

Product Description

The C710_B/C711_B Power Component is a customizable Low-Dropout Voltage Regulator with standard source-side regulation. Combine the C710_B/C711_B component with other Power Components to create a highly integrated, custom-defined, AnDAPT Amp™ on-demand power management device.

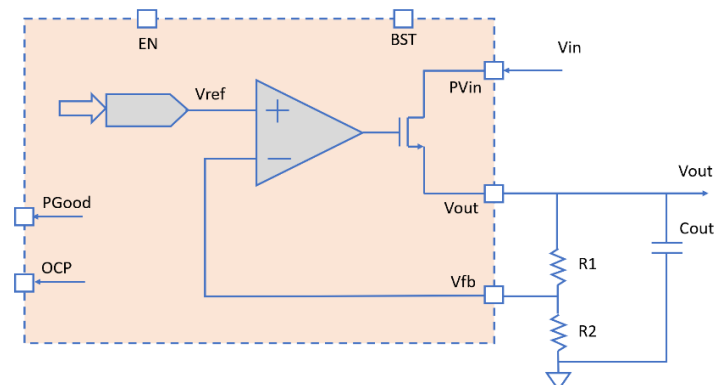
Features

- Linear, constant voltage, low-dropout regulator
- Adjustable V_{OUT}
 - C710_B: From 0.6V to 3.3V
 - C711_B: From 0.6V to 1.8V
- Maximum output current: 1A with “Internal” feedback and 3A with “External” feedback
- 1% typical line and load regulation
- Very low dropout :100 mV dropout
- Short-circuit protection (SCP)
- Protection: Overcurrent (OCP), and Over Temperature (OTP)
- Power-good and OCP flag outputs and Enable input
- Soft-Start
 - C710_B: CC soft-start with programmable soft-start current
 - C711_B: CV soft-start with programmable soft-start time
- -40°C to $+125^{\circ}\text{C}$ operating junction temperature
- Utilizes one SIM element of an Amp Platform
- Additional capabilities – see I710, P710

Applications

- Powering server, processor, memory, storage, network switcher and router platforms
- FPGA, processor, SSD, subsystem power control & sequencing
- Imaging: CMOS Sensors, Video ASICs
- Test and Measurement
- Regulated power noise sensitive, phase-locked loops (PLLs), voltage-controlled oscillators (VCOs), and PLLs with integrated VCOs

External Feedback with resistor divider (C710_B only)

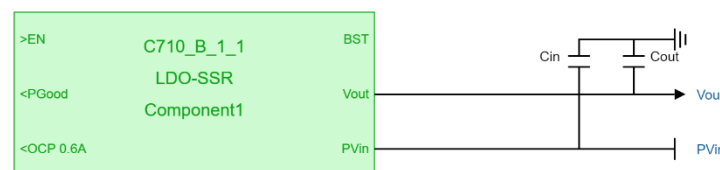


C710_B vs C711_B Comparison Table

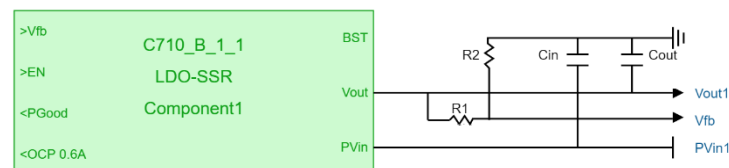
	C710_B	C711_B
Soft-Start	Constant-Current * *Soft-start current programmable	Constant-Voltage* *Soft-start time programmable
Vout Range	Internal F/B: 0.6V – 3.3V External F/B: 0.6V – 3.3V	Internal F/B: 0.6V – 1.8V External F/B: 0.6V – 1.8V

Figure 1: C710_B, C711_B application schematic

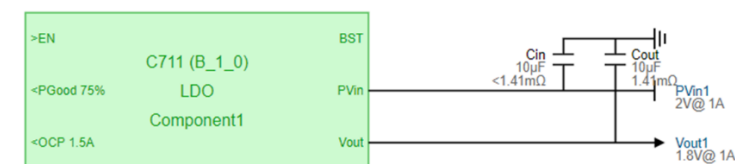
C710 Internal Feedback



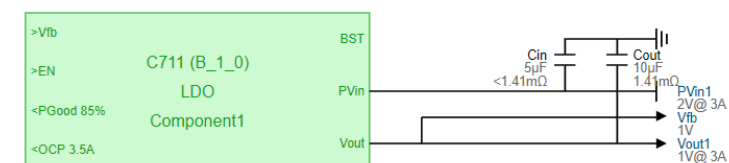
C710 External Feedback



C711 “Internal” Feedback



C711 “External” Feedback



Product Detail

The C710_B/C711_B is a 3A general purpose low-dropout (LDO) regulator. The maximum current is defined by the AmP device selected. The integrated current sense provides over-current protection (OCP) and short circuit protection.

The C710_B is designed to cover the voltage range (0.6V to 3.3V) while the C711_B covers the voltage range from 0.6V to 1.8V

The customizable output voltage is specified by the power engineer during customization using AnDAPT's cloud-based WebAmp™ development software. The C710_B/C711_B component has customizable control and status pins including an enable input, an optional power-good output, and optional output flag to signal when the system triggers an overcurrent (OCP) condition.

The C710_B/C711_B also incorporates a soft start feature to mitigate against inrush current. However, the C710_B

implements a CC based soft-start with programmable soft-start current while the C711_B implements a CV based soft-start with a programmable soft-start time (from 0.5ms to 8.0ms). Sequencing options are available when used in conjunction with the C420 customizable Sequencer, by interconnecting signals EN, PGood to provide dependencies and delays between each sequence step.

The C710_B/C711_B has a minimum load requirement of 100uA

Part number	AmP Platform	IOUT Max	VOUT Max
C710 (Internal f/b)	AmPxD6	1A	3.3V
C710 (External f/b)	AmPxD6	3A	3.3V
C711 (Internal f/b)	AmPxD6	1A	1.8V
C711 (External f/b)	AmPxD6	3A	1.8V