



POWER PULSAR

ADM7150 CORE - THE $1.7 \frac{nV}{\sqrt{Hz}}$ LDO

Ideal for PULSAR CLOCK , superb for Analog Audio

Capacitors Synergy Design, C0G + Tantalum + X7R

Tunable Noise Loop, add your favourite Capacitor

Any-board Install Accessories

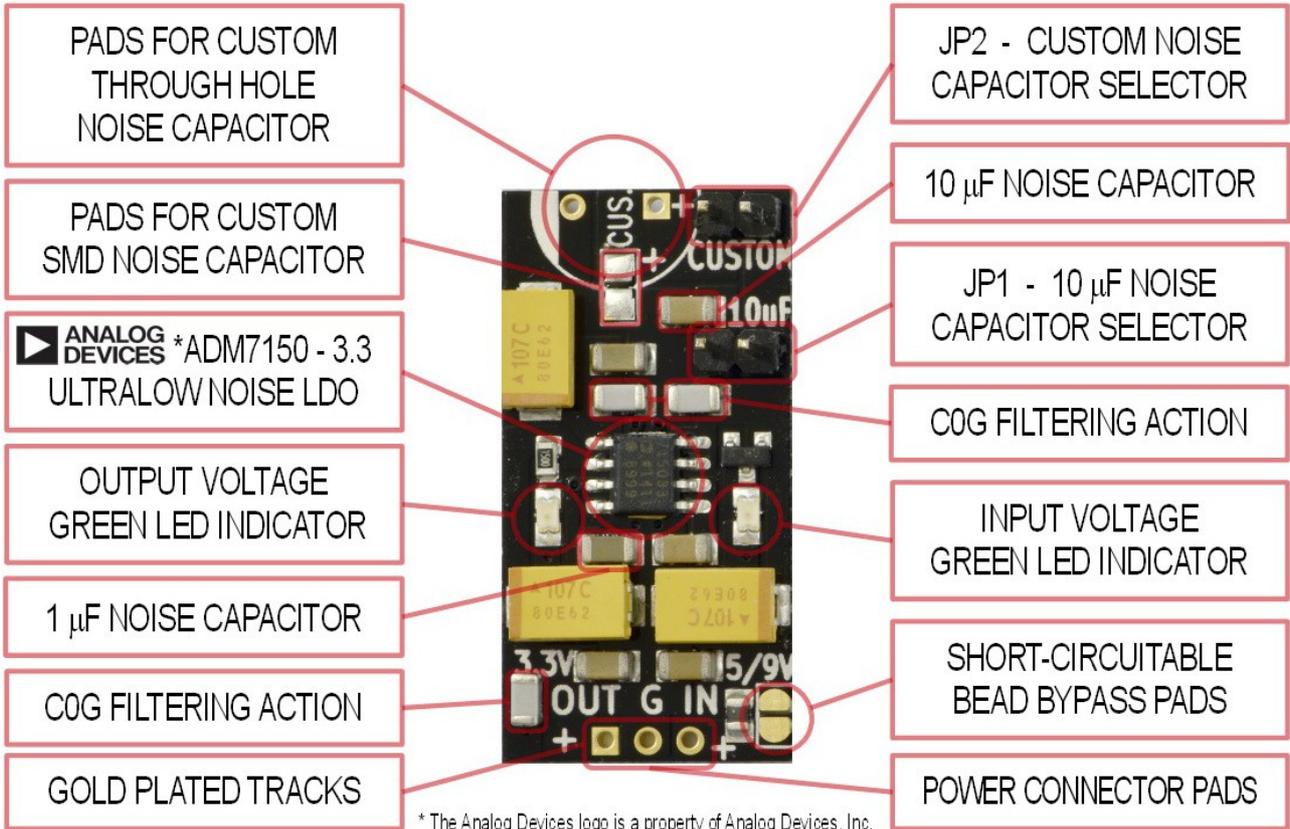
Three Pin Regulator Interface

Input & Output status LEDs

Small Size Board

Input Bead Filtered with easy bypass feature

OUTPUT VOLTAGE	
Fixed	+3.3 Vdc
INPUT VOLTAGE	
Minimum	+5 Vdc
Maximum	+9 Vdc
OUTPUT CURRENT	
Maximum	800 mA
Limited only by thermal environment	



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Overview

The Pulsar Power Board is a three-pin regulator that accepts an Input Voltage in the range +5 to +9 Vdc and provides an ultralow-noise output regulated voltage of +3.3 Vdc for low noise power supply demanding loads. The board is built around the Analog Devices ADM7150 Ultralow Noise, High PSRR, RF Linear Regulator. For a safe usage and information on accuracy and regulation performance you must refer to the ADM7150 datasheet freely available from Analog Devices website: www.analog.com

Digital & Analog Loads

Even if the Pulsar Power Board was originally designed to provide an optimum low noise power supply to the Pulsar Clock, the state of the art performance of the ADM7150 makes it the first choice power supply unit also for the noise-sensitive analog output sections of the most performing DACs.

Triple Technology

To get the best benefits from the ADM7150 regulator the whole Input to Output line is filtered with groups of paralleled capacitors exhibiting different technologies, they perform like musicians playing different instruments to cover all the voices that brings to life a perfect symphony. Each group is composed of a 100µF Tantalum, a 10µF XR7 and a 100nF C0G capacitor. One "trio" is placed on the Input, one on the intermediate V_{REG} and one on the Output pins of the ADM7150 so that the whole regulation path is properly and uniformly sustained during sudden current peaks requests by the Load.

Power Connectors

Three different 2.54 mm (0.1") connectors are provided in the package so you can fit your Pulsar Power Board in any design. Connectors are both pin socket and straight and angular pin strip models, the board is provided without any power connector installed so you can install the one of your need both on front or rear side or connect wires directly to the board. **Be aware that soldering any component is a potentially hazardous operation that must be performed only by a trained operator.**

JP1 & JP2 WARNING

Do not insert or remove jumpers JP1 or JP2 while the Pulsar Power Board is powered. Output voltage suddenly changes and this could damage both Your Load and/or the Pulsar Power Board.

CBYP Noise Capacitor

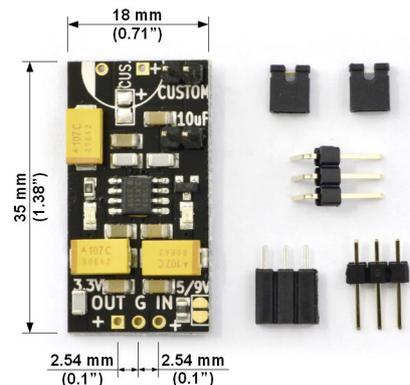
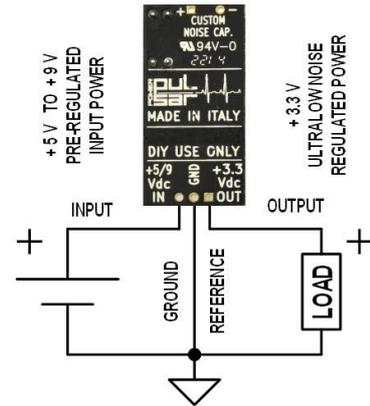
One of the peculiar features of the ADM7150 is the capability to trim the noise spectral density roll-off by means of the C_{BYP} Noise Capacitor. The influence of this control on the powered units is clearly audible and allows a perfect system tuning just changing the value of the C_{BYP} capacitor.

The Pulsar Power Board is designed to allow the user to tune very easily the system changing the C_{BYP} capacitor value just inserting or removing the provided jumpers on connectors JP1 and JP2 installing too your favorite capacitors. A 1µF C_{BYP} capacitor is permanently connected to the BYP pin. Inserting a jumper on JP1 a 10µF C_{BYP} capacitor is added to the BYP pin. Inserting a jumper on JP2 the C_{BYP} capacitors installed by the user on the "CUSTOM" pads are added to the BYP pin.

JP1	JP2	Resulting C_{BYP} Noise Capacitor
Open	Open	1µF
Short	Open	11µF
Open	Short	1µF + User Capacitors
Short	Short	11µF + User Capacitors

CBYP Noise Capacitor WARNING

Output Voltage at power up increases very slowly if large custom C_{BYP} values are used. Experiment carefully with dummy loads before to connect your appliances to the Pulsar Power Board. Before to choose large C_{BYP} values consider that large C_{BYP} values unlikely are the best choice for optimal system performance despite the better noise roll-off.





TECHXPRT

Pulsar Power is distributed by TECHXPRT di Mauro Gavinelli, in the present document referred as TECHXPRT.
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