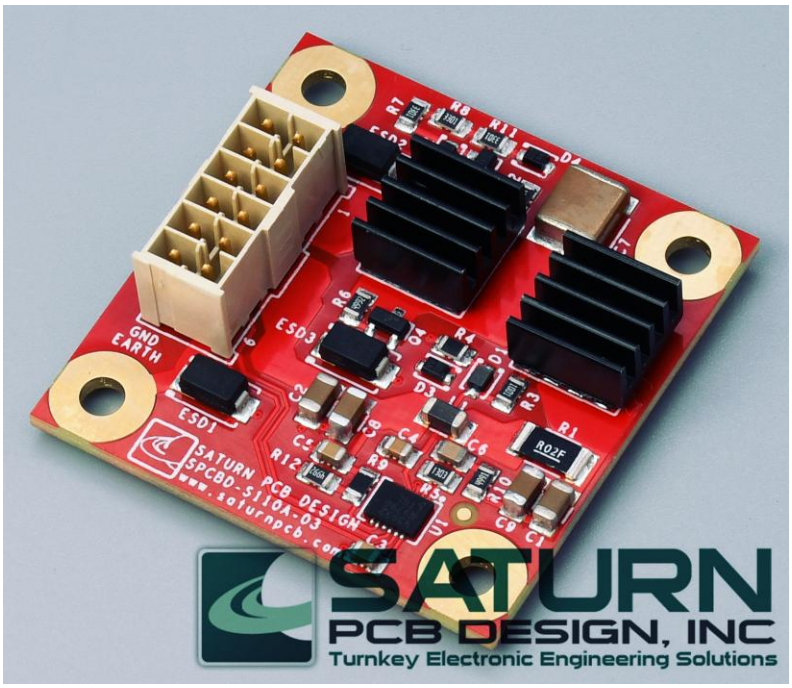
MIL-1275E Surge Suppressor
Part Number: SPCBD-S110A-03

Features

- MIL-1275E Operation
- Vin: 12 to 34VDC
- TVS Diodes on input
- Current limited at 2.5A**
- PCB Size: 1.5” x 1.5”
- Uninterrupted supply*
- 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

* The device will supply power to the load during an overvoltage event for a limited amount of time determined by a timing capacitor. This on-time is typically between 150ms and 500ms and depends on the voltage in level. If the overvoltage event persists, the device shuts power off to the load but will automatically restart after ~7seconds.

** The board can be configured for up to 5A output, email us if you need a higher than 2.5A output.

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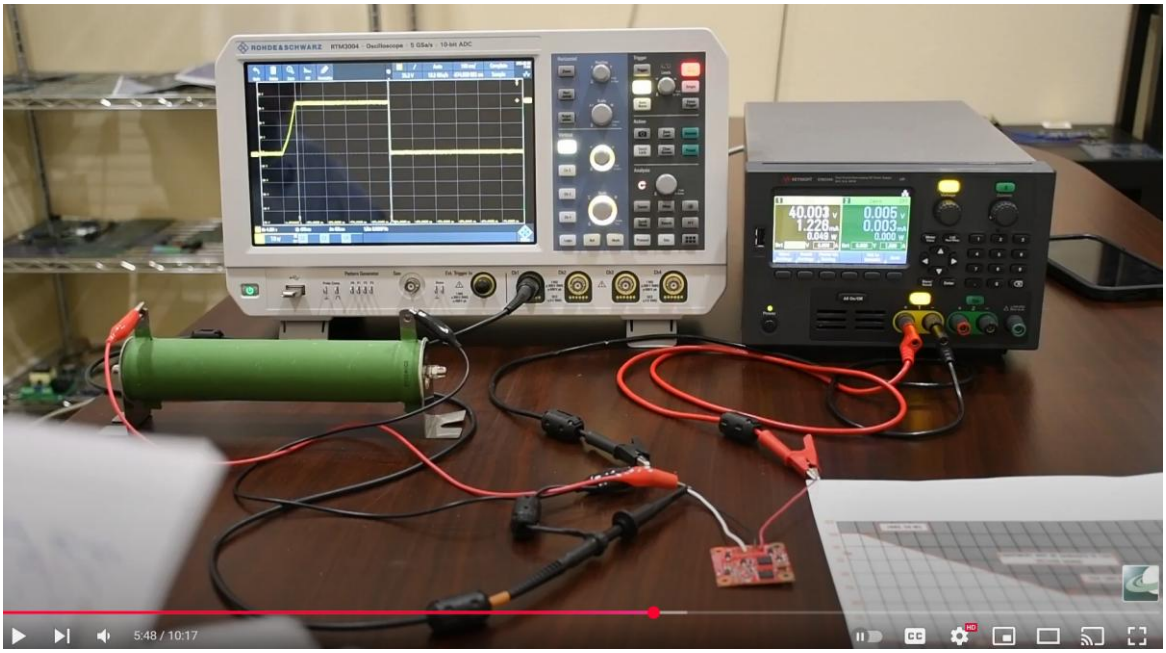
Description

The SPCBD-S110A-03 is a low-cost solution for MIL-1275E applications as well as any electronic systems that require a high-performance interrupted surge suppressor. It utilizes an LT4363 IC to maintain optimal performance and reliability and can pass 5 amps continuously until tripped.
The PCB is manufactured using high temperature FR-4 for durability in extreme conditions.

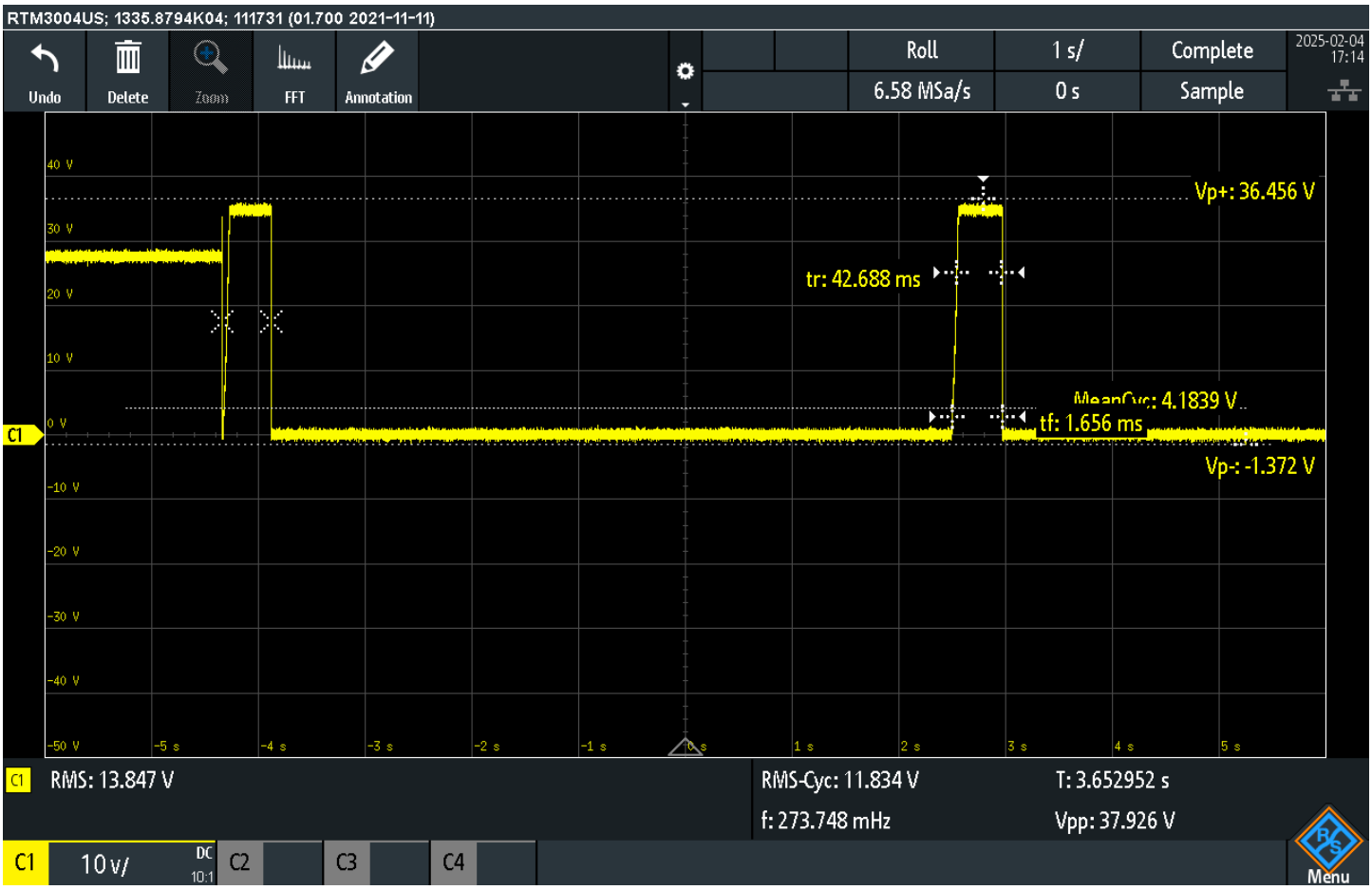
More information on the LT4363 can be found here:
https://www.analog.com/media/en/technical-documentation/data-sheets/4363fb.pdf

Demonstration Video:
https://www.youtube.com/watch?v=LTTOH34UGM4&t=8s



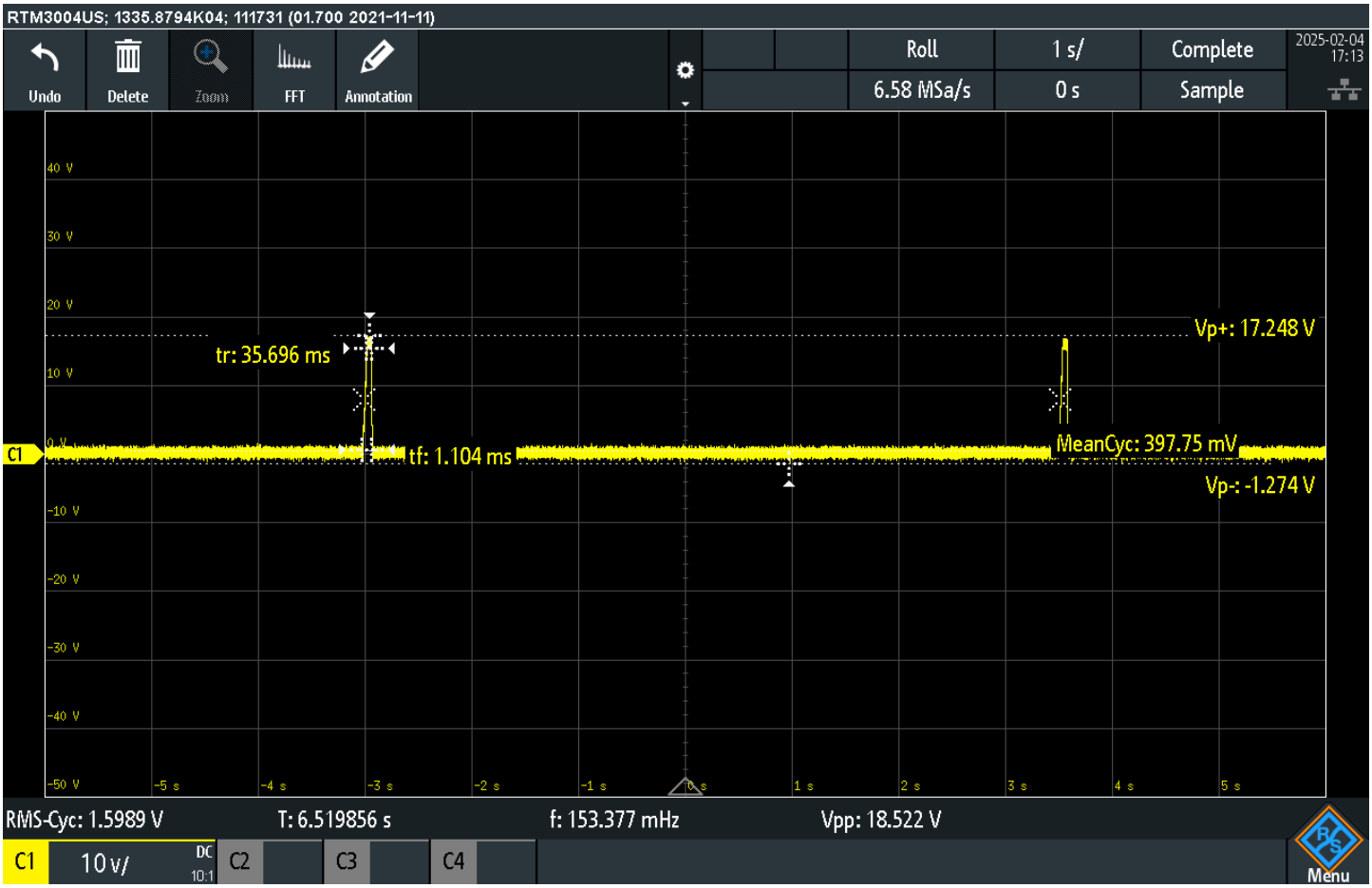
Overvoltage Event:

During an overvoltage event, the device will power the load for a short period of time then shut down if the even persists. Below is an example of a 40V input event. The device limited the output to ~35V for ~460ms then shut down for ~7s, after which it restarted.



Overcurrent Event:

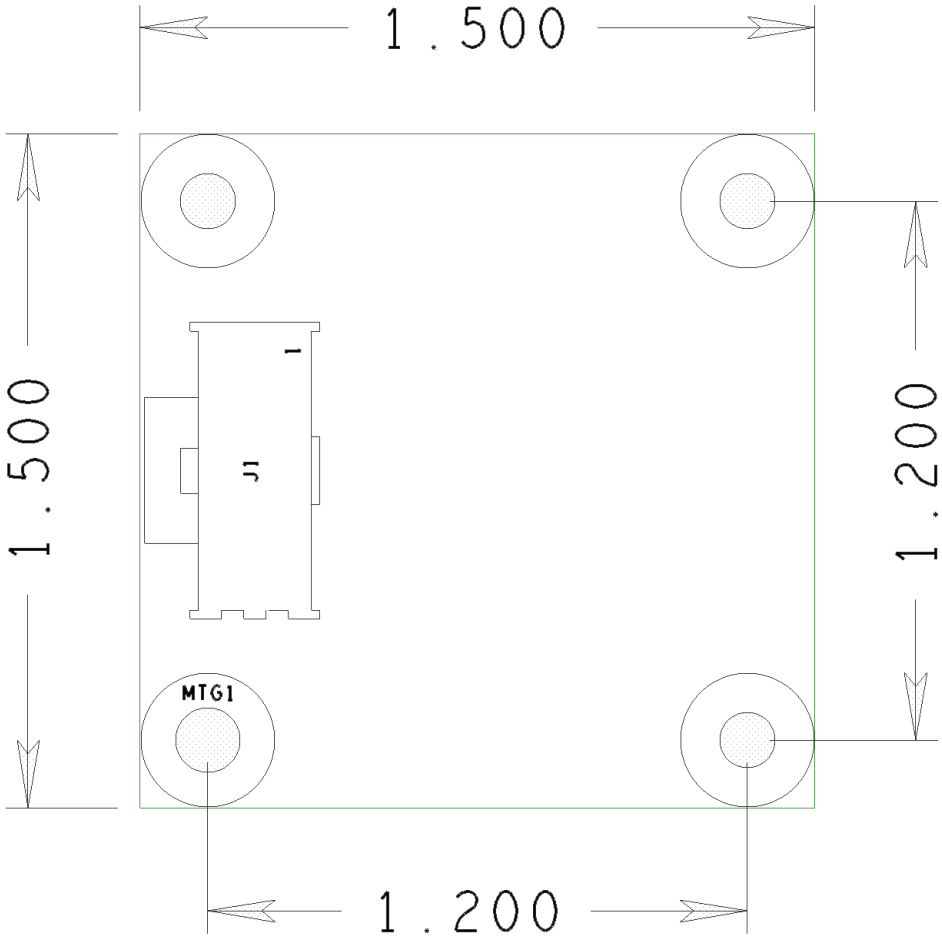
During an overcurrent event, the device shuts power off to the load for protection. Timing during an overcurrent event is similar to the overvoltage event however the on-time is much shorter and full-power is not reached. The device is only sensing the load for normal operation to resume.



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 and overvoltage event or an overcurrent event, the FLT pin pulls low to indicate that the pass FET is about to turn off.

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

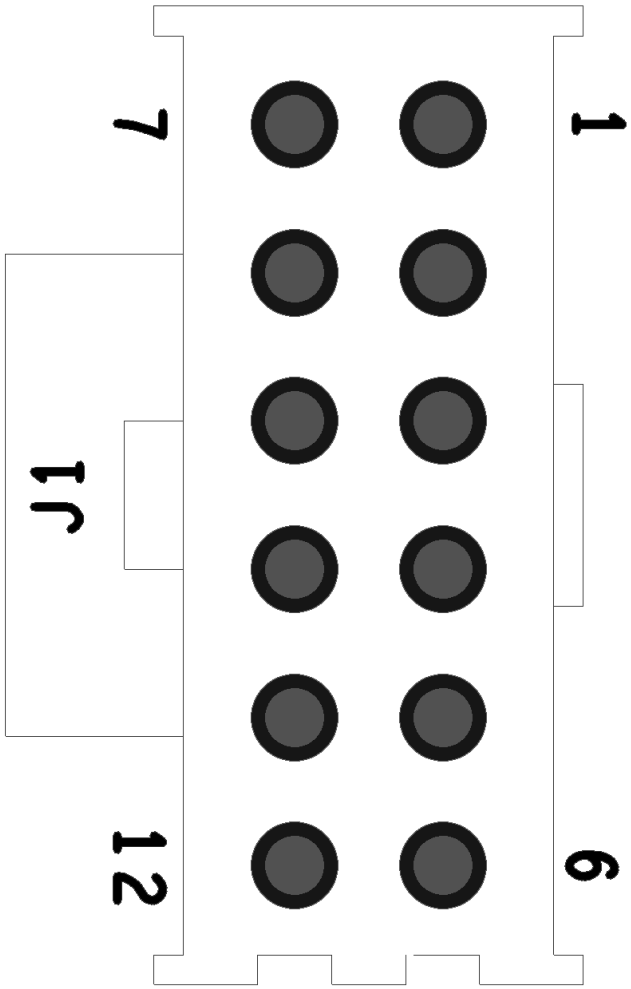


Dimensions

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.