

The Shinko Group's Products and Business Fields

Overview of Products

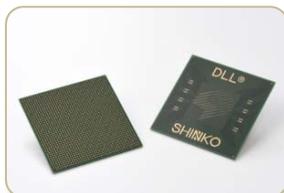
Shinko was established in September 1946. We began by recycling lamps for home use, expanded into lamps for telephone switchboards, and then moved into the field of semiconductors, developing into a comprehensive manufacturer of semiconductor packages.

The Shinko Group draws on the vacuum technology, metallic material processing technology and glass sealing technology that we cultivated in the lamp business, as well as the improved versions of these technologies, in developing and manufacturing our diverse lineup of semiconductor packages.

◆ PLASTIC LAMINATED PACKAGES

Our plastic laminated packages using organic resin materials were created to meet the need for high-speed and high-density packaging.

They are mainly used in MPUs in computers and servers as well as a range of microcomputers, memories, chipsets, ASICs, graphic accelerators, and automotive applications.



Flip-Chip Type Packages



Plastic BGA Substrates

◆ COMPONENTS

We manufacture components such as ceramic electro static chucks for semiconductor manufacturing equipment and heat spreaders that disperse heat from high-performance ICs used in servers.

Our hermetic glass-to-metal seals with excellent electrical properties are used in semiconductor lasers and automotive sensors.



Ceramic Electro Static Chuck



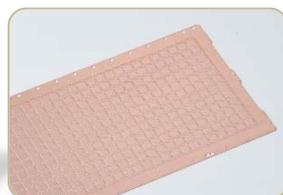
Heat Spreaders

◆ LEAD FRAMES

Our lead frames are highly versatile IC packages made with thin metal sheets. They are used in a range of microcomputers, memories, and ASICs. Our lineup includes super fine-pitched lead frames suitable for fine-pitched ICs, quad flat non-leaded packages (QFNs) suitable for smaller and thinner devices, lead frames with heat slugs, and riveting lead frames for automotive applications and power ICs requiring high heat dissipation.



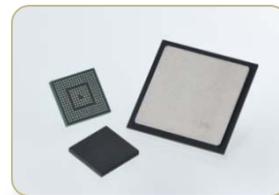
Super Fine-Pitched Lead Frames



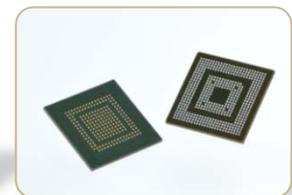
QFN-Type Lead Frames

◆ ASSEMBLIES

We undertake contract semiconductor assembly that meets the demand for high-performance, multi-functionality, and miniaturization. We offer flip-chip assemblies that achieve a reduction in size and thickness and deliver higher performance by using bumping, IC assemblies with embedded active and passive components, as well as modules mounted with passive components. They are used in such products as smartphones and automotive applications.



Flip-Chip Assemblies



IC Assemblies with Embedded Active Components

The Shinko Group's Business Fields

◆ Interconnecting Our Future

Personal computers, mobile devices, digital appliances, and other electronic products are indispensable in contemporary society, and their rapid dissemination supports people's abundant lives worldwide. A range of functions and information are compacted into IC chips, which serve as the "brain" for these products. These chips work only when they are connected electrically to other devices, and semiconductor packages—our mainstay products—have an important role in maximizing their potential functionality.

As an integrated manufacturer of semiconductor packages, the Shinko Group responds to needs, such as more compactness and higher functionality, that are requested by semiconductor and electronics manufacturers to contribute to manufacturing products that enrich people's lives.

