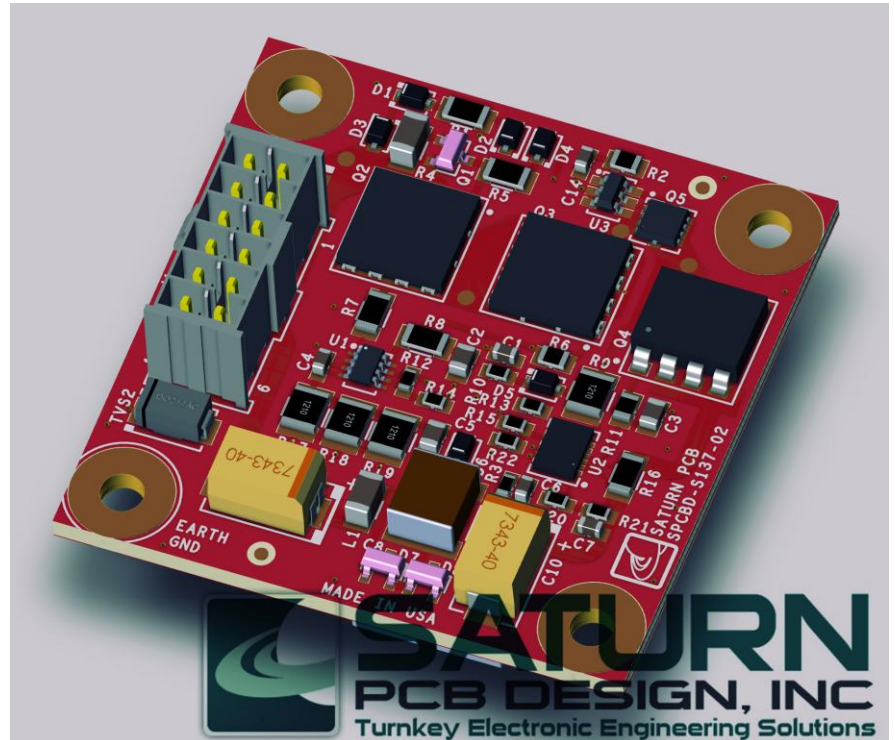


MIL-1275E Surge Suppressor

Part Number: SPCBD-S137-02

Features

- MIL-1275E operation (1)
- Vin: 12 to 34VDC
- Uninterrupted supply (2)
- Output voltage limited to 34.5V
- 2A normal operation
- Current limited at 2.5A
- Small form factor: 1.7" x 1.7"
- 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.
 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-S137-02 offers a cost-effective solution for MIL-STD-1275E applications and other electronic systems requiring a high-performance uninterrupted surge suppressor. 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-S137-02 Operation

Overvoltage Event:

During an overvoltage event, the device will continue to power the load by limiting the output to 34.5V for the duration of the surge / spike. If the overvoltage event is longer than what is called out in MIL-1275E, the device will cut power to the load until normal operating voltage is resumed.

Overcurrent Event:

During an overcurrent event, the device shuts off power to the load for protection for 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.

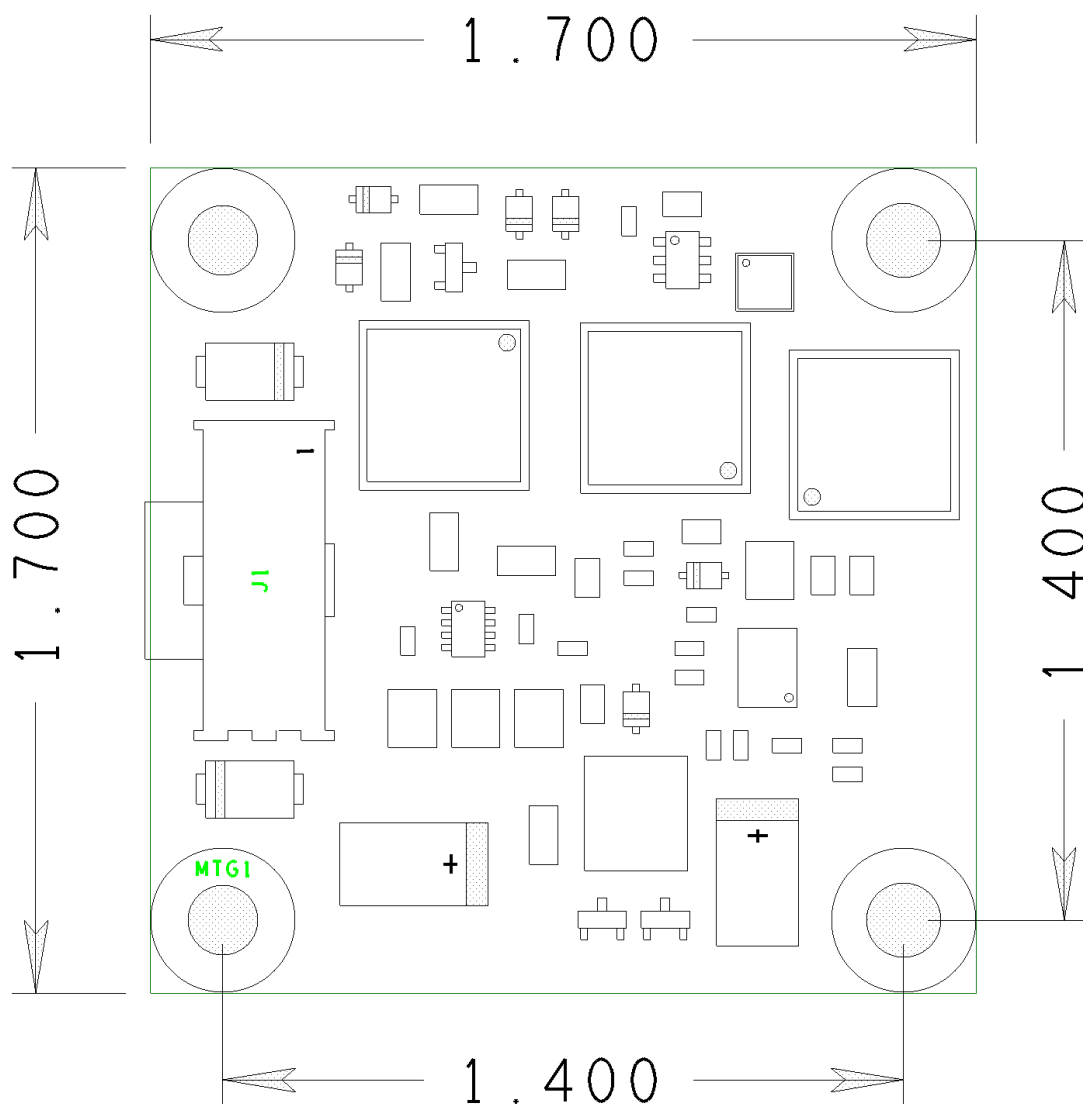
FLT:

During either an overvoltage 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



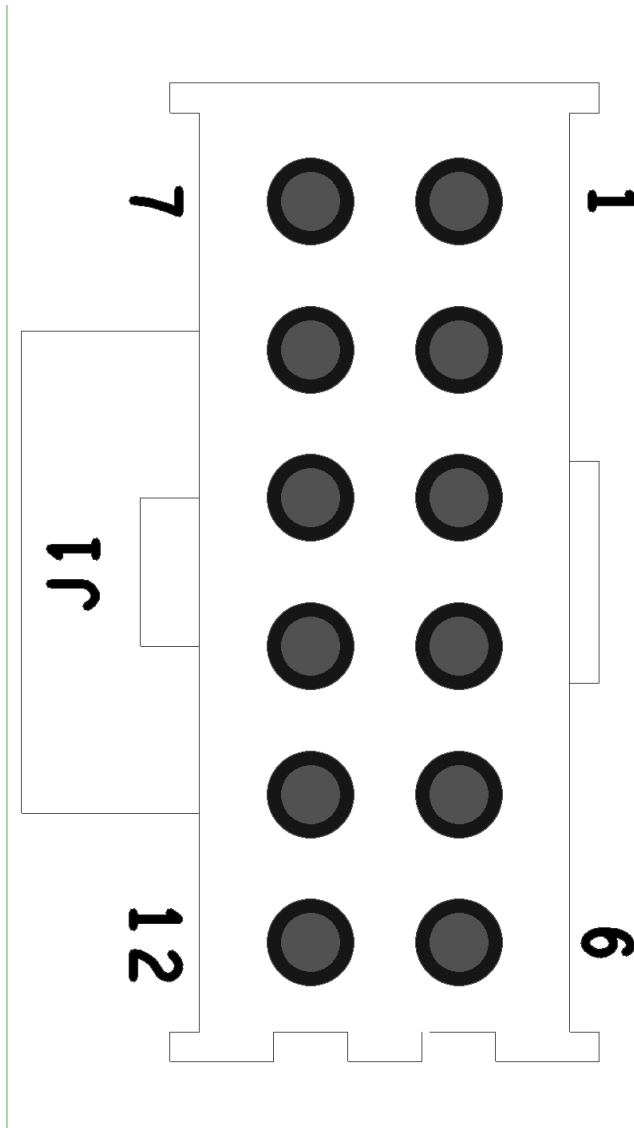
Dimensions

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.

This device is designed to pass the ripple test by using a large, on-board, capacitor bank; however, successful compliance may depend on how your product defines "normal operation." Additional onboard capacitance may or may not be required, depending on your system's specific needs.