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Product Name: Microfluidics Lab on Chip Form on Demand

Part Number:

Product Description:

Microfluidics lab-on-chip form on demand

Lab-on-Chip with Polymer

A wide variety of polymer materials, with the advantages of convenient processing and molding, low raw material cost, very suitable for mass production, currently the most widely used, COC and COP have good optical and chemical properties, but the price is high; PDMS materials can be moulded with silicon or SU8, which can be easily and quickly formed. The main difficulties of polymer chip processing are micron high precision forming, surface modification, low temperature bonding, heterogeneous integration and quality control.

Most used polymers: PDMS, COC, PC, PET, PS, COP, PEEK

Lab-on-Chip with Silicon

Silicon material has good chemical inertness and thermal stability, and complex two-dimensional or three-dimensional microstructures can be reproduced with high precision by photolithography or etching methods. However, its fragility, light tightness, poor electrical insulation and high price limit its wider application.

Lab-on-Chip with Glass

The glass chip has many advantages, such as good light transmittance and electropermeability, low fluorescence background, high mechanical strength, small thermal deformation of microchannel and easy

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modification of channel surface. But at present, the fabrication cost of glass microfluidic chip is high, the cycle is long, and the machining accuracy and bonding sealing also need to be improved.

Fused quartz, borosilicate, glass ceramics, photosensitive glass heat

Product Specification:

Technical Parameter

Chip	Material options	Thermal plastics (Include PC, PS, PP, PMMA, COC, COP)	
	Standard chip size	Customizable	
	Inner corner diameter of mold features	2 μ m	
	Through-hole dimension	> Φ 0.5mm	Depending on design
Channel	Channel width range	>1 μ m	
	Channel height range	<300 μ m	
	Channel aspect ratio	<3	Depending on material viscosity
	Channel dimension tolerance	\pm 10%	Depending on design
	Channel surface roughness	5~10nm	
	Resolution/min feature size (μ m)	2 μ m	
	Complex features: multiple channel depths on one layer	Available	Depending on design
Micro pillar array	Micro pillar dimension	>20 μ m	
	Micro pillar height	<100 μ m	
	Micro pillar aspect ratio	<3	Depending on design
	Micro pillar dimension tolerance	\pm 15%	
Chip bonding	Chip bonding process	<ul style="list-style-type: none"> • Ultrasonic welding • Laser welding • Thermal-compression bonding • Adhesive membrane 	
	Alignment capability	Two-layer alignment is available	Alignment tolerance <50%
Surface treatment	Hydrophilic treatment	Multiple hydrophilic treatment available. Contact angel ranged from 10 to 30 °. Duration up to 2 years	
	Surface polishing	Available	Depending on design
	Electronic connectors or electrode embedded in a chip	Available	Depending on design
Quality Control			
	ISO QC certificate	ISO 9001, ISO 13485/GMP(2019)	
Manufacturing capability			
	Mold cycles	300,000 Shoots	Depending on material and design
	Mold cycles for Micro mold	50,000 Shoots	Depending on material and design
	Manufacturing capability	50,000,000 Units/year	
	Fab turnaround time	6 months (10,000-100,000 units)	3 month for urgent order