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

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

ABSOLUTE MAXIMUM RATINGS

| Minimum DC Supply Voltage:                                   | +8 VDC                                                        |
| Maximum DC Supply Voltage:                                   | +60 VDC                                                       |
| Output Peak Current:                                         | 10 A                                                          |

SPECIFICATIONS

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<th>Linear Power Amplifier</th>
<th>BII-5061</th>
<th>BII-5065</th>
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<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>
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<tr>
<td>Full Power Bandwidth:</td>
<td>135Hz to 100kHz</td>
<td>135Hz to 50kHz</td>
</tr>
<tr>
<td>Usable Frequency:</td>
<td>30 Hz to 200 kHz</td>
<td>30 Hz to 100 kHz</td>
</tr>
<tr>
<td>RMS Power Capability:</td>
<td>200W@+48VDC; 138W@+36VDC; 78.2W@+24VDC.</td>
<td>260W@+60VDC; 199W@+48VDC; 139W@+36VDC.</td>
</tr>
<tr>
<td>RMS Power Capability:</td>
<td>360W@+48VDC; 270W@+36VDC; 176W@+24VDC.</td>
<td>490W@+60VDC; 360W@+48VDC; 270W@+36VDC.</td>
</tr>
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</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; +8 to +60 VDC

Size: Round PCB, ØDxH = 101.6x50.8 mm; Rectangular PCB, LxWxH = 112x69x46.5 mm

Weight in Air: 220 grams; 260 grams

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; 20kΩ || 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.

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

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

Cable: 6" or 0.15m wires

Connector: Wire Leads

Operating Temperature: -40°C to 85°C

Storage Temperature: -50°C to 105°C
**Frequency Response**

**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:**

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

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:

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

DC Power Supply
+8 to +60VDC

Load

SIGNAL SOURCE

TTL/CMOS SIGNAL

DC Power Supply

BII-5065

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

Mounting Holes:
4 x φ4.87 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