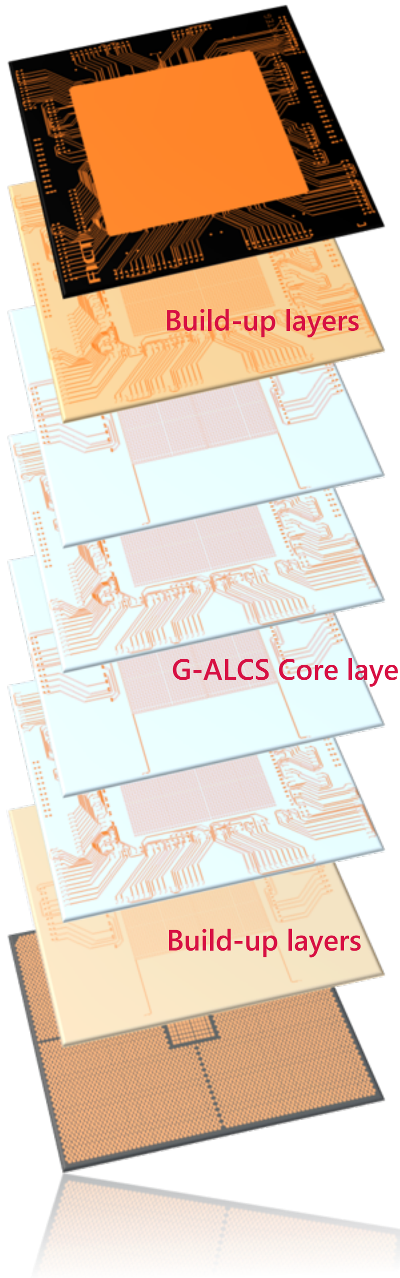
FICT

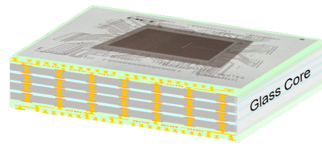
New Concept of Package Substrate Technologies: Glass Core Package Substate

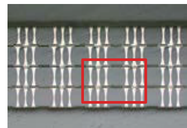
New concept : Glass All Layer Z-Connection Structure (G-ALCS) Core with build-up layers
for **chiplet** integration architecture

High density package substrate with better mechanical reliability "G-ALCS" Core Package Substrate

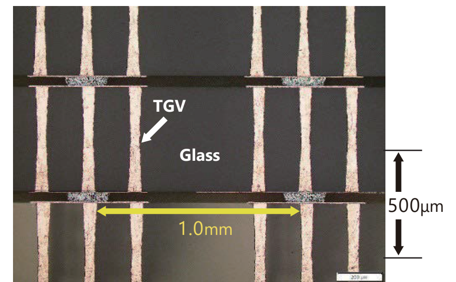


Inside of G-ALCS Core





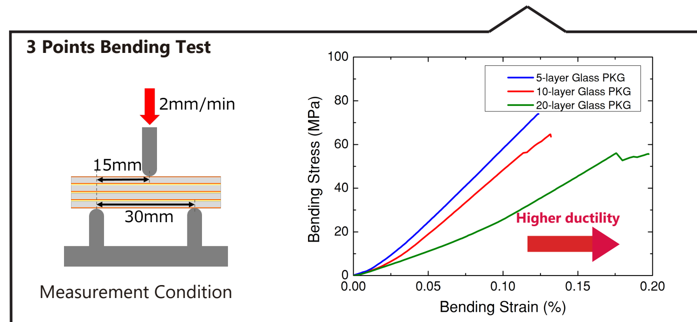
Cross section (4 layers)



Enlarged view

Advantages of G-ALCS Core

	Single Glass Core (conventional)	G-ALCS Core FICT
Simulation model	Glass 300 µm; Insulating film: 10 µm, Cu: 5 µm	Glass 100 µm; Insulating film: 10 µm, Cu: 5 µm
Stress (by sim.)	S, Mises (平均: 75%) +8.000e+01 +7.000e+01 +6.000e+01 +5.000e+01 +4.000e+01 +3.000e+01 +2.000e+01 +1.000e+01 +0.000e+00	Internal stress can be reduced (<1/5); S, Mises (平均: 75%) +8.000e+01 +7.000e+01 +6.000e+01 +5.000e+01 +4.000e+01 +3.000e+01 +2.000e+01 +1.000e+01 +0.000e+00
Effect of outer stress	Crack propagates easily	Resin layer acts as buffering layer



Contact FICT LIMITED