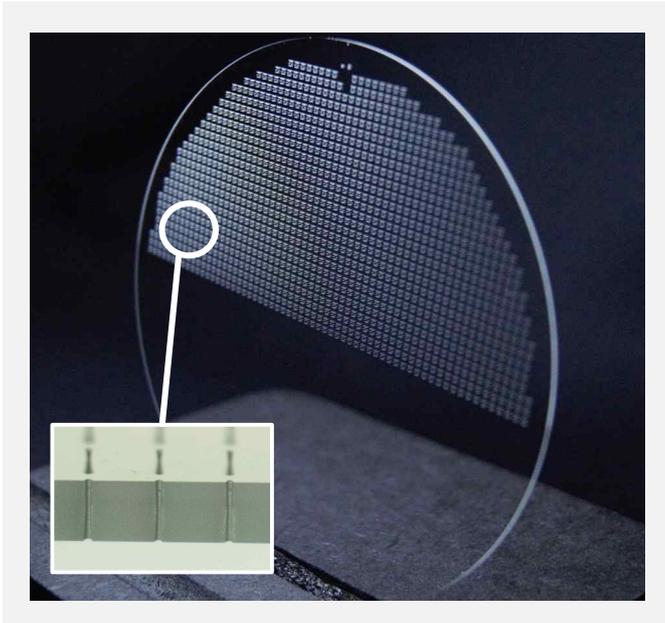


Joongwoo M-tech TGV (Through Glass Via)

High tech/quality microstructured glass materials with LMCE® technology



Introduction

For superfast computing performance, semiconductor packaging is getting more integrated.

Our LMCE®* technology can provide microstructured glass wafer for semiconductor, MEMS and mold, etc.

About LMCE®

LMCE® is the Joongwoo M-tech's technology for processing glass with special laser treatment.

It has good performance for drilling hole on glass and takes advantage of crack-free.

Advantages of glass products

for semiconductor, MEMS and etc.

- 1) Higher performance for mechanical, thermal and chemical resistance.
- 2) Low dielectric constant

3) Small distance of hole to hole

- With laser + chemical drilling technology

4) Very tiny via hole

*3)~4) Available with LMCE® Technology

HOLE					
Hole diameter	3um	5um	10um	25um	50um ~
Hole pitch	Via diameter x2				Via diameter + 50um
Glass thickness	< 50um	< 100um	< 200um	< 0.7mm	< 1mm
Glass size	≤ 4"	≤ 6"	≤ 8"	≤ 510x510mm	
Hole Density (Hole/mm ²)	25k	10k	2.5k	400	100
Hole Density (Hole/inch)	4k	2.5k	1.2k	500	250

Available glass to process				
Maker	Glass	CTE (10 ⁻⁶ /K)	Dielectric Constant	Chemical Strengthening
Schott	Borofloat33	3.25	4.6(1MHz)	
	D263	7.2	6.7(1MHz)	
	AS87 eco	8.7	7.7(1MHz)	O
NEG	T2X-1	9.1	7.7(1MHz)	O
	BDA-E	6.9	6.8(1MHz)	
	CB-1	7.5	6.9(1MHz)	O

Products _ Interposor, Wafer and etc.

