



Applications Brief

Power Tips Meet Pb-Free Requirements Without High Tip Idle Temperatures

OK International is pleased to introduce a series of Power Tips especially designed to address the high thermal demands of lead free alloys and other high thermal demand applications. In concert with our proprietary SmartHeat technology, OKI has enhanced both the heater efficiency and thermal transfer characteristics of our tip designs to deliver a significant increase in thermal performance without resorting to the conventional approach of increasing tip idle temperatures.

Successful conduction soldering involves the optimum delivery of thermal energy from the soldering iron heater to the pad. While the board and component characteristics establish the thermal energy demand, the tip is the "thermal highway" for the transfer of heater energy.

Sn-Pb and other moderate demands can be easily met with current technology however the increased thermal demand of Pb-Free alloys or other high thermal demand applications will not be satisfied.

OKI Power Tip technology has been developed to exceed the demands of Pb-Free and other high thermal demand applications by dramatically improving both heater efficiency and thermal energy transfer along the path from heater to pad. Combined with Smartheat thermal energy management technology, OKI Power Tips deliver the industry's leading thermal performance and process control.



Moderate Pad Demand—Traditional Tip Meets Demand



High Pad Demand—Traditional Tip Fails to Meet Demand



High Pad Demand—Power Tip Meets Demand

Power Tip Benefits

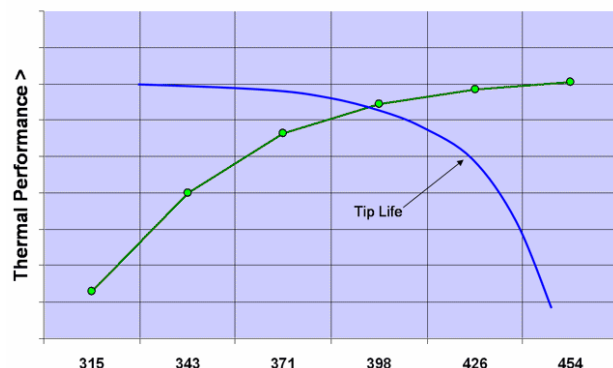
- Significant performance gains without an increase in tip idle temperature and its associate problems
- **Fully Backward Compatible with existing MX-500 and SP-200 Power Units and Handpieces**
- Power Tip design combined with Smartheat technology deliver Industry's Highest Thermal Performance
- Power Tip (high performance -low idle temperature) and Smartheat (No-Overshoot) technologies eliminate potential damage to heat sensitive components and PC Board especially with higher temperature Pb-Free applications

Contact Us for Lead-Free Process Support

- PCB Evaluation & Application Reports
- Thermal Assessments & Tip Recommendations
- Custom Tips to Meet Your Specific Requirements
- In-House Lead Free Seminars

Raising Tip Idle Temperature is Not a Solution

Unlike Sn-Pb alloys, increasing tip idle temperature to increase thermal performance is largely ineffective at Pb-Free alloy temperatures. Additionally, higher tip idle temperatures severely degrade tip life and increase the risk of component thermal shock. Alternatively, increasing tip conductivity is significantly more effective in delivering the thermal energy from the heater to the pad.



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