**DESCRIPTION**

BII-5060 series is 200/260-watt (RMS) linear wideband power amplifier, which offers low distortion and low power consumption to underwater acoustic systems. BII-5060 series can also work as switch mode amplifiers whose power reaches 360/490W RMS.

**APPLICATIONS**

<table>
<thead>
<tr>
<th>Sub-bottom Investigation, Echo Sounding</th>
<th>Phantom Echo Generation, Phantom Clicks, Whistles and Pulse Trains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navigation, Obstacle Avoidance</td>
<td>Acoustic Deterrent Devices</td>
</tr>
<tr>
<td>Underwater Wireless Communication/Modem</td>
<td>FSK, PSK and Spread Spectrum System</td>
</tr>
<tr>
<td>Psychoacoustic and AEP/ABR Experiments on Aquatic Mammals</td>
<td>Audiogram Studies / Audiology</td>
</tr>
<tr>
<td>Inspection and Survey</td>
<td>Bioacoustic and Biological Research on Whales and Dolphins</td>
</tr>
</tbody>
</table>

**ABSOLUTE MAXIMUM RATINGS**

<table>
<thead>
<tr>
<th>Minimum DC Supply Voltage:</th>
<th>+8 VDC</th>
</tr>
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<tbody>
<tr>
<td>Maximum DC Supply Voltage:</td>
<td>+60 VDC</td>
</tr>
<tr>
<td>Output Peak Current:</td>
<td>10 A</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Linear Power Amplifier</th>
<th>BII-5061</th>
<th>BII-5065</th>
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</thead>
<tbody>
<tr>
<td>Source Level Capability:</td>
<td>192.2+DI (Linear); 195+DI (Switch Mode) (dB re µPa)</td>
<td>193.3+DI (Linear); 196.8+DI (Switch Mode) (dB re µPa)</td>
</tr>
<tr>
<td>Gain:</td>
<td>32.5 dB or x42</td>
<td>34.32 dB or x52</td>
</tr>
<tr>
<td>Full Power Bandwidth:</td>
<td>135Hz to 100kHz</td>
<td>135Hz to 50kHz</td>
</tr>
<tr>
<td>RMS Power Capability: (Linear Mode)</td>
<td>200W@+48VDC; 138W@+36VDC; 78.2W@+24VDC.</td>
<td>260W@+60VDC; 199W@+48VDC; 139W@+36VDC.</td>
</tr>
<tr>
<td>RMS Power Capability: (Switching Mode)</td>
<td>360W@+48VDC; 270W@+36VDC; 176W@+24VDC.</td>
<td>490W@+60VDC; 360W@+48VDC; 270W@+36VDC.</td>
</tr>
</tbody>
</table>

**Note:** Forced-air cooling by a fan is a must to cool down the amplifier during service of full power and continuous waveform.

**Supply Voltage:** 8 to 48 VDC

**Size:** Round PCB, ØDxH = 101.6x50.8 mm

**Weight in Air:** 220 grams

**Miscellaneous**

| Signal Type: | Pulse/Burst SINE, Chirp/FM, FSK and PSK, Arbitrary Waveform, Spread Spectrum, Marine Animal Sound, etc. |
| Input Type: | Single ended. |
| Input Impedance: | 100KΩ || 7pF |

**Maximum Input Level:**

- **Linear Mode:** 2 Vpp or (2*Supply Voltage -8Vpp)/Gain, whichever is less.
- **Switch Mode:** Pulse and Square Waveform: TTL/CMOS Level or 2Vpp to 5Vpp.

**Max. Output Current:** 10 A peak

**Stand-by Control Voltage:** TTL/CMOS Compatible. Logic Low "0": ≤ 0.8V; Logic High "1": 2.4V to Supply Voltage Level.

**Suggested DC Supply**

- Marine Battery, Automobile Battery, Fixed DC Linear Power Supply, Not Included.
- DO NOT use variable power supply whose maximum supply voltage is higher than the above rated voltage.
- DO NOT use switching mode DC power supply.

**Quiescent Current:** Active: 59 mA; Shutdown: 24 mA

**Mounting:** 4xØ4.87mm (Ø0.192”) through-holes

**Cable:** 0” or 0.15m wires

**Connector:** Wire Leads

**Operating Temperature:** -40°C to 85°C

**Storage Temperature:** -50°C to 105°C
BII-5061 ST-BY SWITCH (Shutdown SWITCH)
OFF Position: BII-5061 is in operating mode.
DIO Position: TTL/CMOS Logic High -> BII-5061 is in operating mode.
TTL/CMOS Logic Low -> BII-5061 is in Shutdown mode.

BII-5061 TERMINALS and WIRINGS
Input and ST-by Terminal
Pin 1: ST-BY, White, 6" Wire
Pin 2: COM, Black, 6" Wire
Pin 3: IN+, Blue, 6" Wire
Pin 4: IN-, Yellow, 6" Wire
Pin 5: COM, Black, 6" Wire

Output and Power Supply Terminal
Pin 1: +Vs, Red, 6" Wire
Pin 2: +Vs, Red, 6" Wire
Pin 3: COM, Black, 6" Wire
Pin 4: OUT+, Blue, 6" Wire
Pin 5: OUT-, Yellow, 6" Wire

BII-5061 SUGGESTED WIRING:

Waring: Outputs of Power amplifier are differential, DO NOT Connect Out + or Out - to COM.
BII-5061 Physical Size:

- Φ101.6mm (4 inch)
- 4 - Φ4.87mm (0.192 inch) mounting holes
- Equally Spaced on 86.4mm (3.4inch) P.C.D.
- P.C.D.: Pitch Circle Diameter

BII-5061 SHIPMENT:
1. Assembled BII-5061 board Qty.: 1
2. Input and ST-by Plug with 6" wires Qty.: 1
3. Output and Power Supply plug with 6" wires Qty.: 1

BII-5065 TERMINALS and WIRINGS

**Input and ST-by Terminal**
- Pin 1: ST-BY, White, 6" Wire
- Pin 2: COM, Black, 6" Wire
- Pin 3: IN+, Blue, 6" Wire
- Pin 4: IN-, Yellow, 6" Wire
- Pin 5: COM, Black, 6" Wire

**Output and Power Supply Terminal**
- Pin 1: +Vs, Red, 6" Wire
- Pin 2: +Vs, Red, 6" Wire
- Pin 3: COM, Black, 6" Wire
- Pin 4: OUT-, Blue, 6" Wire
- Pin 5: OUT+, Yellow, 6" Wire

BII-5065 SUGGESTED WIRING:

Signal Source (Single-ended)
TTL/CMOS Signal
DC Power Supply +8 to +60VDC
Load

**IN+:** Input Signal.
**IN-:** Input Signal Common.
**ST-BY:** (Shutdown)
**COM**
+Vs
+Vs
COM
COM

**OUT+, DO NOT Connect Out+ to COM.**
**OUT-, DO NOT Connect Out- to COM.**

Warning: Outputs of Power amplifier are differential, DO NOT Connect Out + or Out - to COM.
BII-5065 Physical Size: LxWxH = 112x69x46.5 mm

BII-5065 SHIPMENT:
1. Assembled BII-5065 board Qty.: 1
2. Input and ST-by Plug with 6” wires Qty.: 1
3. Output and Power Supply plug with 6” wires Qty.: 1