



Circuit Breaker

PEEK Circuit Breaker v1

Description of Circuit Breaker

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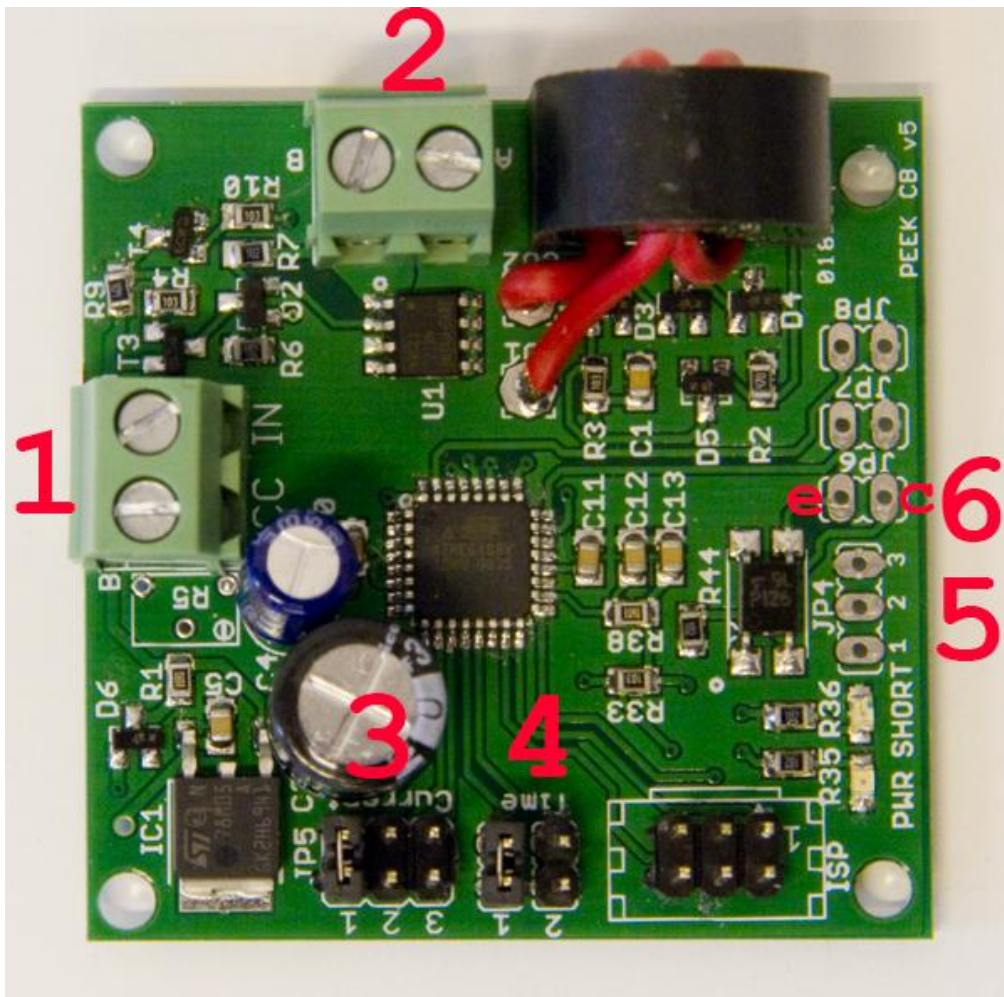
Introduction

To prevent the whole layout to stop working if there is a short it is a good strategy to implement power districts on the layout. One way to do this is to use circuit breakers. It is also a way to protect the equipment if you have booster that can deliver high current. Hi current can warm up metal parts and make plastic melt. A circuit breaker can also cut off the power quick enough to prevent sparks that can ruin the wheels on the locomotive in the long run.

Features on the Circuit Breaker

- A fast solid state design that prevents burnt wheels from sparks. A short is detected in 0,08 to 0,2 ms.
- Intelligent so it can determine if it is a temporary overload or a real short circuit.
- Automatic reset after shortcut.
- Led that indicate incoming power and Shortcut.
- Optional external led for indicating power in and shortcut.
- Adjustable overload current between 1 and 2.5 amp.
- Adjustable time for overload detection between 10 and 40 ms.
- Very low resistance, about 0.06 ohm when on, so there is low voltage drop.
- It is possible to update the firmware for future functions.
- Opto isolated external signal on shortcut.

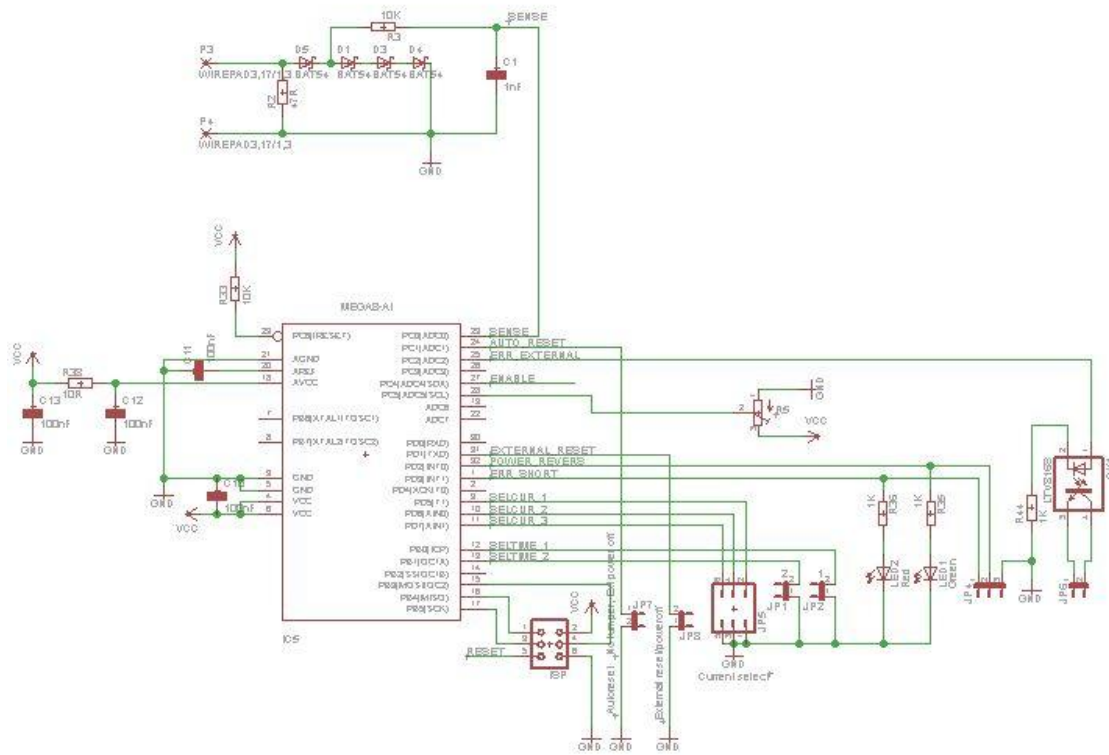
Connections



Connector	Description
1 (DCC IN)	DCC in
2	DC out
3 (Current)	Current selector. No jumper = 1A, pin1 = 1,5A, pin2 = 2A, pin3 = 2,5A
4 (Time)	Overload switch off time selector. No jumper = 10ms, pin1 = 20ms, pin2 = 40ms
5 (JP4)	External led for power and short circuit. 1 = Short, 2 = Power, 3 = GND. There is no current limiting resistor so to use this you MUST add a resistor in series with the diode. Something between 220 and 1K ohm, depending on LED.
6 (JP6)	External signal on short circuit. e = Emitter, c = collector on opto coupler.

Schema

Part 1



Part 2

