

Environmentally Friendly and Contributing Products

2024	2023	2022	2021	2020	2019
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Case Studies ↓

While contributing to global environmental conservation and reduction of environmental impact through our products and its applications, we have promoted development of new technologies and sales of products to reduce such impact from the products themselves based on our guidelines for "Environmentally Friendly and Contributing Products" as follows.

Environmentally Friendly Products

Products that are designed to have less impact on the environment, such as by reducing the amount of waste or designing products that are easy to recycle, and that have improved one or more of the following compared to conventional products.

- Smaller, thinner and lighter
- Power saving
- Longer service life
- Reusability (reuse)
- Recyclability (recycling)
- Ease of disposal (ease of disassembly in case of equipment)

Environmentally Contributing Products

The products themselves or the final products using them that contributes to and are used for applications such as the conservation of the global environment.

- Prevention of global warming, diffusion of new and renewable energy sources
- Prevention of ozone depletion, air pollution, water pollution, and soil contamination; analysis of pollutants
- Analysis of chemical substances contained in products, evaluation of toxicity of chemical substances
- Reduction, separation and disposal of waste

Case Studies

Every year, we develop new environmentally friendly and contributing products. Here are some typical examples from the current fiscal year.

● Compact high voltage power supply / C17282-14

The compact high-voltage power supply module C17282-14 (to be commercialized), which drives TO-8 and μ PMT®, will be installed in portable detectors and used for hygiene and environmental monitors.

This power supply will make it possible to drive common PMTs (photomultiplier tube) using only low voltage (3 V to 5 V).

In addition, by using a microcontroller, the number of components has been reduced, resulting in a more compact size (20 × 20 × 7.3 mm) than the conventional C10940 series.

Weighing only 7 g, it is an environmentally friendly product.



	Conventional product C10940 series	Environmentally Friendly Products C17282-14
Size (mm)	W15 × D15 × H18	W20 × D20 × H7.3 30 % volume reduction
Weight (g)	7.7	7.0
Input voltage range (V)	4.5 - 5.5	3.0 - 5.0 1.5 V reduction

● Xenon flash lamp module E3-X / L17513

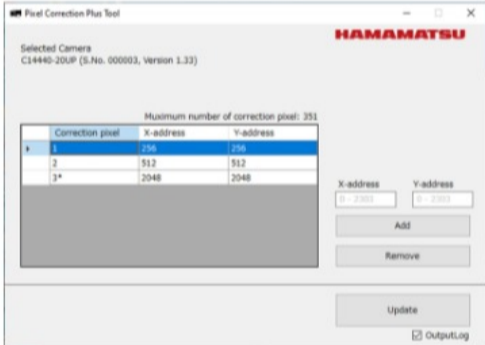
In the xenon flash lamp module, a pulsed light source with instantaneous high peak output, further low power consumption and miniaturization (reduce) have been achieved while maintaining the conventional long-life characteristics. In addition, the built-in lamp can be replaced, allowing the circuit to be reused (reuse).



	Conventional product L13651 series	Environmentally Friendly Products E3-X (to be commercialized)
Power Consumption	About 5 W (5 V - 1 A)	About 0.7 W (4.5 V - 0.15 A)
Size (mm)	W42 × D42 × H38	W32 × D32 × H29
Guaranteed life	1 × 10 ⁹ flashes	1 × 10 ⁹ flashes
Built-in lamp	Not exchangeable	Exchangeable

● Pixel correction plus tool

A tool has been developed to locally correct defective pixels that occur due to cosmic rays and other effects after the camera is shipped. Until now, since to responding the customers were asked to return the camera, it has resulted in environmental burdens (CO₂ emissions, packaging materials) due to transportation. The Pixel correction plus tool has been developed to enable on-site correction, thereby reducing the environmental impact of transportation (zero CO₂ emissions, no need for packaging materials).



Transportation example | Tokyo (HND) to New York (EWR)

CO₂ emissions (Round trip) : 1,370 kg

Number of returns (cumulative) : 5set

Packing costs (Average price of compatible cameras) : ¥ 702/set

● FDSS® - GX back luminescence units / C17165 - 01

The luminescence sensor units (C10520 series) used in the FDSS7000 was based on Image Intensifier, which used lead, a heavy metal. The FDSS-GX, the successor to the FDSS7000, uses a qCMOS sensor to achieve a specification that does not use heavy metals.

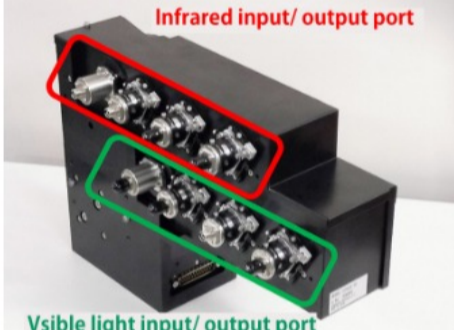


FDSS®-GX

● Laser scan system / C14432 - 40

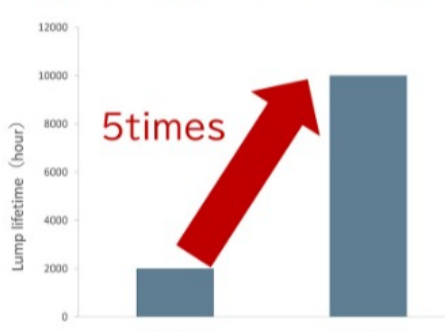
The C14432 series is an option required for applications using lasers and incoherent light sources in semiconductor failure analysis system. In addition to the infrared input/output ports of 930 nm to 1300 nm that conventional products have, the C14432-40 is equipped with new visible input/output ports of 530 nm to 780 nm.

By equipping semiconductor failure analysis system with multiple light sources, it becomes possible to use the system for a variety of different applications. By sharing part of the light path between infrared and visible light have been achieved to reduce the number of components and save space.



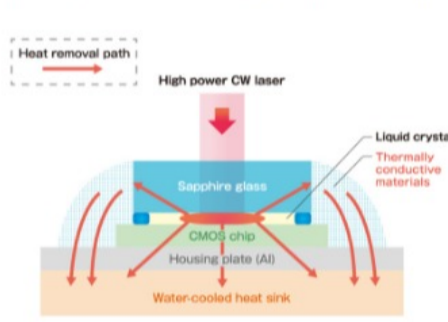
● Optical NanoGauge Thickness measurement system / C15151 - 01

This is an Optical NanoGauge Thickness measurement system that uses a Laser-Driven Light Source (LDLS). The lamp life is 10,000 hours, which is five times longer than the lamp life of the Optical NanoGauge Thickness measurement system /C13027-11 (lamp life: 2,000 hours) that uses a halogen lamp. The longer lamp life means that the system can be maintained less frequently, reducing the power used for maintenance and the number of lamps disposed of.



● LCOS-SLM / X15213 - 03CL

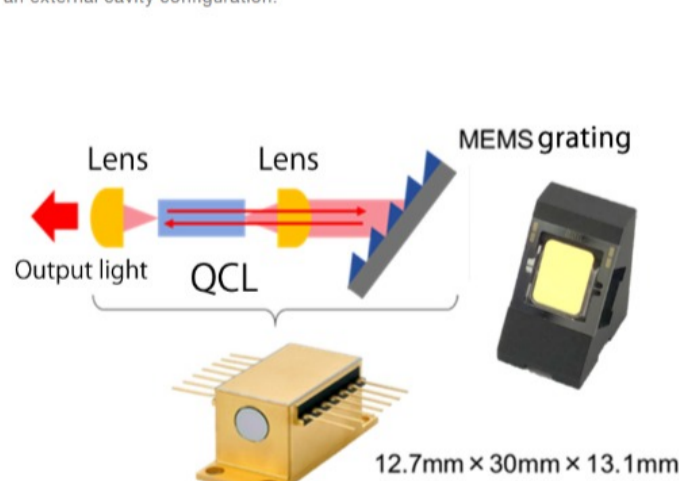
Metal laser processing, as typified by metal 3D printing, is expected to reduce environmental impact through efficient use of materials, waste reduction, and energy consumption reduction. The X15213-03CL is an LCOS-SLM for metal laser processing that achieves higher power handling capability than conventional products by adopting a sapphire glass. This product enables simultaneous multi-point processing by splitting a single high-power laser beam into various shapes and multiple points within a laser processing equipment. This contributes to improving takt time, downsizing, and power saving of the equipment.



● Wavelength Swept Pulsed Quantum Cascade Laser

Wavelength swept pulse-driven quantum cascade laser with a wavelength of 7 to 8 μ m has been developed for detecting hydrogen sulfide and sulfur dioxide, which are the main components of volcanic gases.

The world's smallest (12.7 × 30 × 13.1 mm) external cavity quantum cascade laser module have been achieved using MEMS grating in a butterfly package by mounting an external cavity configuration.



These results were obtained under a project commissioned by the New Energy and Industrial Technology Development Organization (NEDO).

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