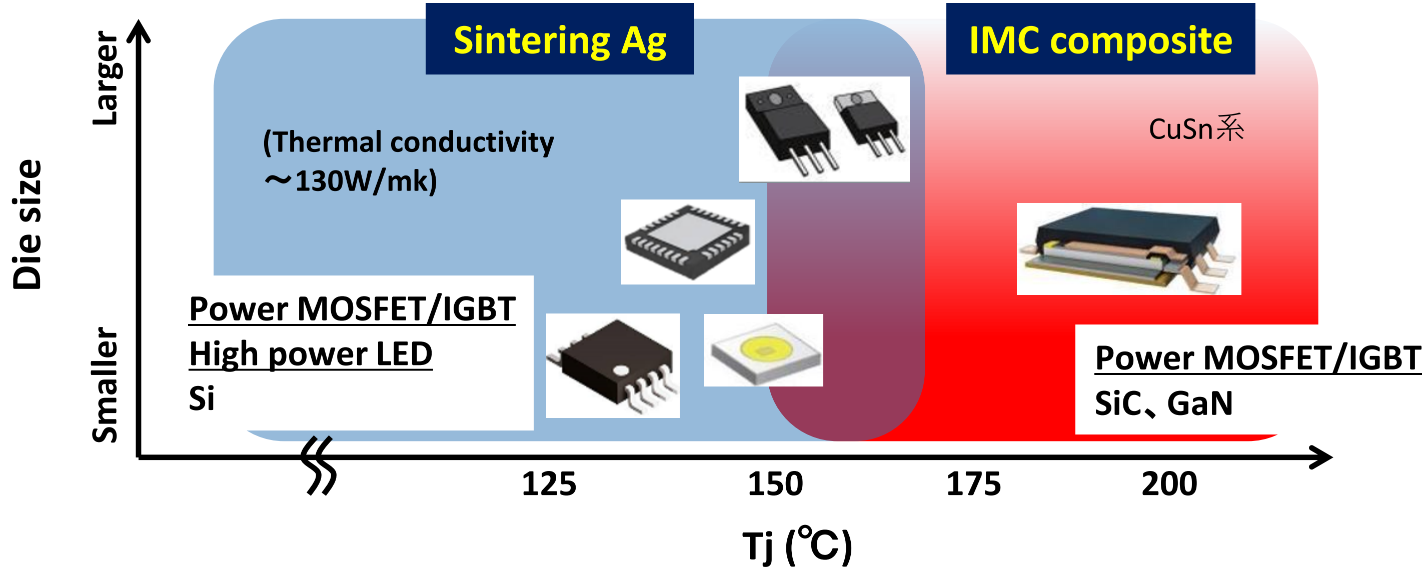
Paste for power semiconductor

Die Attach Paste for power semiconductors

Under Development

■Target

※IMC(intermetallic compound)



Die size

Larger

Smaller

Sintering Ag

(Thermal conductivity
～130W/mk)

Power MOSFET/IGBT
High power LED
Si

IMC composite

CuSn系

Power MOSFET/IGBT
SiC、GaN

125
150
175
200

Tj (℃)

Package: TO-252, power QFN/DFN, SOP etc.
Application : Industry, Automotive, IPM modules, etc.

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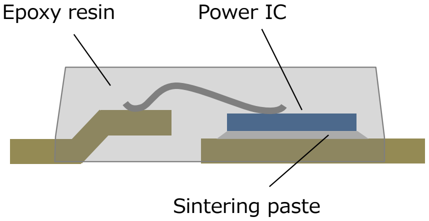
■TCT results(Sintering Ag paste)

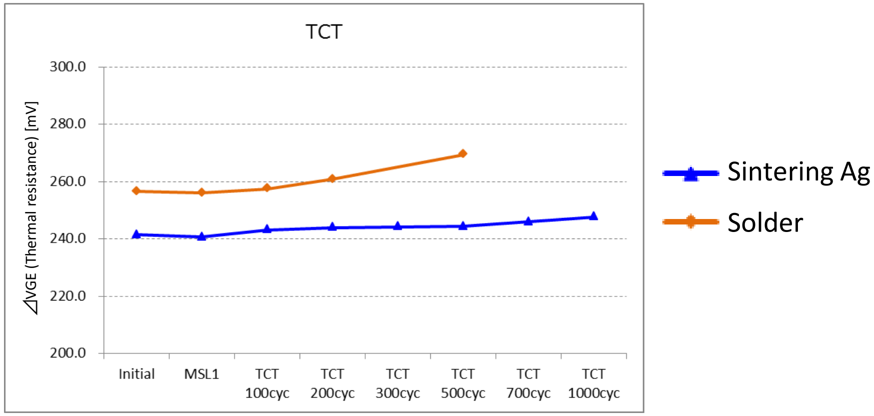
Test Package

- Package : TO-252-2
- Lead frame : Cu Frame/0.5mmt/PPF plated
- Chip : Si IGBT (Backside metal=Final Au)
- Chip size : 3.00×2.50×0.40mmt



Average change thermal resistance

TCT conditions : -65℃（15min.）～150℃（15min.） n=30



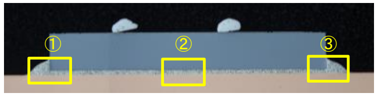
Average rate of change from initial to TCT 500cyc

Solder :5.0% Sintering Ag : 1.2%

Sintering Ag has low initial thermal resistance,
the rate of change in thermal resistance is smaller than Solder.

Cross section

Initial



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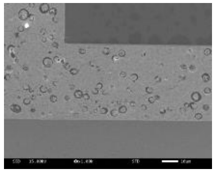
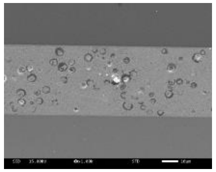
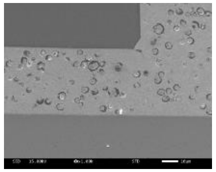
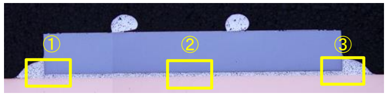
×1000			

After TCT 500cycle



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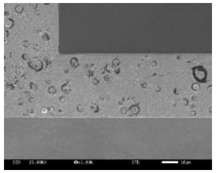
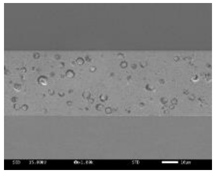
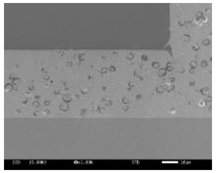
×1000			

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