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ZERO 4

4-channel AB class amplifier

[Rev 1.0 – 2012.11]

CEA-2006-A SPECIFICATIONS

POWER RATING: **100 Watt & 210 Watt per channel @ 4 Ohm < 1% THD+N**
SN RATIO: **>80 dBA & >76 dBA (reference: 1 Watt into 4 Ohm)**

MOS SPECIFICATIONS (Tcase = 25 °C / MAX sens. / Low Level input mode @ 12.6 Volt if not otherwise specified)

NOMINAL POWERs:

2 x 100W @ 4 ST + **2 x 210**W @ 4 ST
2 x 145W @ 2 ST + **2 x 325**W @ 2 ST
2 x 88W @ 4 ST + **1 x 670**W @ 4 BTL
2 x 145W @ 2 ST + **1 x 650**W @ 4 BTL
1 x 290W @ 4 BTL + **1 x 650**W @ 4 BTL
1 x 245W @ 4 BTL + **1 x 900**W @ 2 BTL
1350W absolute maximum total power @ 2 BTL ===> [CH1>**BTL**<CH2] + [CH3>**BTL**<CH4]

POWER ASSIGNMENT
[CH1 & CH2] = Low Power Channels (2 x 100W)
[CH3 & CH4] = High Power Channels (2 x 210W)

EFFECTIVE POWERs:

2x106 @ 4 ST + **2x223** @ 4 ST	84.1 A (η = 62.1 %) @ 4 Ohm / ST mode / 1% THD / 1KHz
2x156 @ 2 ST + **2x340** @ 2 ST	147.7 A (η = 53.3 %) @ 2 Ohm / ST mode / 1% THD / 1KHz
2x92 @ 4 ST + **1x703** @ 4 BTL	126.8 A (η = 55.5 %) @ 4 Ohm / ST + BTL mode / 1% THD / 1KHz
2x156 @ 2 ST + **1x680** @ 4 BTL	147.7 A (η = 53.3 %) @ 2 + 4 Ohm / ST + BTL mode / 1% THD / 1KHz
1x312 @ 4 BTL + **1x680** @ 4 BTL	147.7 A (η = 53.3 %) @ 4 Ohm / BTL mode / 1% THD / 1KHz

DC-DC converter typology:	**Regulated**
Conversion frequency:	**39 KHz** (± 6 %)
Absolute maximum operation supply voltage range:	**10 V ÷ 16 V**
Recommended operation supply voltage range:	**11 V ÷ 14.4 V**
Power-on/Power-off Voltage Threshold:	**9 V / 7.5 V**
Mute delay time:	**3 secs**
***Secondary voltages** (Amp. / Drive / Pre.):*	**±34.9 V** [CH1 & CH2] & **±49.5 V** [CH3 & CH4] / **±10.5 V** / **±15.3 V**
***Max output offset voltage** (each channel):*	**±15 mV**
Standby current:	**1.8 mA (typical)**
***Quiescent consumption**:*	**1.4 A** (no idle current regutation)
***Idle current regulation** (no signal):*	**0.1 A** (each channel)
***Quiescent consumption**:*	**1.8 A** (with idle current setted)
Thermal protection consumption:	**1.7 A**
Battery ground vs secondary ground decoupling:	**RCD network**
Body ground vs battery ground decoupling:	**65 Ohm**
***Bandwidth** (-3dB ÷ 1 Watt):*	**5 Hz ÷ 125 KHz** [CH1 & CH2] / **5 Hz ÷ 85 KHz** [CH3 & CH4]
***Input sensitivity** (Power rating ref):*	**0.39 V ÷ 8.6 V** (1.1V ÷ 25V in High Level mode)
***Input impedance** @ 1 KHz (STEREO input):*	**11 Kohm** (47 Ohm in High Level mode)
***Input capacitance** @ 1 KHz (STEREO input):*	**220 pF**
Signal ground decoupling:	**47R** (~ 500 KOhm in High Level mode)
***S/N ratio** (AP filter 10 Hz - 500 KHz) – Power rating ref:*	**>77 dB** [CH1 & CH2] / **> 73 dB** [CH3 & CH4]
***S/N ratio** (AP filter 10 Hz - 22 KHz) – Power rating ref:*	**>100 dB "A"** [CH1 & CH2] / **> 99 dB "A"** [CH3 & CH4]
***Channel separation**@ 100Hz / 1KHz / 10KHz – 10 Watt ref:*	**83 dB / 83 dB / 76 dB** [CH1 & CH2] / **74 dB / 74 dB / 62 dB** [CH3 & CH4]
***Xover functions** [CH1 & CH2]:*	**2 x HIGH Pass** or **LOW Pass** (BAND Pass allowed using both FILTER 1 & FILTER 2)
***Frequency range** [FILTER 1] (Hz):*	**20 ÷ 175** (x1) / **200 ÷ 1750** (x10)
***Frequency range** [FILTER 2] (Hz):*	**50 ÷ 300** (x1) / **1000 ÷ 6000** (x20)
Filter slope - Filter "Q":	**12 dB/oct - 0.7** (24dB/oct using both FILTER 1 & FILTER 2 of the same type)
***Xover functions** [CH3 & CH4]:*	**HIGH Pass** & **LOW Pass** (BAND Pass allowed)
***Frequency range** (Hz):*	**20 ÷ 175** (HIGH Pass) / **50 ÷ 300** (LOW Pass)
Filter slope - Filter "Q":	**12 dB/oct - 0.7** (HIGH Pass & LOW Pass)
Thermal cutoff Threshold:	**95 °C** (±5°C)
ProSPEED® Fan Controller Threshold:	**55 °C** (±5°C)
***Damping factor** @ 100 Hz - 10 Watt ref [CH1 / CH2 ÷ CH3 / CH4]:*	**315 / 275 ÷ 710 / 1050**
***Damping factor** @ 1 KHz - 10 Watt ref [CH1 / CH2 ÷ CH3 / CH4]:*	**316 / 264 ÷ 712 / 902**
***Damping factor** @ 10 KHz - 10 Watt ref [CH1 / CH2 ÷ CH3 / CH4]:*	**218 / 192 ÷ 213 / 243**
***Load drive limitations** [CH1, CH2, CH3 & CH4]:*	**1 Ohm** (STEREO mode) / **2 Ohm** (BTL mode) **(*) READ CAREFULLY**
Recommended fuse:	**150 A** (Internal)

(*) WORKING CONDITION BEYOND THE RECOMMENDED LIMITS MAY CAUSE PERMANENT DAMAGE TO THE AMPLIFIER

4 Ohm ST or 8 Ohm BTL – CONSTANT SINE WAVE SIGNAL – **pure resistive or nominal speaker**
2 Ohm ST or 4 Ohm BTL – MUSICAL / DYNAMIC SIGNAL – **pure resistive or nominal speaker**
1 Ohm ST or 2 Ohm BTL – MUSICAL / DYNAMIC SIGNAL – **nominal speaker only**