Power Stamp Alliance

Application guidance in Resonant and Non-resonant design-based stamp-connections in the same application

v.a

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Application note purpose

- This application note and guidance is to assist with the design of applications so that both resonant and non-resonant based Power-stamp compliant hardware can be used on the same footprint.
- This note relates to Pin 2A5 (PWM_S) in the SATELLITE footprint and its relation to Pin 1A2 (PWM_Y)

Summary.

- When Resonant based powerstamps are to be used, the pad of 2A5 (PWM_S) on the host PCB must be in place, but left NOT-CONNECTED and floating.

- When Non-Resonant based powerstamps are to be used, the pad of 2A5 (PWM_S) on the host PCB must be connected to Pin 1A2 (PWM_Y)
  - In non-isolated designs, this can be a direct connection
  - In Isolated designs this connection must be through an isolation stage.

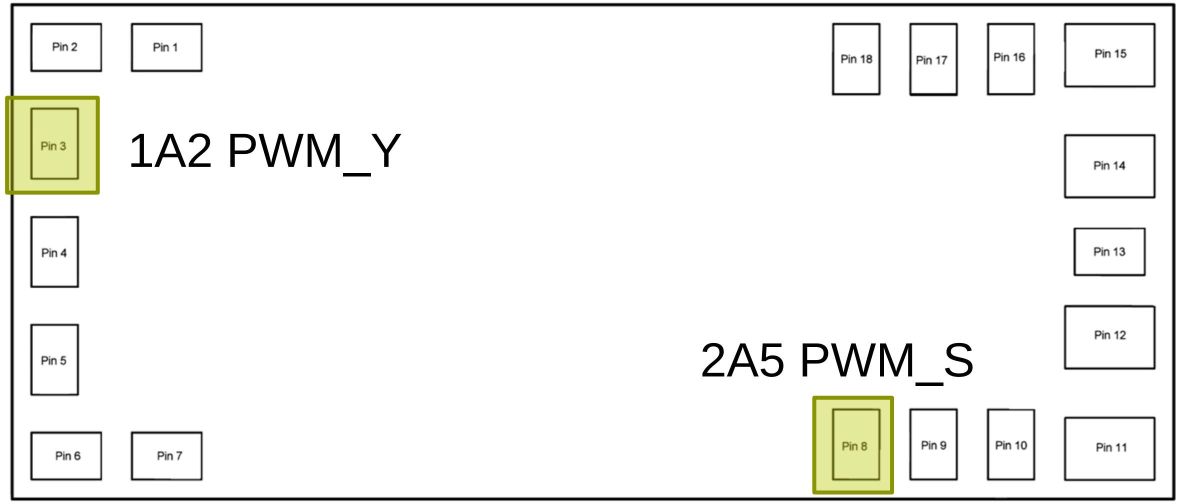
Pin 2A5: Satellite

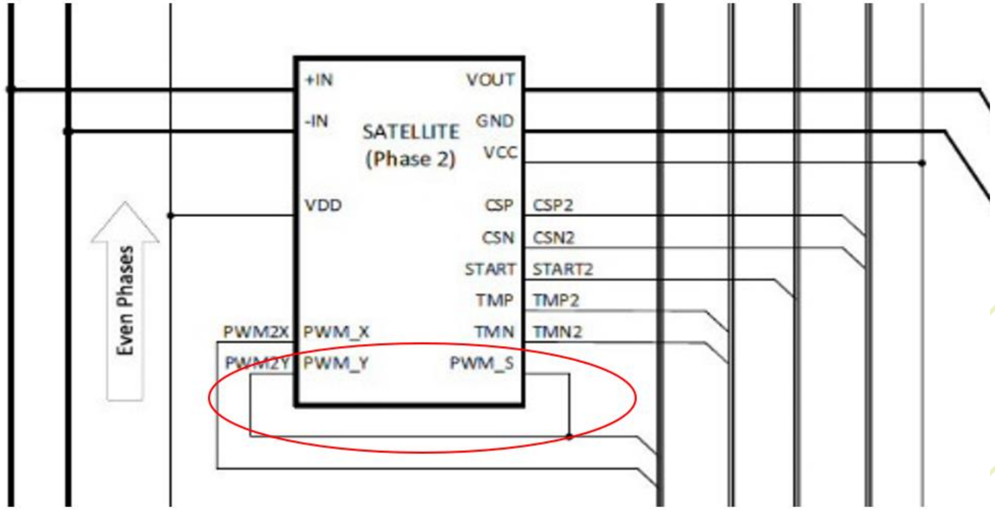
RESONANT STAMPS

- Leave this pin non-connected and floating

NON-RESONANT STAMPS

- The pin on the satellite does need to be connected to Pin 1A2 either
  - Directly for non-isolated designs
  - Via an isolated for Isolated designs.
- This connection is to be made on EACH satellite that is used.





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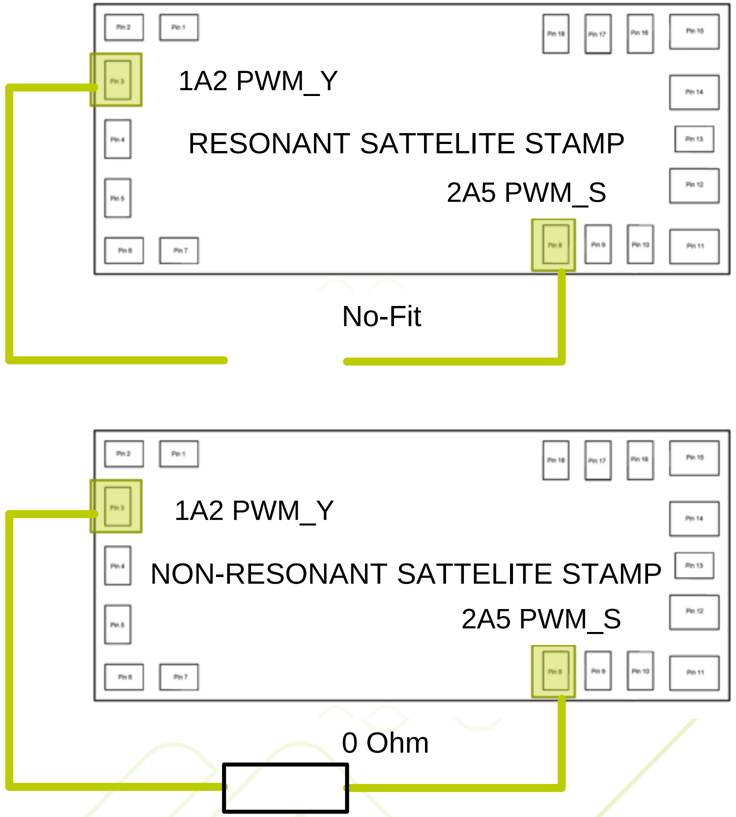
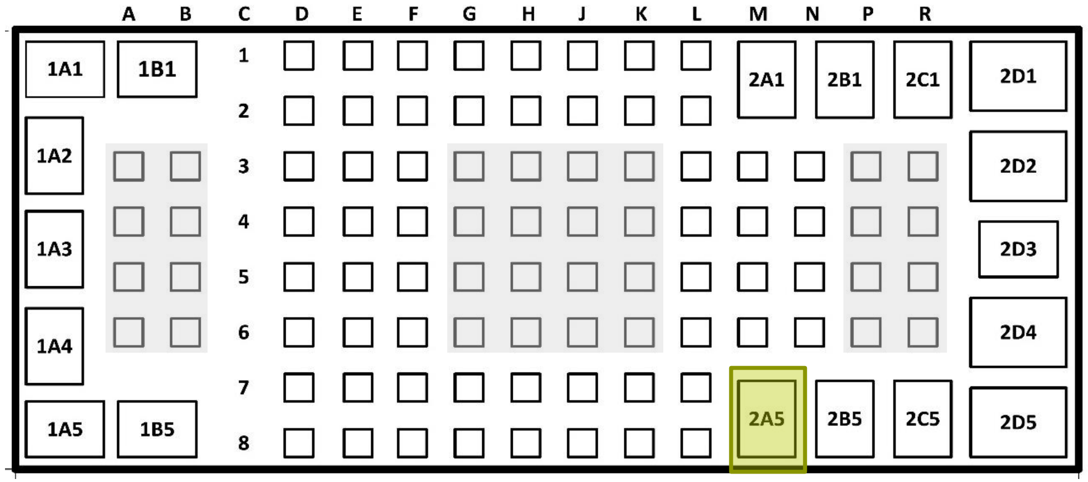
Dealing with Resonant & Non-Resonant Applications

- To accommodate both Resonant and Non-Resonant stamps in the same application the following action is needed in application tracking
- 2A5 to EITHER be
  - A floating connection to accommodate Resonant Stamps
  - A connection to PWM_Y
- Accomplish this by applying a Fit or No-fit Zero-Ohm links that is
  - Fitted if a Non-resonant stamp is used
  - Not fitted if a Resonant stamp is used.



Pin 2A5: Main; Reference information

- This pin in the Main-Stamp footprint is defined as being present, and a pad must be present,
- The pad is NOT to be CONNECTED to any signal. It is to be left floating.
  - The connection between PWM_S and PWM-Y is made internally in the main-stamp construction



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Membership Agreement

Purpose

The purpose of the ***Power Stamp Alliance*** is to facilitate market competition by developing product standards based on STMicroelectronics ICs. In particular the first projects will be based on parallel resonant/non resonant multiphase converters with current doubler (AKA *48V direct conversion*)

The Power Stamp Alliance will ensure customers multiple sourcing of on-board isolated and non-isolated DC-DC power converters.

The Power Stamp Alliance will share select information to assure the standard form factor and mechanical, feature set, and functional compatibility.

Maintaining cooperation among members in the development of product standards to assure practical levels of alternate source capability, without obligation for cooperation in the development of product topology, circuitry or performance, is a primary tenet of the Power Stamp Alliance. Therefore, parametric product performance variability and increased levels of competition are fully expected and welcomed.