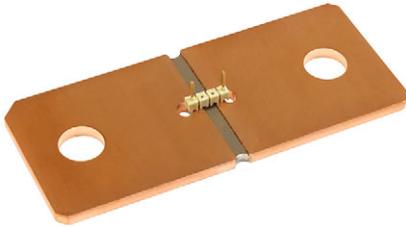


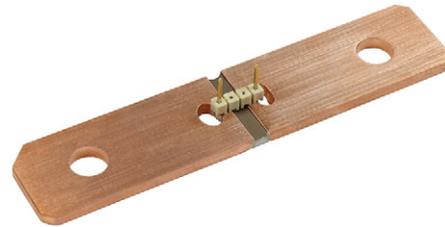
## Vishay WSBE Power Shunt - PCBA Mounting

This guideline serves as a recommendation rather than a specific instruction.

When reflow soldering Vishay's WSBE or WSBS series to a PCBA it should be noted that the shunts are heavy and they act like a heat sink during the reflow soldering process. For this reason, an extended soak period must be considered, see section "Reflow Profile" of this document for reference.



WSBE8536...



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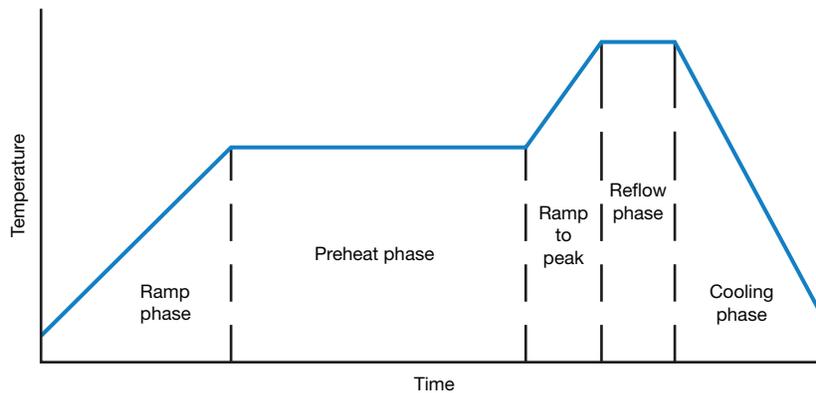
In general, the solder reflow profile should be optimized, so eutectic temperature <sup>(1)</sup> is reached in the reflow phase and should occur on the surface of the central solder joint.

The central solder joint can either be the voltage sense pins of the shunt or in case a PCBA shall be mounted, the contact surface of the shunt, where the solder pads of the PCBA are laid out. Refer to section on PCB design for further recommendations.

### Note

<sup>(1)</sup> The eutectic temperature describes the lowest possible melting point of the solder paste and is essential because it determines the optimal temperature for achieving a good and reliable soldering result

### REFLOW PROFILE



- Ramp phase: room temperature to 150 °C, t = 100 s (3 °C/s max.)
- Preheat phase: 150 °C, t = 160 s
- Ramp to peak: 150 °C to 250 °C, t = 40 s (3 °C/s max.)
- Reflow phase: 250 °C, t = 40 s
- Cooling phase: 250 °C to room temperature, t = 80 s (6 °C/s max.)

Specific profiles may vary based on reflow oven model, solder paste type, other component requirements, ratio of inert gas to oxygen and recommendations from industry standards.

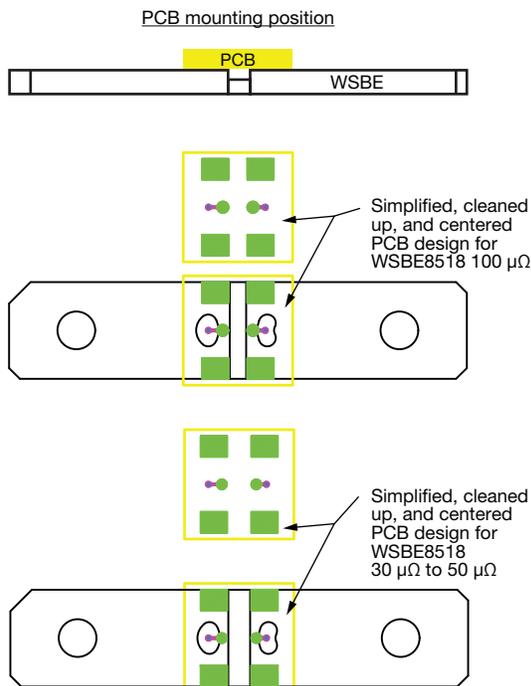
## WSBE8518 - PCB DESIGN SUGGESTION

Sense points are critical for TCR performance. For simplified PCB design illustrated below, the solder pads are marked green, and the voltage sense connection shows an additional purple via hole to the opposite side of the PCB. It is recommended that all solder pads stay at least 0.005"/0.127 mm clear of the ledge of the terminal.

A redundant current sense option can also be implemented. One or two additional sense pairs can be positioned next to the two main sense points.

Key benefits of this would be fault tolerance, increased safety, and improved accuracy.

For more details, contact: [ww2cresistors@vishay.com](mailto:ww2cresistors@vishay.com)



## WSBE8536 - PCB DESIGN SUGGESTION

