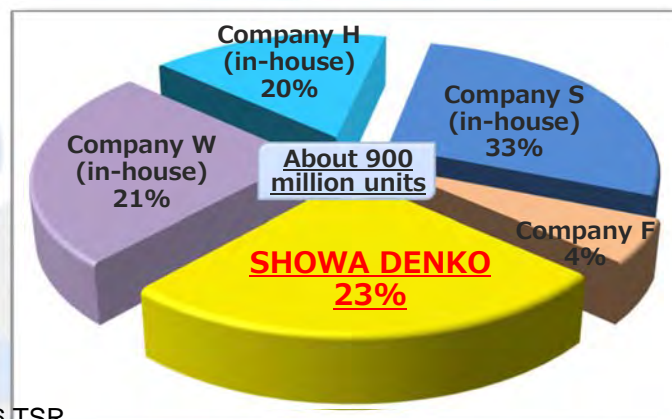


Product Example

The annual number of hard disk drives (HDD) shipped worldwide is about 400 million, and about 900 million HD recording media are required.

We lead the world in terms of maximum capacity, and have gained a 23% share (200 million units) as a specialized manufacturer of HDD recording media ranging from those for PCs to those for data centers.



2016 ITR

Our technologies

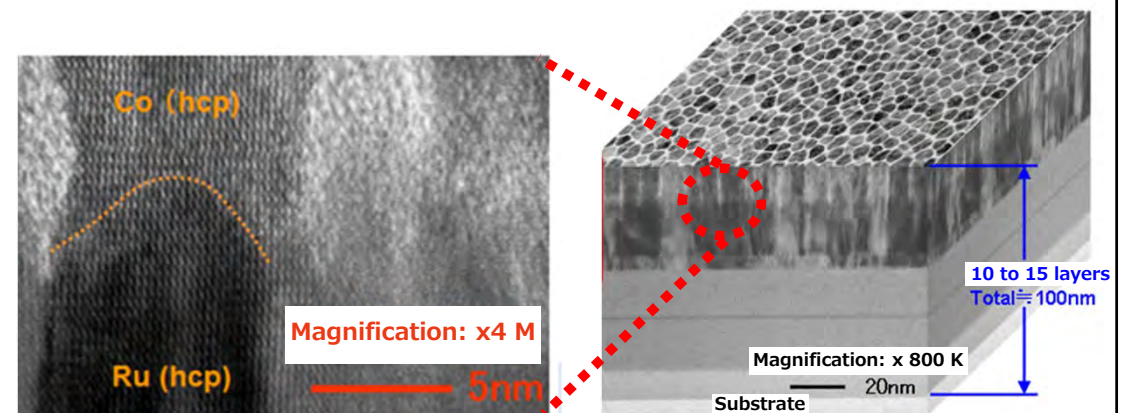
■ Ultra-thin film formation technology

We produce hard disks by growing epitaxial crystals at the atomic level while forming over ten layers of ultra-thin films with a total film thickness of no more than 0.1 μm at high speed (2000 pcs/hr) with Angstrom accuracy.

■ Ultra-smooth substrate polishing technology

The flying height of HDD read/write heads is 10 nm or less and so the presence of foreign particles of this height is not allowed. In addition, ultra-smoothness of $R_a \cong 2 \text{ \AA}$ or less is required for the surface roughness.

We produce hard disks using advanced substrate polishing and cleaning technologies.

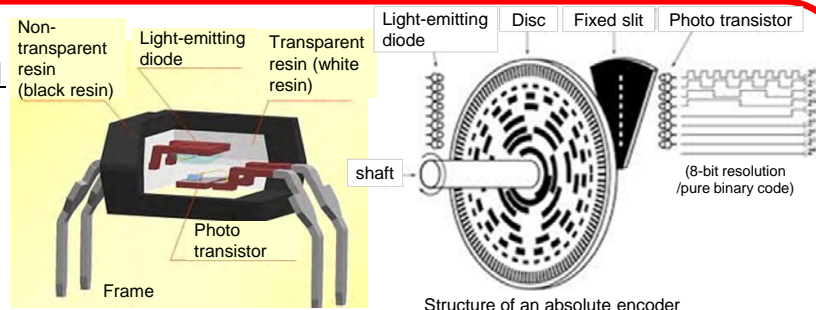


Product example

Wide application area: Infrared LED

Feature 1

High-speed response

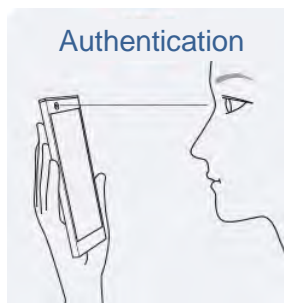


High-speed response photo coupler

Encoder

Feature 2

Harmless to the human body



Iris authentication



Pulse oximeter

Feature 3

Reach Long-distance



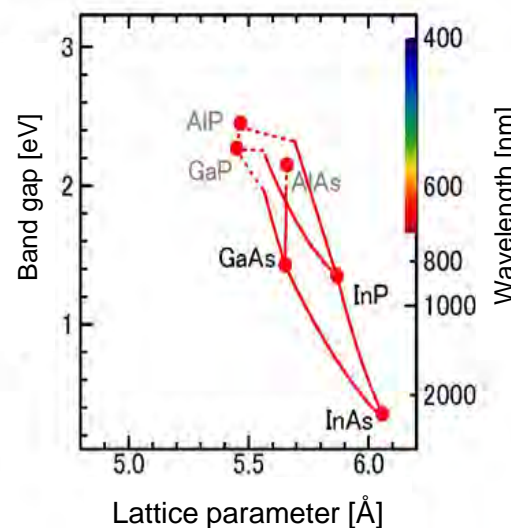
Night vision



Surveillance camera

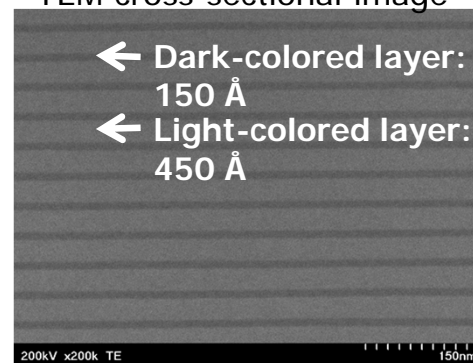
Our technologies

- A broad range of LED chip products, from yellow green to infrared light
- The double-junction technology enhances output, especially of infrared LED chips.



- High-purity crystal growth technology enables various wavelengths based on optimal elemental compositions.
- Lattice parameters and band gaps are independently controlled.

TEM cross-sectional image



- Film thickness control technology of Angstrom order

Rare Earth Magnetic Alloys

~ Nd-Fe-B sintered magnet ~

Product example



Nd-Fe-B sintered magnet

IT devices



Hard disk



Mobile phone

Automobiles



Motor, dynamo



Electric power steering

Others



MRI

Our technologies

■ Composition design technology

We own technology for designing the composition of Nd-Fe-B sintered magnets.

We design the composition of rare earth materials and other metallic constituents to satisfy the magnetic strength (magnetization intensity/maximum energy product) and heat resistance (coercivity) required by customers.

