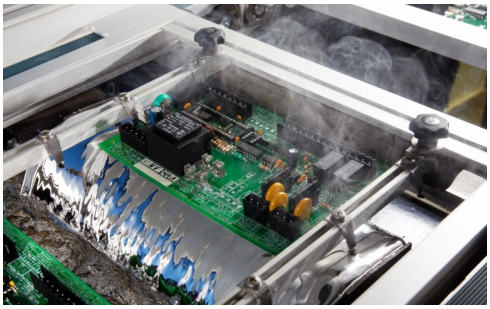
OPTO APPLICATION NOTE

Soldering Optoisolator Components - OPI1268 Family

App Note 260

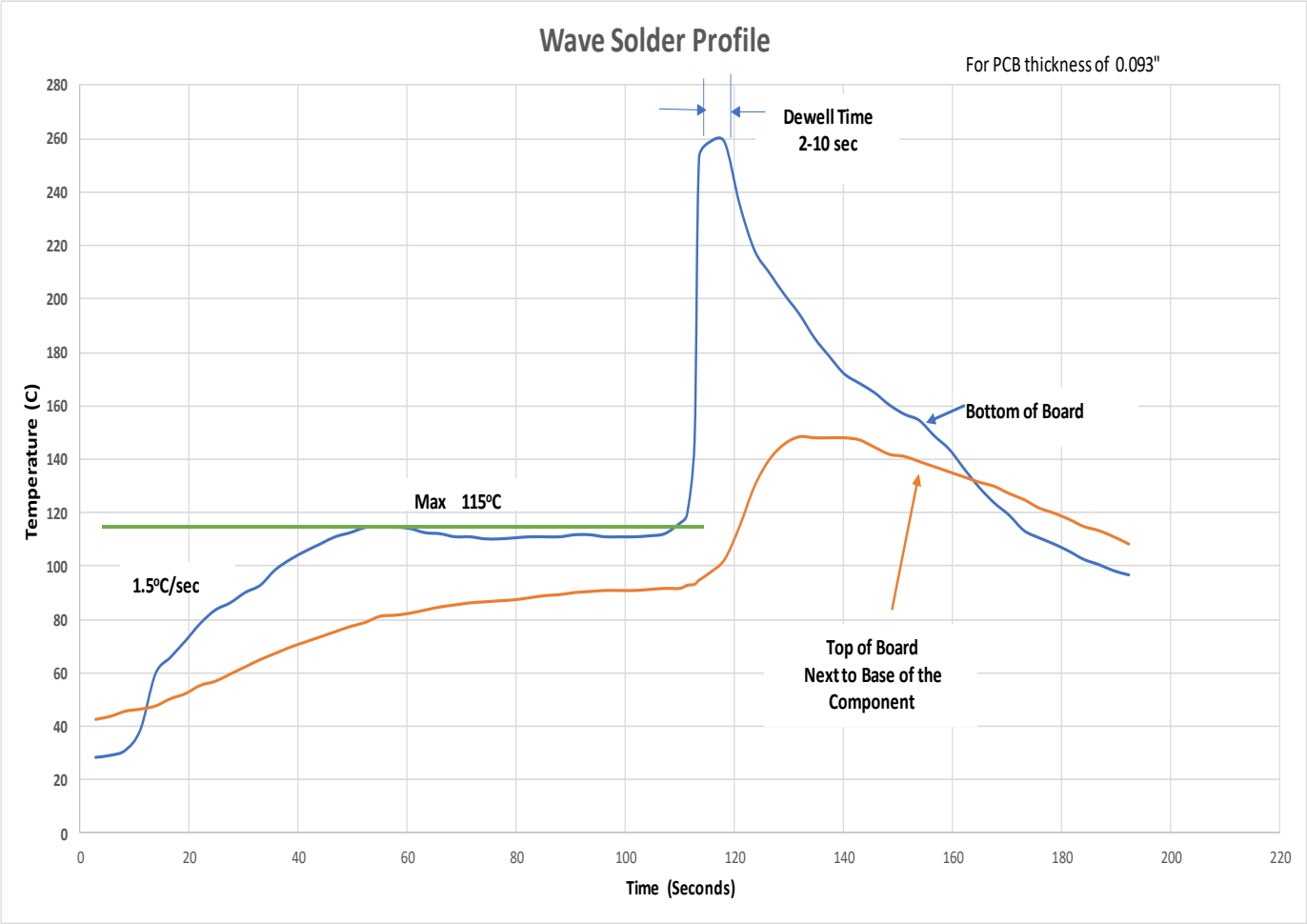
Wave Soldering

TT Electronics recommends customers use the below soldering guidelines for soldering the family of OPI1268 High Voltage Optoisolators.



Wave Soldering

- Wave Solder Profile
- Recommended Pb-free Wave Soldering Profile



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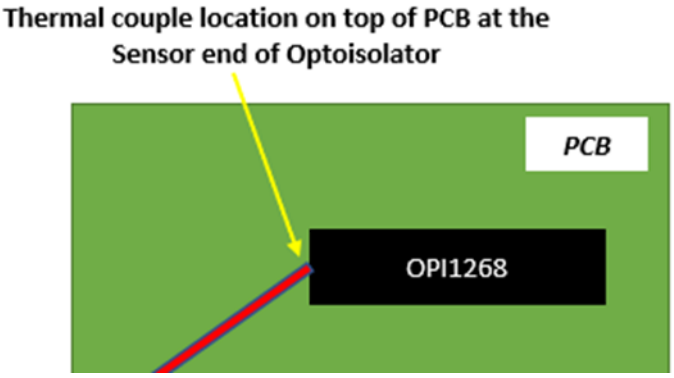
Wave Soldering Cont.

Thermal Couple Placement

- When measuring the temperatures experienced by the component, the thermal couple on the top of the board is to be located at the sensor end of the optoisolator as close to the sensor leads and PCB as possible.



Note: It is possible to damage the OPI1268 Family of optoisolators if excessive heat is applied when soldering the component.

Recommendations: To avoid thermal stress induced failures, the OPI1268 family of optoisolators can be custom designed to have longer leads that place the optoisolator at a higher position off the PCB to reduce the effects of any thermal stress on the optoisolator during its lifetime.

Hand Soldering

The cause of failure is lead movement inside the package at the gold bond wire from chip to lead interconnect. The force exerted by the iron is the critical control parameter. The smaller the force, the less likely a solder-induced open will occur.

- The iron should never exert more than 20 grams weight on the leads.
- Keep soldering temperature as low as possible; 260° C is the maximum allowable.
- Adjust the temperature of the soldering iron so soldering time is between 1.5 to 3 seconds, with 4 seconds the maximum allowable.
- Keep leads at full length when possible and trim after soldering.

There are some additional recommended procedures that can aid in the precautions listed above.

- To reduce contact time, load the solder onto the iron prior to making contact.
- If devices are to be inserted into PCB holes, ensure the holes are at the nominal device lead spacing so there is no stress or spring tension on the leads during soldering.
- The use of no-clean flux in the soldering process is recommended.

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