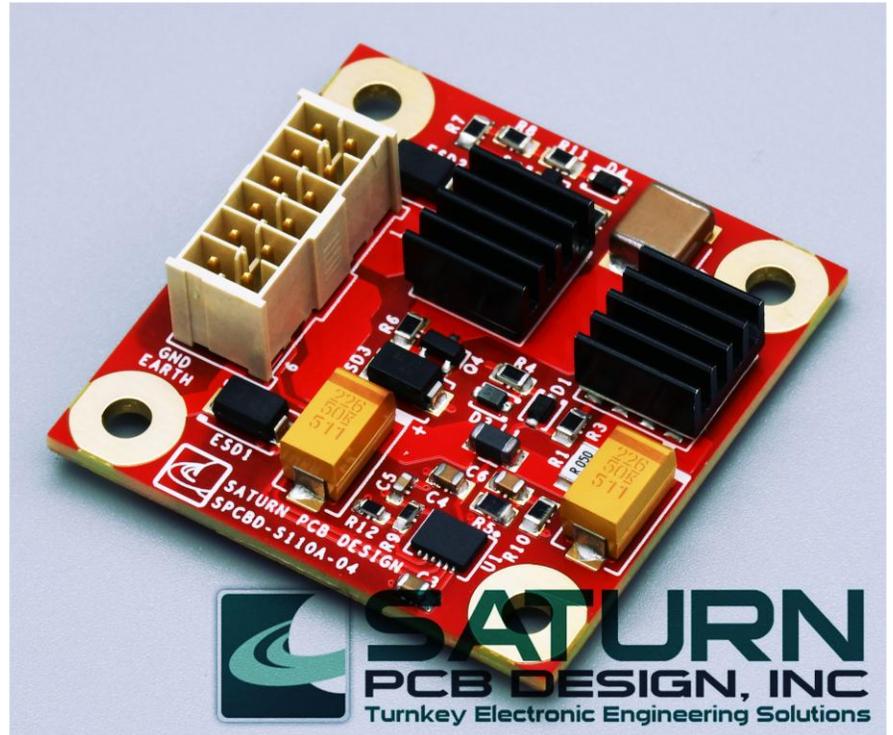


## MIL-1275E Surge Suppressor / Circuit Breaker Part Number: SPCBD-S110A-04

### Features

- MIL-1275E operation (1)
- Vin: 12 to 34VDC
- Interrupted supply (2)
- Output voltage limited to 34.5V
- Current limited at 2.5A
- Small form factor: 1.5" x 1.5"
- Operating temperature:  
-40°C to 125°C
- Can be customized to meet your project needs.



### Product Link:

<https://saturnpcb.com/mil-std-1275e-surge-suppressor/>

### Applications

- 28 Volt military / aerospace applications
1. This device will protect the DUT during the 100V surge and 250V spike test as well as the reverse polarity test. It is not designed for the ripple test.
  2. During an overvoltage event, the device will continue to supply power to the load. Note that an overvoltage event is defined in the MIL-1275E specification.



## **Description**

The SPCBD-S110A-04 offers a cost-effective solution for MIL-STD-1275E applications and other electronic systems requiring a high-performance interrupted surge suppressor / circuit breaker. It features a 2.5A current limit and an overvoltage threshold of 34.5V. Designed to meet the demanding requirements of MIL-STD-1275E, it protects against 100V surges, 250V spikes, and reverse polarity conditions up to 250V.

## **SPCBD-S110A-04 Operation**

### **Overvoltage Event:**

During an overvoltage event, the device temporarily disconnects power to the load. This off-time typically lasts around 460 ms, assuming the input voltage drops back to 28V within that period. After the 460 ms delay, the device automatically resumes power delivery to the load.

### **Overcurrent Event:**

During an overcurrent event, the device shuts off power to the load for protection. The timing is similar to that of an overvoltage event; however, the off-time can be significantly longer—up to 6 seconds. During this period, the device monitors the load and will either remain off or resume power delivery based on the load condition.

### **Customization:**

This device can be customized to meet your specific requirements. The J1 connector can be replaced with your preferred option, and we can design custom units tailored to better integrate with your product.



### **Outputs:**

The device also has two open-collector output status signals. FLT, which is low-true, and ENOUT. Both signals are routed to the J1 connector.

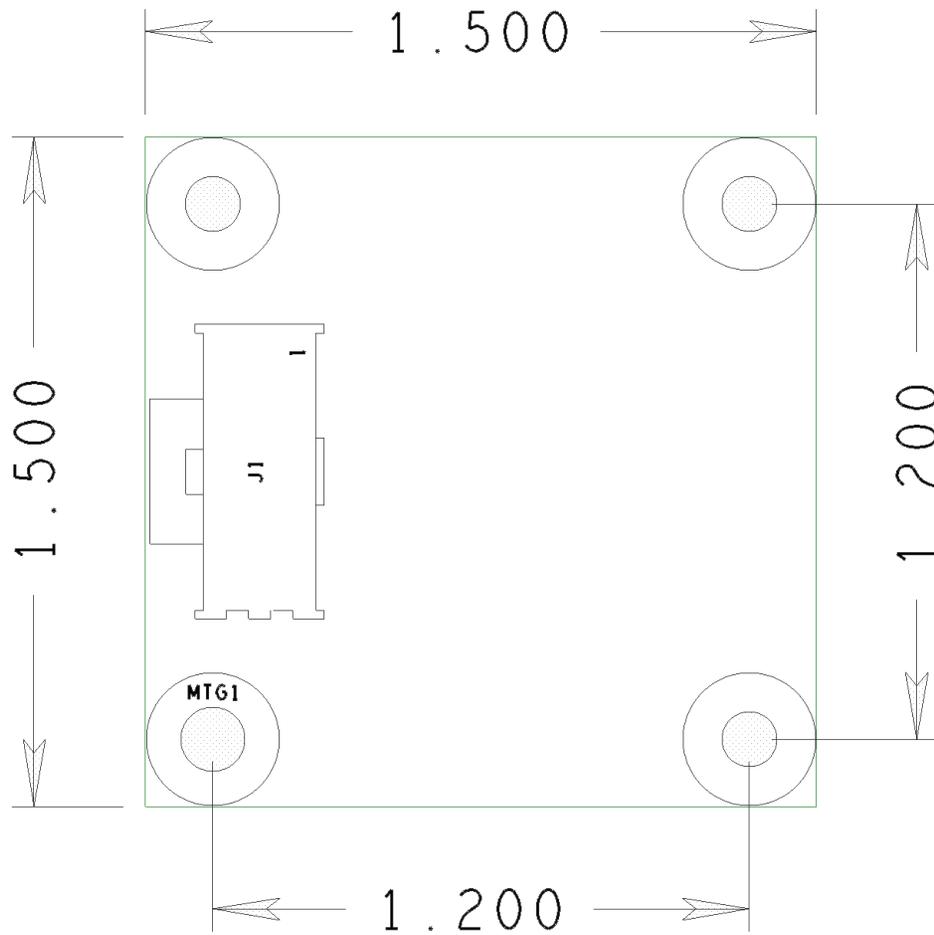
### **FLT:**

During either an undervoltage event or an overcurrent event, the FLT pin pulls low to indicate that the device is about to turn off.

### **ENOUT:**

The ENOUT pin goes high impedance during normal operation to indicate that the device is fully on.

PCB Drawing



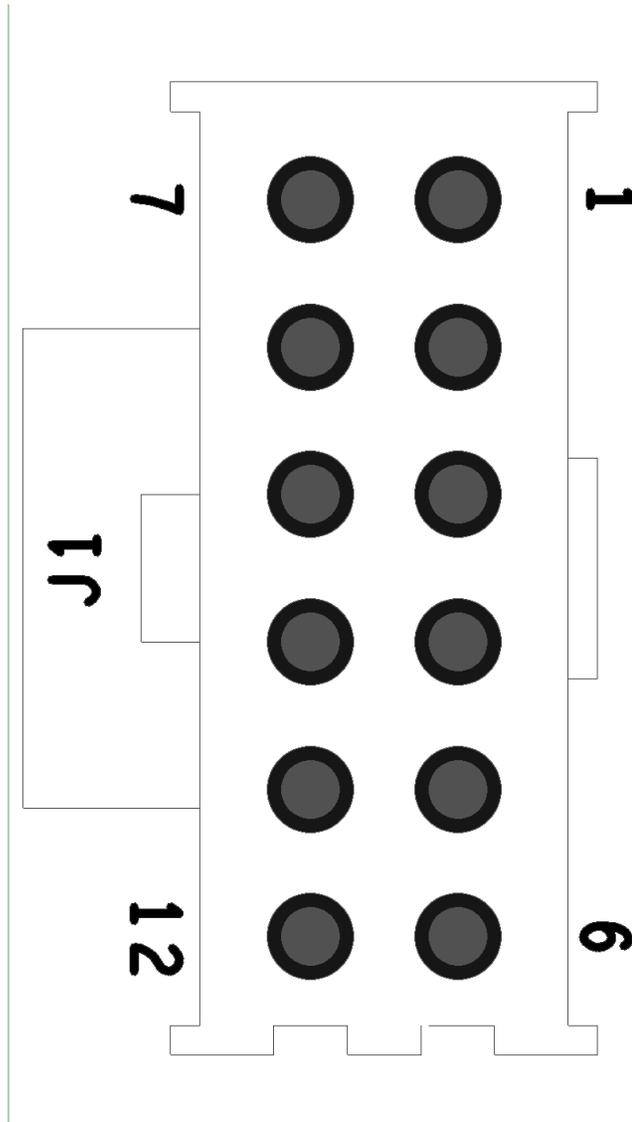
**Dimensions**

L•W•H: 1.5"•1.5"•0.062"

### J1 Pinnout

Samtec IPL1-106-01-L-D-K Connector

- 1-2: Power In
- 3-4: +28V Out
- 5: Fault Out (Low True)
- 6-12: Chassis GND
- 7-10: GND In/Out
- 11: Enable Out



### Note:

A 0.1" pitch pin header can be used in place of the Samtec connector, or no connector can be installed to accommodate wires to be soldered.



### **MIL-1275E Testing:**

Please note that MIL-STD-1275E testing can be complex, and compliance may depend significantly on your specific product. We strongly recommend independently verifying test results with your product integrated into the circuit.