

# Kyocera Global Environment Contribution Award

We established the "Kyocera Global Environment Contribution Award" in 1996 for encouraging our environmental preservation activities. The award is to commend the activities which have made a great contribution to the global environment with original and epoch-making ideas during our environmental preservation activities every year.

## 10<sup>th</sup> Award in 2006

**Grand Award** "Resources Conservation" Category

### Reduction of Raw Materials on "KPR Series" Thermal Printheads for Digital Photo Printers

Kyocera has developed KPR series thermal printheads for the rapidly growing digital photo printer market. The new products largely contribute to environmental impact reduction at the manufacturing stage, especially raw material consumption, with following features.

#### Features

**1. Seventeen percent smaller than conventional models, backed by high-density patterning technology**

Improvement in the accuracy of photo-resist coating and light exposure with the use of Kyocera's exclusive high-density patterning has made it possible to create the thermal printhead substrates that are 17% smaller than those of conventional thermal printheads. An anisotropic conductive film (ACF) is then used to connect the ceramic substrate with the external circuit, thus contributing to size reduction of the thermal printheads footprint.

**2. Improved positioning accuracy of the heater elements to enhance printing quality and to reduce the time for the assembly process by printer manufacturers**

Kyocera, taking advantage of its vertical integration strength, uses in-house ceramic substrate to improve the positioning accuracy of heater elements by approximately 60% over that of conventional models. The result is enhanced printing quality and a substantial reduction in the time required for the assembly process by printer manufacturers.

**3. Improved productivity to respond to a rapid boost in production**

To satisfy the needs of digital photo printer manufacturers to rapidly increase their production, Kyocera has reduced its thin film processing time thus increasing productivity by 20%.



**Excellent Award** "Energy Saving" Category

### Energy Saving through Introduction of New RIE System

In the solar energy group, the system power consumption was reduced by 54% compared with the past as a result of introduction of new RIE\* system of electricity and space saving type.

\* RIE stands for Reactive Ion Etching.

**Excellent Award** "Chemical Substance Reduction" Category

### Chemical Substance Reduction through Introduction of New Equipment

The thermal components division succeeded to reduce chemical substances consumption drastically by improving their manufacturing method and effective use of the substances as a result of joint development of new equipment with the process technology center.

**Excellent Award** "Packing Materials Reduction" Category

### Cushioning Material Removed by Changing Packing Case Style

It becomes possible to stop using cushioning material and use the packing case repeatedly, as a result of changing the case materials and shape.

Packing condition: Styrene foam box

Packing condition: PP tray



Removed top cover (Black sponge sheet)



Size reduction



- Can be piled up and returned to Kyocera after products are used by customer.
- Can be used repetitively until the case is broken.

#### Accumulated No. of Kyocera Global Environment Contribution Awards

