V | | 200 | | mA |
| I _{VSS} | Quiescent current | V _{SS} = -12V | | 25 | | mA |
| η | Power stage efficiency | R _L = 8Ω, P _o = 300W | | 93 | | % |

