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Tin Whiskers on Sn96Ag3Cu0.5 Hot Dipped Finish

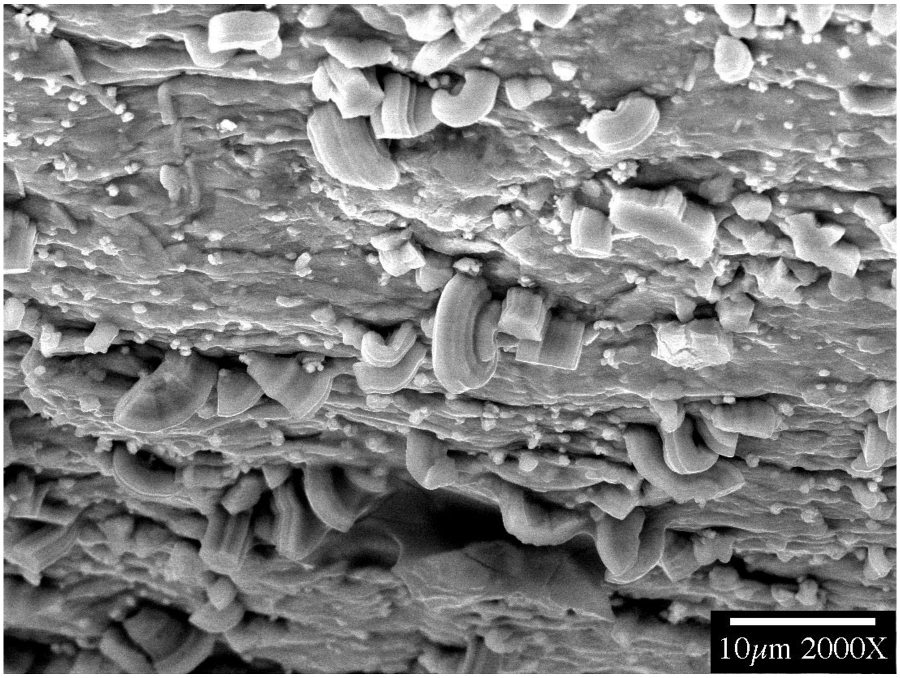
Subject: Thermocycled lead free samples

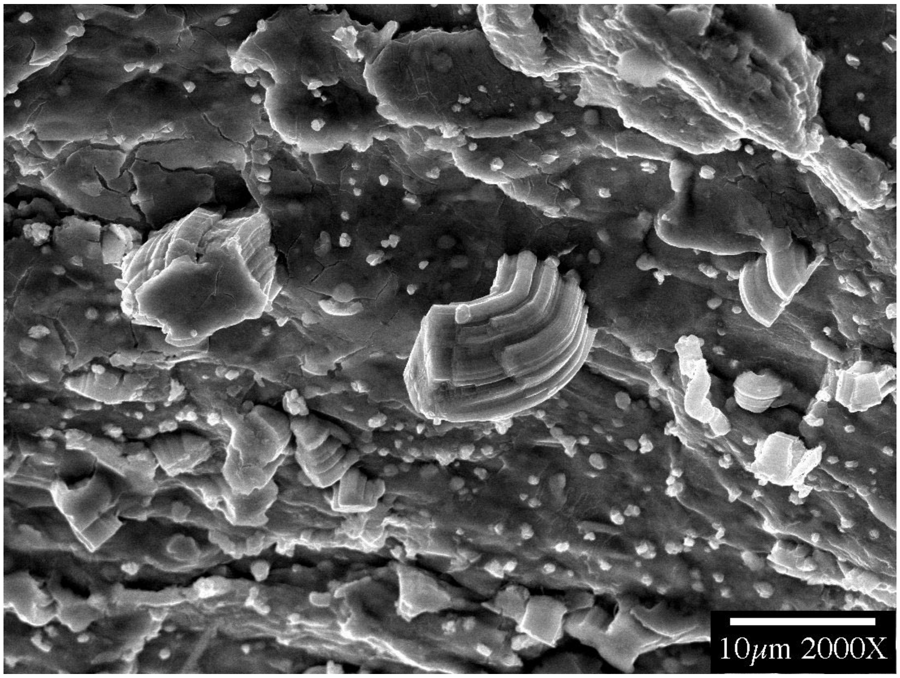
Description of Sample:

Six samples of surface mount resistor, with endcap terminations dipped in Sn96Ag3Cu0.5 solder.
500 hrs 85c/85RH + 500 cycles -55-125c

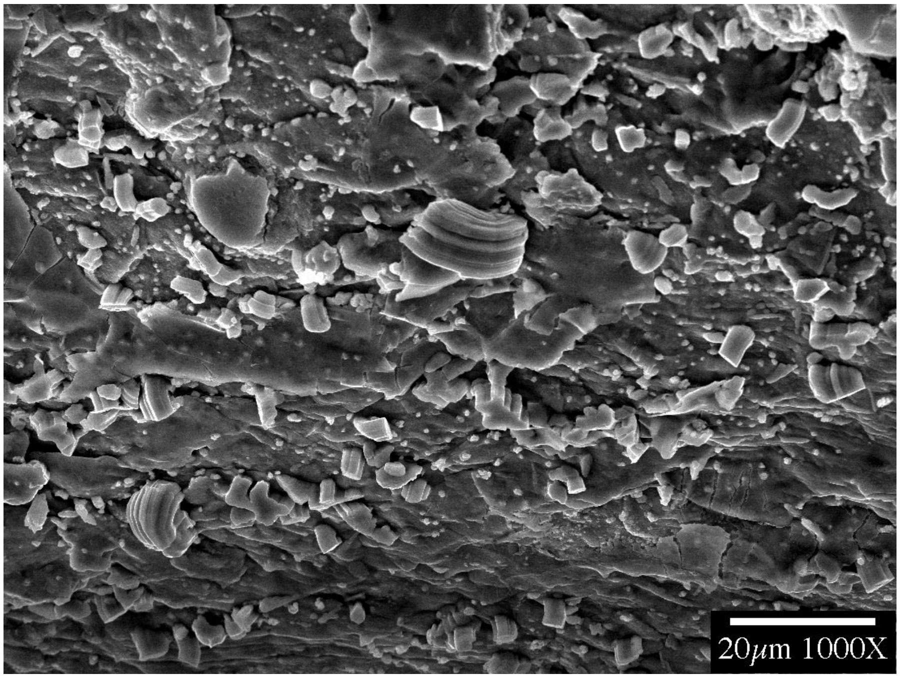
Analysis Findings:

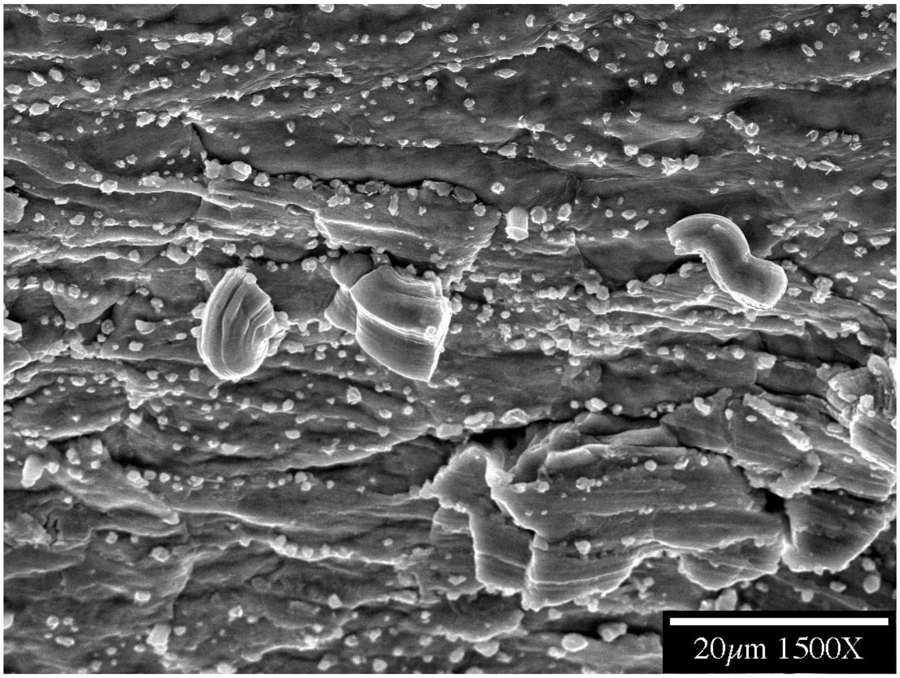
Three out of the six samples exhibited whisker growth. The whiskers were short and typical in morphology for whiskers grown by thermocycling. Maximum length observed 10 microns. The whiskers were all on the ends of the chips. Grain changes and recrystallization were observed, again typical of thermocycled pure tin finishes.





Longest whisker observed.


20μm 1000X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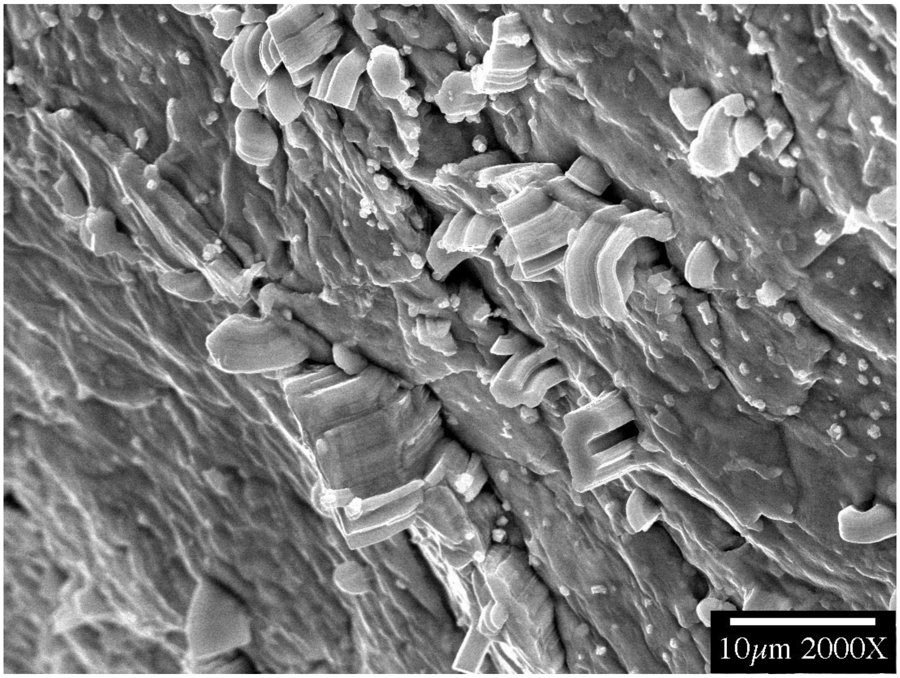
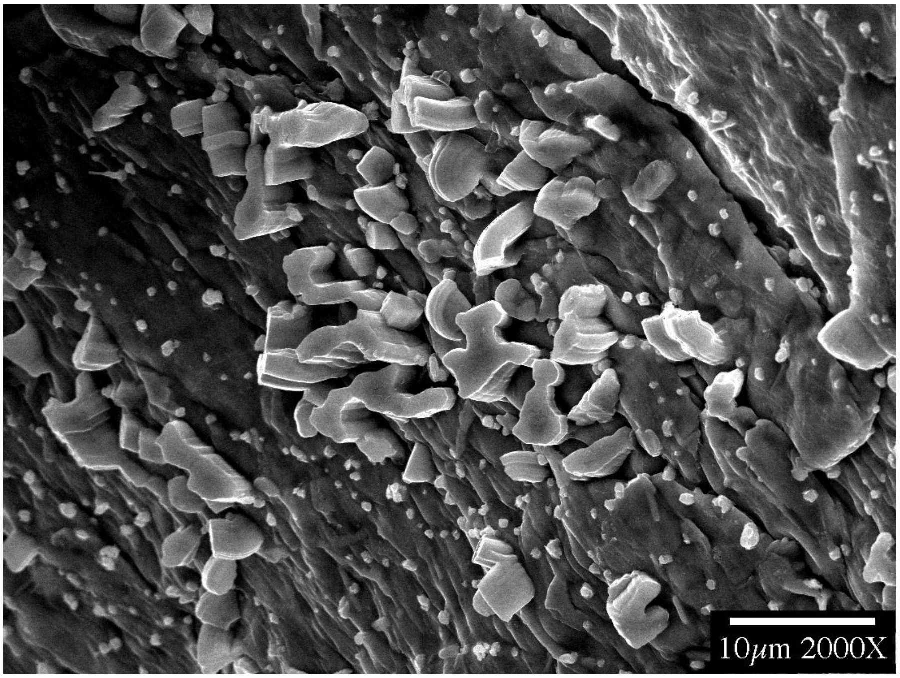

10μm 2000X


10μm 2000X