

AS 100.4

4-channel AB class amplifier

[Rev. 2.0 – 2014/02]

CEA-2006-A SPECIFICATIONS

POWER RATING: 100 Watt per channel @ 4 Ohm < 1% THD+N
SN RATIO: >90 dBA (reference: 1 Watt into 4 Ohm)

MOS SPECIFICATIONS (Tcase = 25 °C / 4 Ohm stereo / 0.2V input level @ 14.4 Volt if not otherwise specified)

TARGET POWERS:
100 Watt per channel @ 4 Ohm
155 Watt per channel @ 2 Ohm
310 Watt BTL mode @ 4 Ohm
480 Watt BTL mode @ 2 Ohm (*)

EFFECTIVE POWERS:
110 Watt (80 Watt @12V6) x 4 46.6 A ($\eta = 65.5\%$) @ 4 Ohm / ST mode / 1% THD / 1KHz
162 Watt (118 Watt @12V6) x 4 79.8 A ($\eta = 56.4\%$) @ 2 Ohm / ST mode / 1% THD / 1KHz
324 Watt (236 Watt @12V6) x 2 79.8 A ($\eta = 56.4\%$) @ 4 Ohm / BTL mode / 1% THD / 1KHz

THD @ 4 Ohm / ST mode: < 0.02 % (1KHz / 90% Power rating ref)
THD @ 2 Ohm / ST mode: < 0.03 % (1KHz / 90% Power rating ref)
DIM @ 4 Ohm / ST mode: < ---- % (Power rating ref)
DIM @ 2 Ohm / ST mode: < ---- % (Power rating ref)

DC-DC converter typology: Unregulated
Conversion frequency: 50 KHz ($\pm 6\%$)
Absolute maximum operation supply voltage range: 10 V \div 16 V
Recommended operation supply voltage range: 11 V \div 14.4 V
Power-on/Power-off Voltage Threshold: 9 V / 7.5 V
Mute delay time: 3 secs
Secondary voltages (Amp. / Driver / Pre.): ± 34 V / ± 7.7 V / ± 13.5 V
Max output offset voltage (each channel): ± 15 mV
Standby current: 1.8 mA (typical)
Quiescent consumption @ 12V6 / 14V4: 0.61 A / 0.65 A (no idle current regulation)
Idle current regulation (no signal): 0.04 A (each channel)
Quiescent consumption @ 12V6 / 14V4: 0.77 A / 0.81 A (with idle current setted)
Thermal protection consumption: 1 A
Battery ground vs secondary ground decoupling: 1 KOhm
Body ground vs battery ground decoupling: 70 Ohm
Bandwidth (-3dB \approx 1 Watt): < 5 Hz \div 200 KHz
Input sensitivity (Power rating ref): 0.2 V \div 5 V
Input impedance @ 1 KHz (STEREO input): 11 KOhm
Input capacitance @ 1 KHz (STEREO input): 220 pF
Input ground decoupling: 15R
S/N ratio (AP filter 10 Hz - 500 KHz) – Power rating ref: 90 dB
S/N ratio (AP filter 10 Hz - 22 KHz) – Power rating ref: 110 dB (“A” weighted)
Eq. Input noise (AP filter 10 Hz - 500 KHz): 6.42 μ V
Eq. Input noise (AP filter 10 Hz - 22 KHz): 0.64 μ V (“A” weighted)
Channel separation @ 100Hz / 1KHz / 10KHz – 10 Watt ref: 79 dB / 72 dB / 54 dB
Xover functions: HIGH Pass & LOW Pass (BAND Pass allowed)
(20 \div 175Hz) & (50 \div 300Hz)
Filter slope - Filter “Q”: 12 dB/oct - 0.7 (Stereo & Mono)
Thermal cutoff Threshold: 88 °C (± 5 °C)
ProSPEED® Fan Controller Threshold: 55 °C (± 5 °C)
Damping factor @ 100 Hz - 10 Watt ref (Right / Left): 89 / 108 [Front] - 133 / 175 [Rear]
Damping factor @ 1 KHz - 10 Watt ref (Right / Left): 89 / 109 [Front] - 131 / 170 [Rear]
Damping factor @ 10 KHz - 10 Watt ref (Right / Left): 82 / 99 [Front] - 115 / 151 [Rear]
Output impedance @ 1 KHz - 10 Watt ref: 45 mOhm / 37 mOhm [Front] - 30 mOhm / 23 mOhm [Rear]
Load drive limitations (*): 1 Ohm / 2 Ohm (Stereo / Bridged)
Suggested fuse: 80 A (Internal)

(*) VERY IMPORTANT NOTE - READ CAREFULLY

4 Ohm ST or 8 Ohm BTL – CONTINUOUS SINEWAVE SIGNAL – pure resistive load or speaker load
2 Ohm ST or 4 Ohm BTL – MUSICAL SIGNAL – pure resistive load or speaker load
1 Ohm ST or 2 Ohm BTL – MUSICAL SIGNAL – speaker load only