Nin1 Multi Package

(Type of MIS)

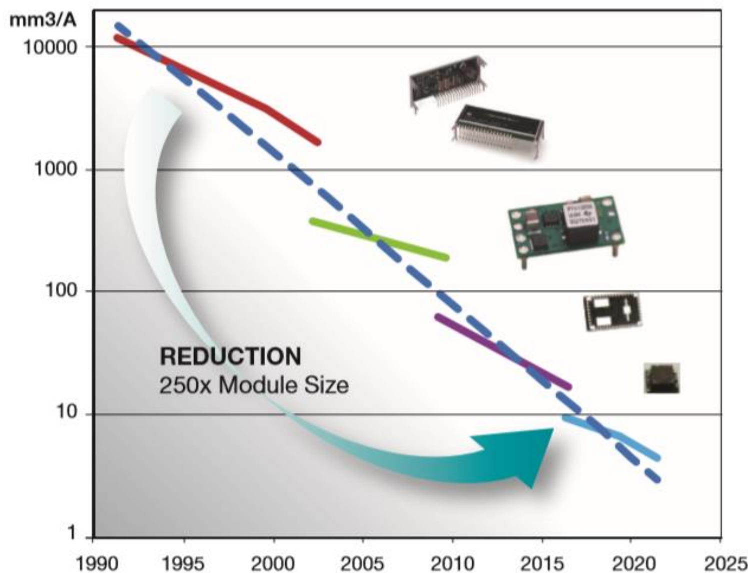
Copyright © 2021 AOI ELECTRONICS CO.,LTD. All Right Reserved.

Nin1Multi Package

Market trend

There is an increasing need for miniaturization and increased power density in server power supplies and DCDC power supplies.

System-in-Package(SiP) modules ⇒ AOI suggestion：Lead-frame based power IC module.

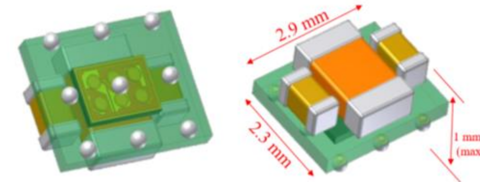


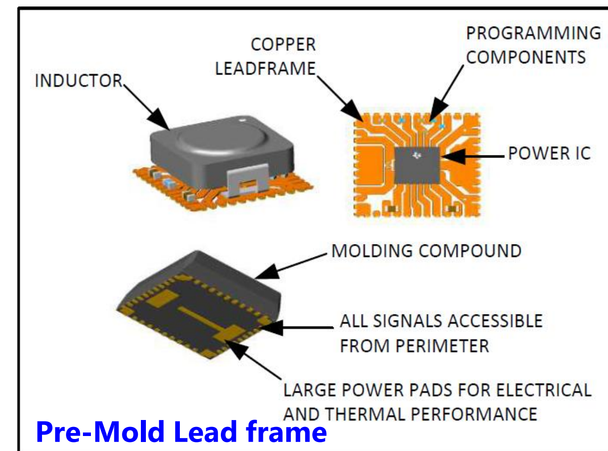
Long-term size reduction trend of converters compatible with TI's 6A to 10A power supply modules

Source：TI Powerful solutions come in small packages

MicroSiP™ DC/DC Converter

- PCB (substrate)
- Embedded PicoStar™ DC/DC converter
- Integrated passives (L, C_{IN}, C_{OUT})
- Released to market





Leadframe-based Overmolded QFN Package

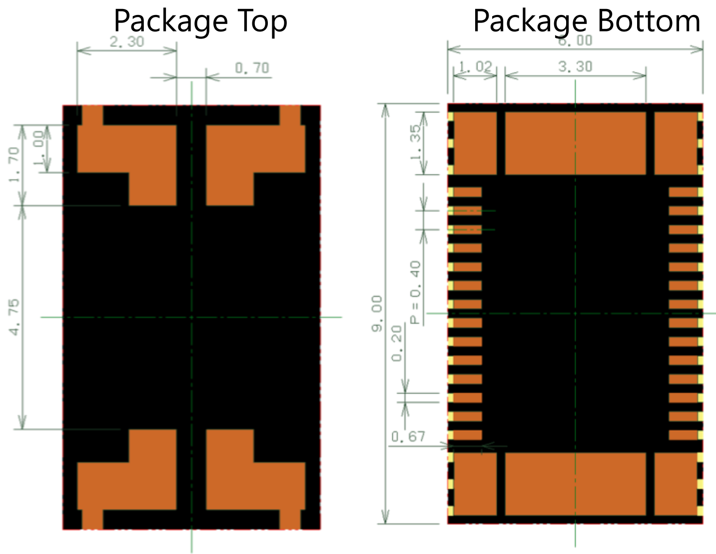
Copyright © 2021 AOI ELECTRONICS CO.,LTD. All Right Reserved.

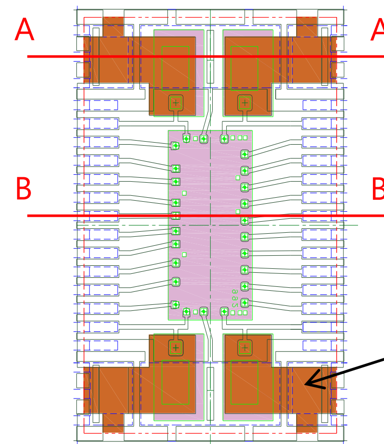
Nin1Multi Package(Type of MIS)

■ **Characteristics**

- ・Multi-chip power management modules
- ・3D MIS Pre-Mold frame(substrate)
- ・Passive components
- ・Large area metal and partial fine line/space

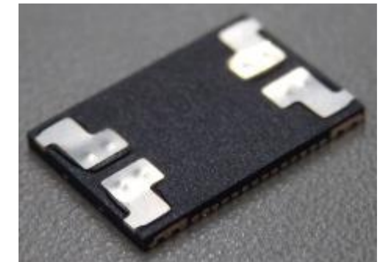
■ **Feasibility study sample**



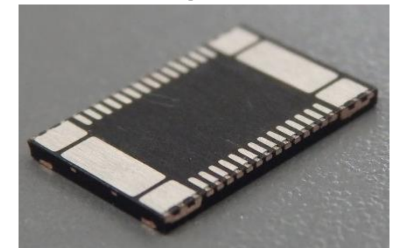


Driver IC×1, MOSFET×4

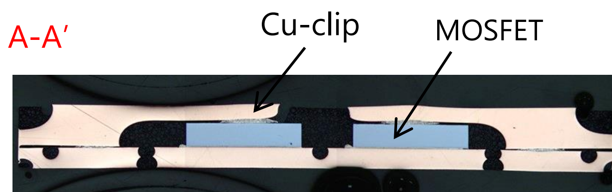
Packge Top(Heatsink side)

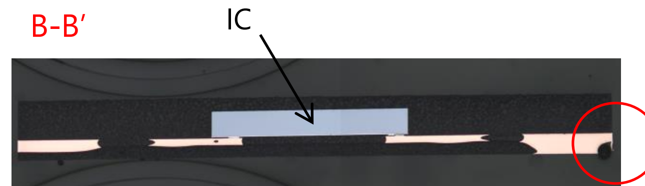


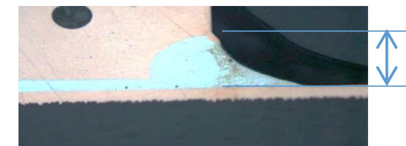
Package Bottom



Cross section



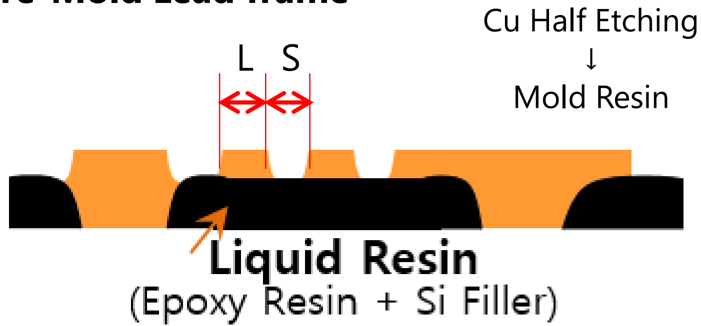




Copyright © 2021 AOI ELECTRONICS CO.,LTD. All Right Reserved.

Nin1Multi Package(Type of MIS)

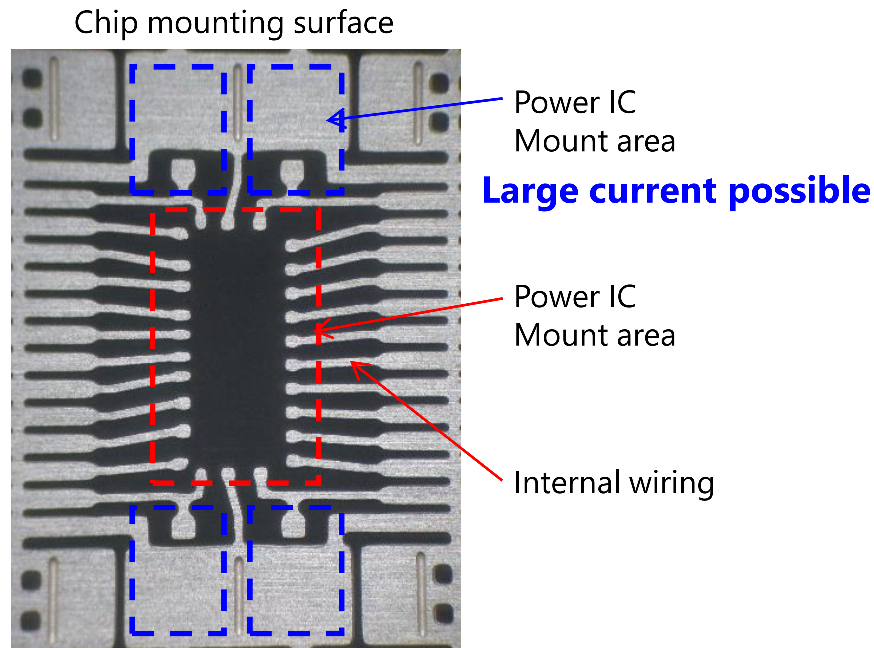
■ Pre-Mold Lead frame

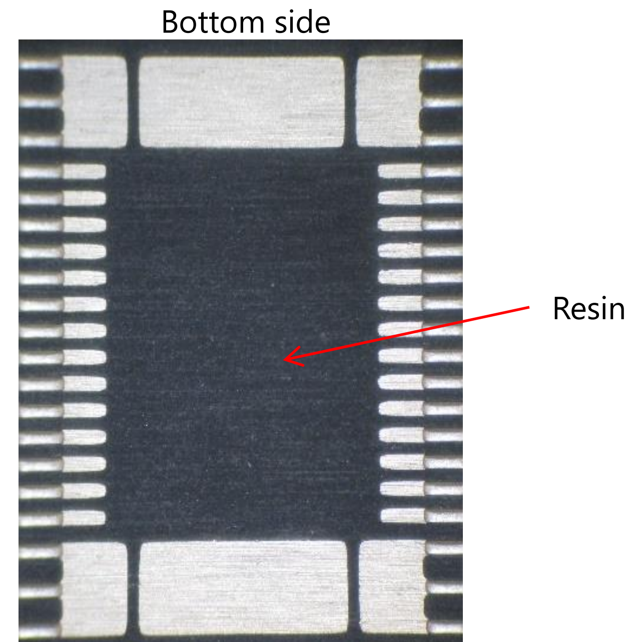


(reference)
Case study : Lead flame 0.20mmt

L=Min. 50µm
S=Min. 118µm

Power IC Pre-Mold Lead frame





Copyright © 2021 AOI ELECTRONICS CO.,LTD. All Right Reserved.

ATTENTION

This material contains confidential information and it is hereby notified that any disclosure, copying, distribution, or the taking of any action in reliance on the contents of this material is strictly prohibited without a prior written consent of AOI Electronics. Thank you very much for your understanding in advance.

Copyright © 2021 AOI ELECTRONICS CO.,LTD. All Right Reserved.