WLP
(Wafer Level Package)

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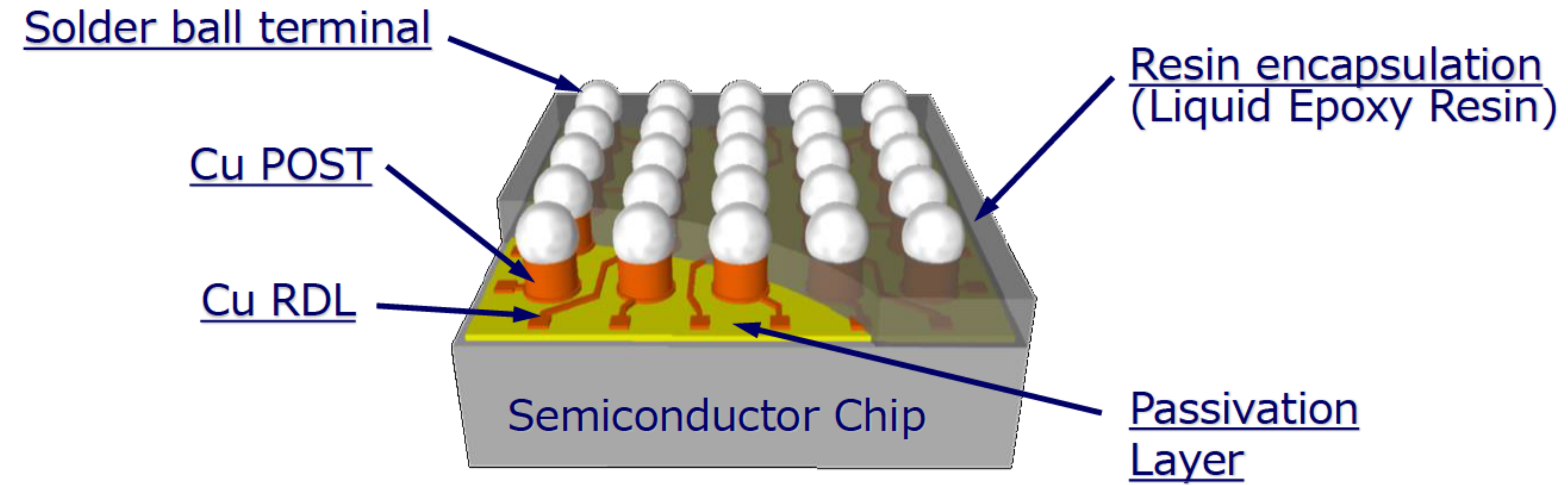
Cu POST Type WLP Construction and Characteristic



Characteristic (Summary)

① High reliability/High electrical characteristics.
② High current capacity
③ Reduce chipping on Circuit side (Protected by resin)
④ Improve quality for low-k
⑤ Improve mountability (High precision coplanarity)
⑥ Low temperature process
(Damage reduction for insulation film)

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Package Lineup

	WLP		Bump		
	CP-Type	U-Type	Cu-Pillar	Micro Bump	Solder ball
Wafer size	12,8,6	12,8,(6)	12,8,(6)	12,8,(6)	12,8,6,(4)
Current	5A	1A			
Min. pitch (um)	350	150	40	40	150
Chip size (mm)	0.5 ～ 18	0.5 ～ 20	0.5 ～ 12	0.5 ～ 24	0.5 ～ 24
Tooling needs	4 layers	5 layers	2 layers	1 layer	3 layers
Production	◎	○	○	○	◎
	OEL original WLP and various WLP line up		Various Bump line up with customer requirement		

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WLP

Technology Roadmap

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Under Development (2020FY～)

No.	ITEM	Structure	Function
1	Low temp. UBM-Type WLP		Improving IC electrical characteristics. 250 degrees or less
2	8inch & 12inch WF Cu Pillar		Flip chip bonding for FOLP (Fan Out WLP).
3	Back Side Metal		Back Side Metal processing after WLP Heat dissipation, electrical resistance reduction
4	Non-Electrical Au Plating	Cu RDL Au Pd Ni	Gold wire can be made after RDL
5	High current WLP		By using our resin WLP, we are able to make thicker RDL, for large current product, which is difficult for other companies. It will be advantage to make devices and for energy saving.
6	2 in 1 WLP		Create 2in1 with WLP and fit in the chip size Applications are MOS-FET etc.

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