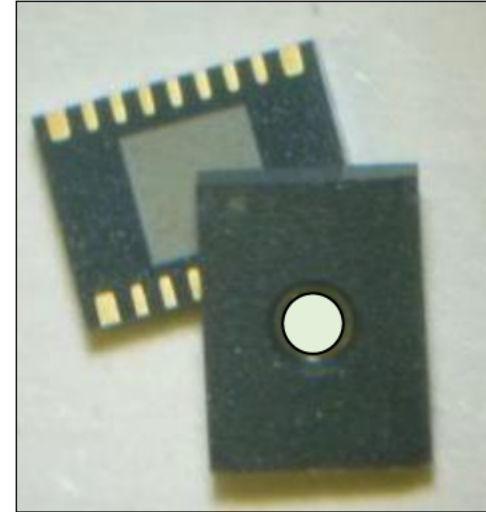


Open Cavity Package

Product Summary

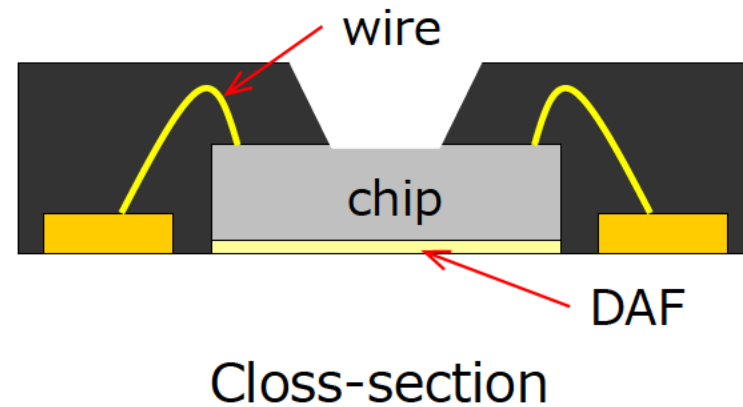
◆ Feature

- High precision
- Compact DFN/QFN or [PLPackage](#)
- Good productivity for high-volume
- High reliability (Materially, MSL1 passed)
- Release film reduces stress on the chip
- Good performance-to-price ratio



◆ Application

- Optical sensor
- Optical filter
- Pressure sensor
- Temperature sensor
- Humidity sensor
- Environmental sensor



Product Summary

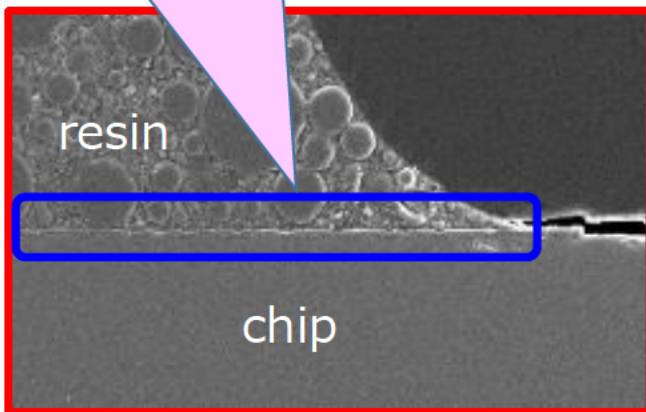
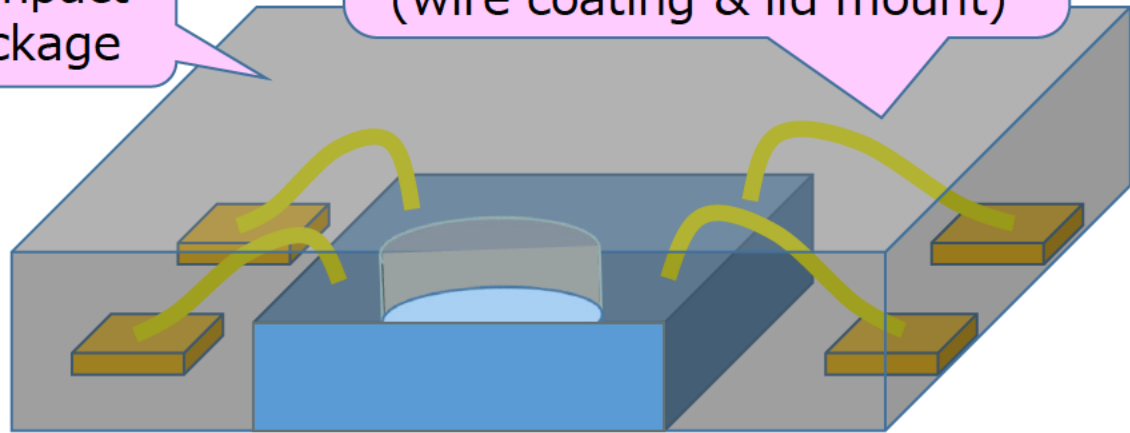
◆ Key benefits

Compact Package

Good productivity (Low cost)
• process reduction
(wire coating & lid mount)

High reliability

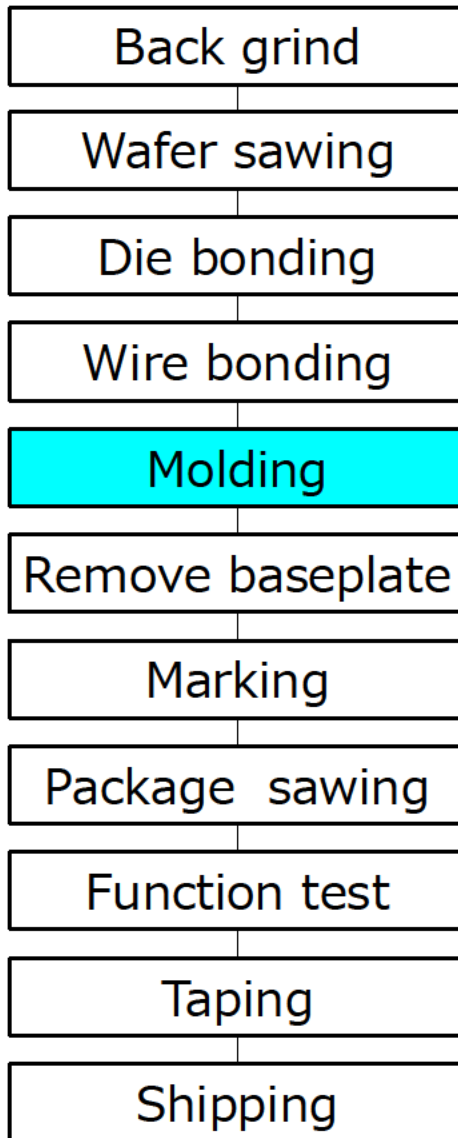
- opening is minimum size
- wire is covered by resin
- chip-resin no delamination



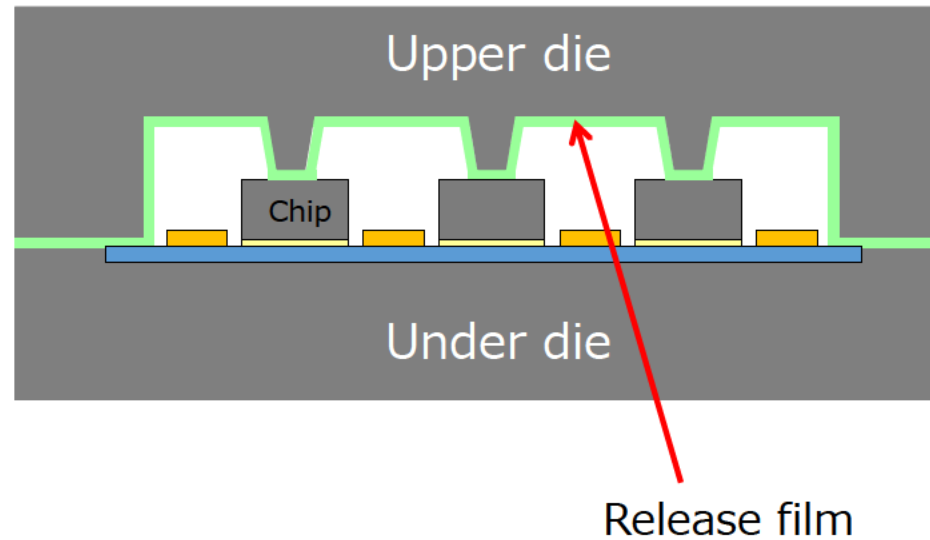
High precision

- chip position with respect to opening area ; $\pm 100\mu\text{m}$

Process Flow



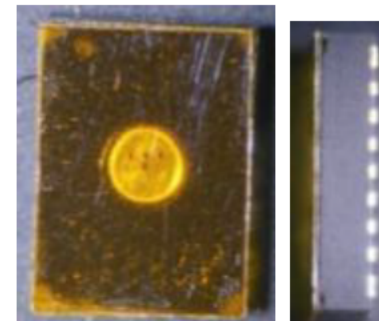
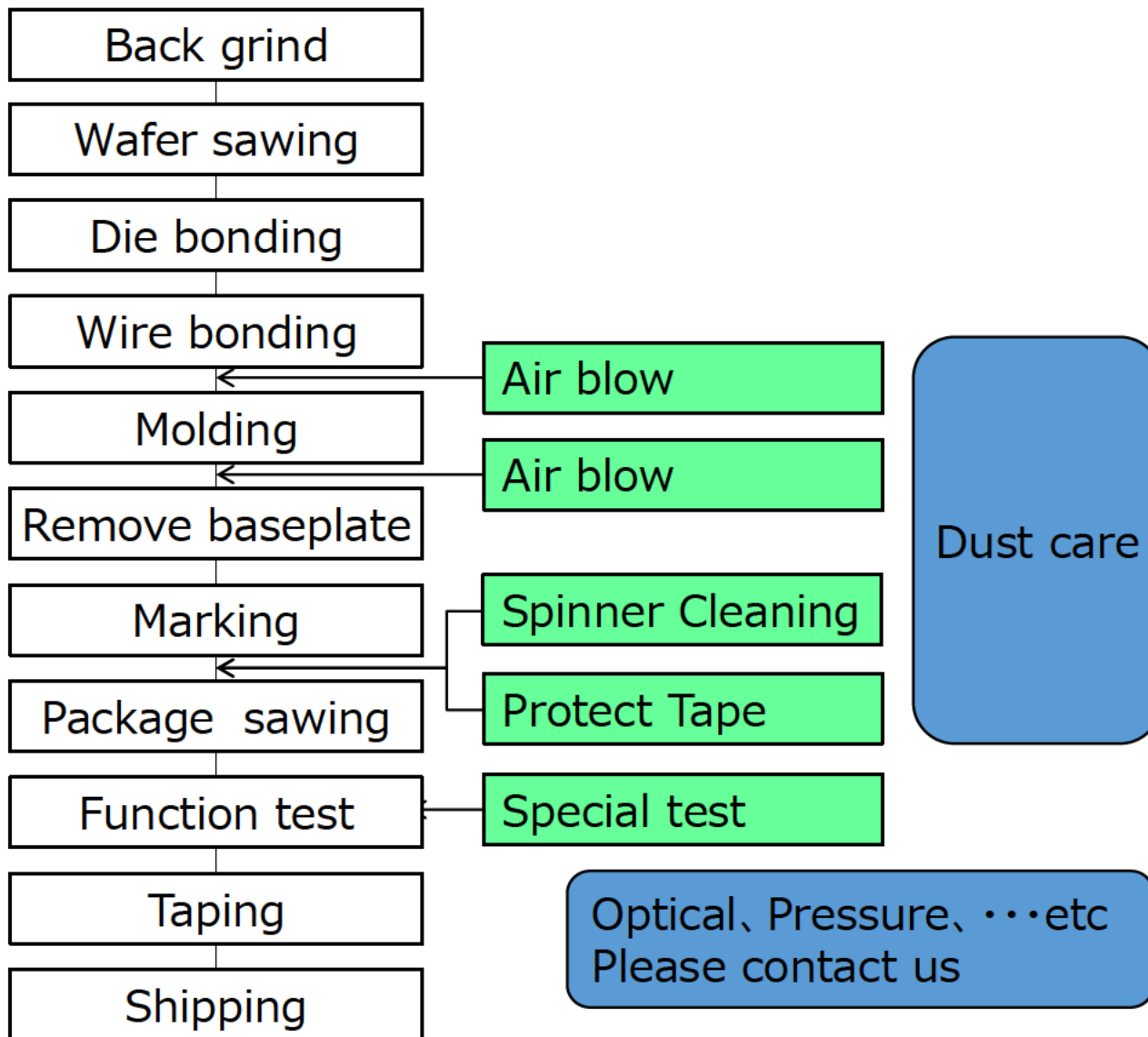
Molding Process (Cross-Section)



Molding(=key process) uses release film
Reduces chip damage.

High precision in the Z direction by
a turnkey process.

Process flow(Optional)



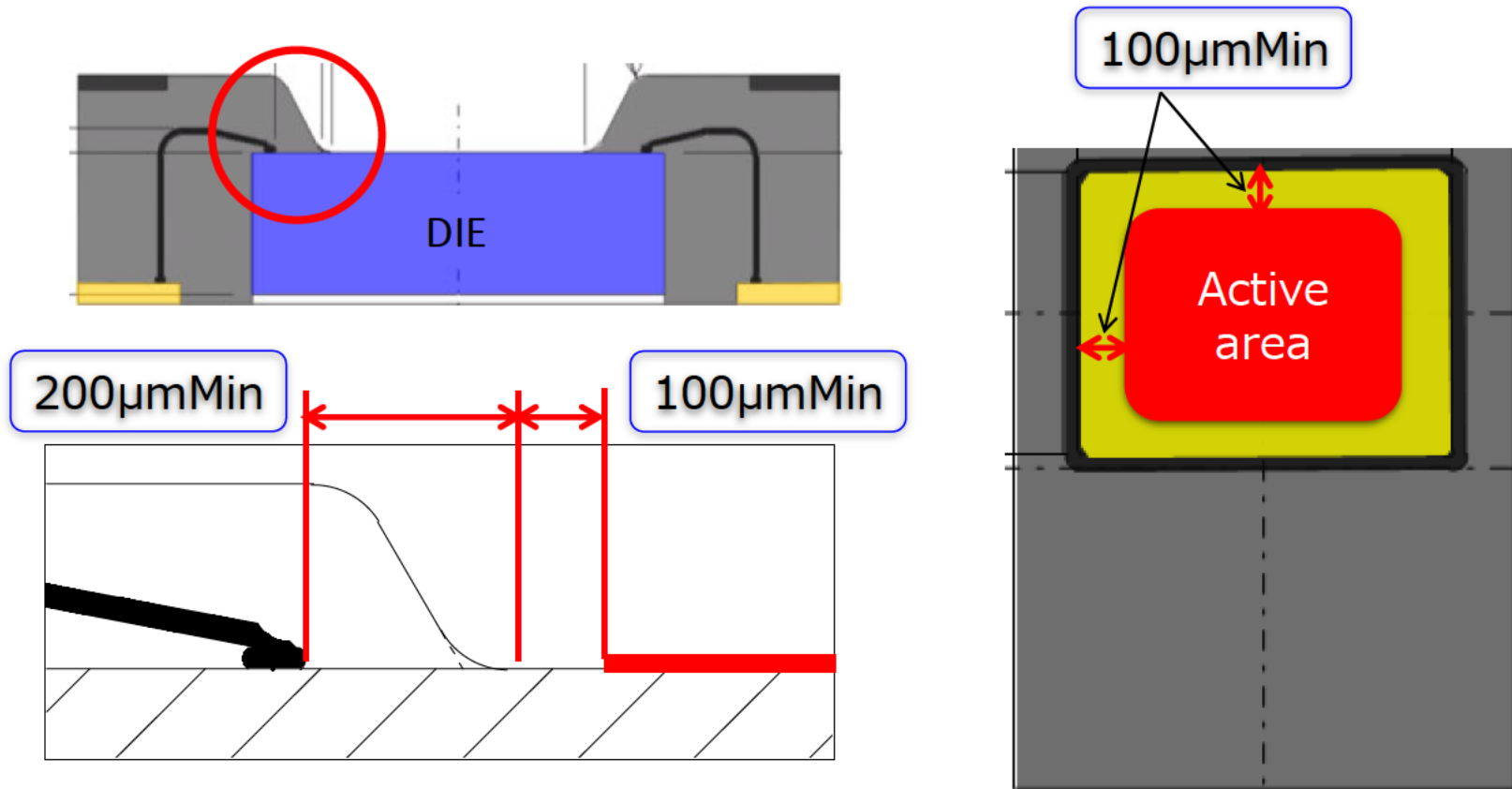
Reliability Test Data

No.	Contents	Condition	Sample size	Result
1	Pre-conditioning	MSL1+IR260°C×3times	45	Pass
2	Pressure Cooker Test	121°C/100%RH/2atm ×500cyc	45	Pass
3	Temperature Cycle Test	-65°C(30min)⇔150°C(30min) ×500cyc	45	Pass
4	High Temperature Storage Life	150°C×1,000hr	45	Pass
5	Low Temperature Storage Life	-65°C×1,000hr	45	Pass
6	Temperature-Humidity (No Bias)	85°C/85%RH×1,000hr	45	Pass

Design Guide

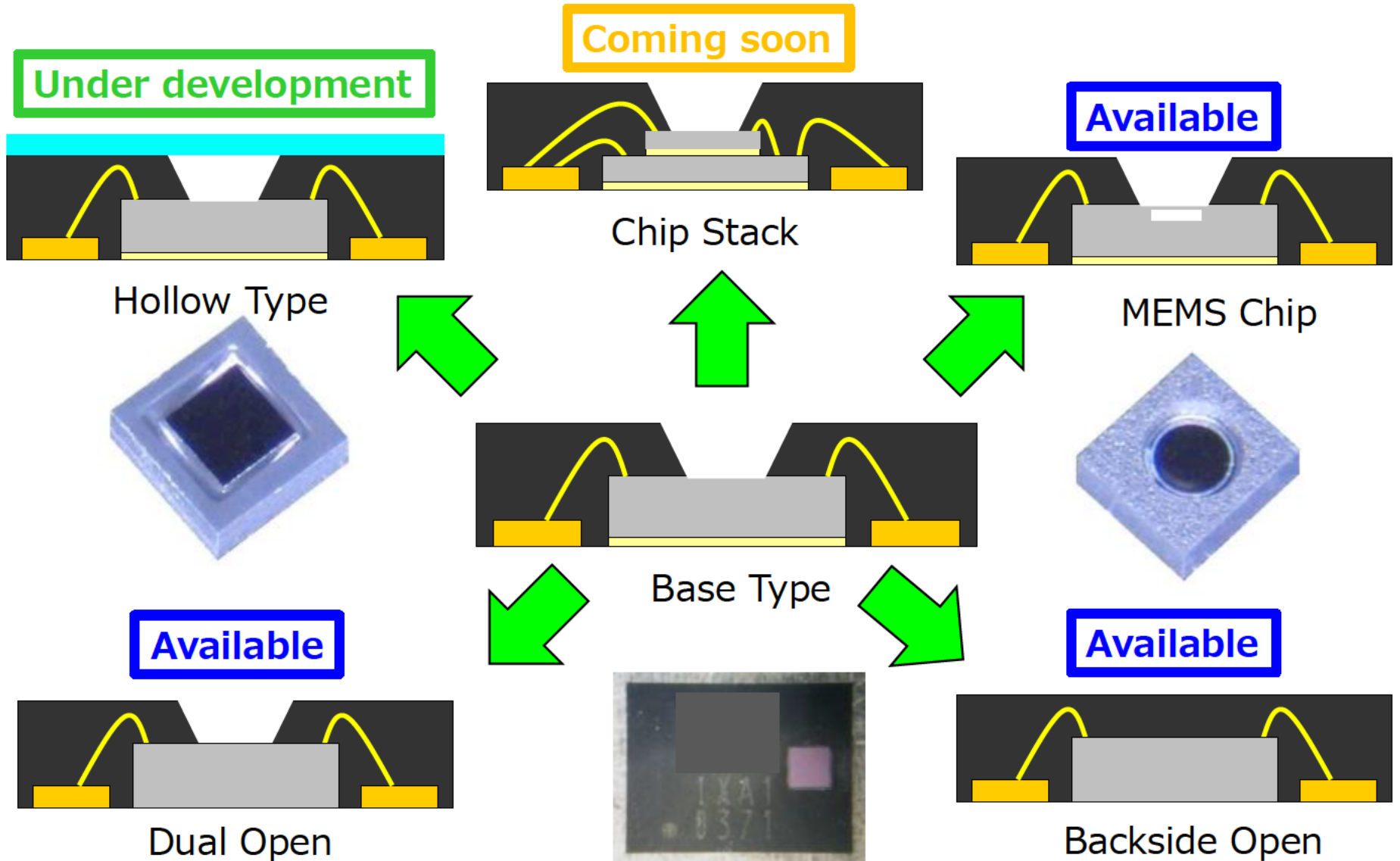
No.	Contents	Mass Production	Development
1	Open shape	circle、square	←
2	Open size(mm)	circle : $\Phi 1.0 \sim 1.25$ square : 1.4SQ	circle : $\Phi 0.7 \sim 1.25$ square : $0.8SQ \sim 5.4 \times 5.75$
3	Open depth(mm)	0.05~0.39	0.00~0.55
4	Wall width(mm)	0.195~0.844	←
5	D/A material	DAF、Ag paste	←
6	Die island	None/Existence	←
7	Package size(mm)	1.8SQ~4.0×3.0	1.8SQ~8.2SQ
8	Package thickness (mm)	0.6~0.8	0.4~1.2

Design Guide



Wire – Open area : MIN200µm
Active area = Open size – 200µm
※Open size Φ 1.0mm \Rightarrow Active area Φ 0.8mm

Open Cavity Package Line-up



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