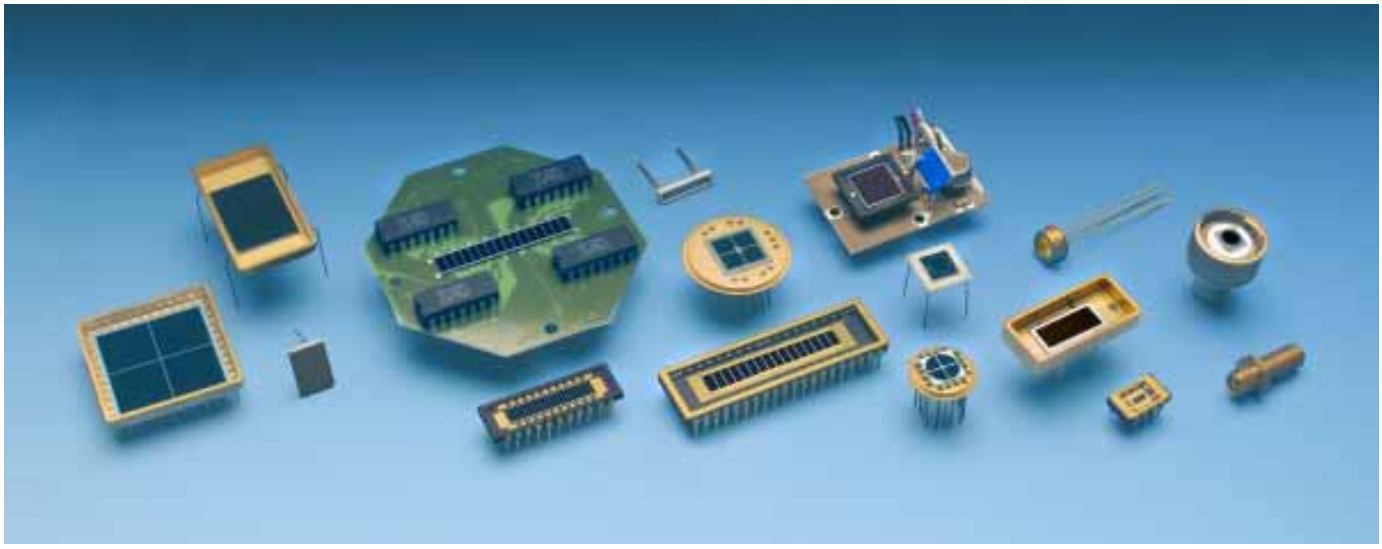
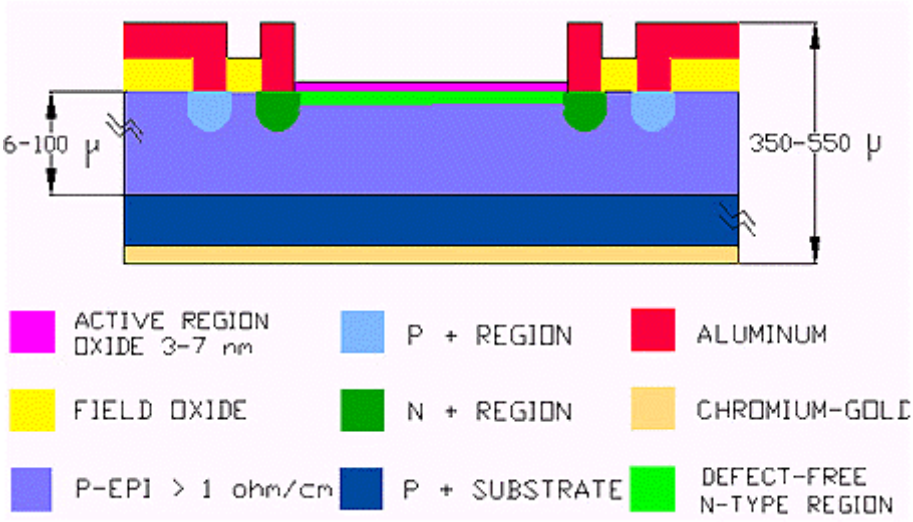
真空紫外･軟Ｘ線シリコンフォトダイオード



Absolute XUV Silicon Photodiodes

Silicon p-n junction photodiodes (AXUV-series) have been developed by International Radiation Detectors for applications in the vacuum ultraviolet, extreme ultraviolet and the soft x-ray (XUV,wavelength range 1800 Å to 2 Å, energy range 7 eV to 6000 eV) spectral region. Unlike common p-n junction diodes, these diodes do not have a doped dead-region and have zero surface recombination resulting in near theoretical quantum efficiencies for XUV photons and other low energy particles. The AXUV diodes are internal photoelectric devices and hence are less sensitive to minute vacuum system contaminants than conventional XUV detectors based on the external photoelectric effect.

These diodes are fabricated by an ULSI (Ultra Large Scale Integrated Circuit) compatible process and their construction is shown in the following figure.



Developed in collaboration with NIST, NOAA, NIH, LLNL, NCAR and LANL

仁 木 工 芸 株式会社　NIKI GLASS CO., LTD.
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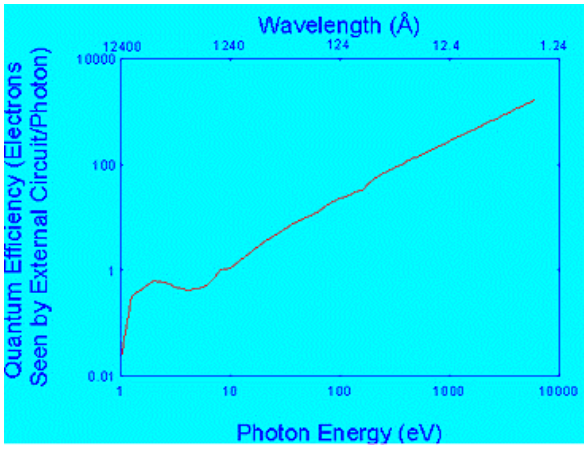
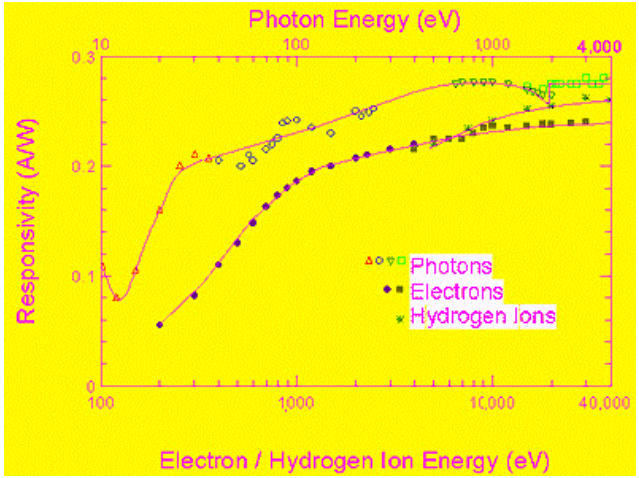
〒532-0011　大阪市淀川区西中島 6-2-16　TEL: 06-4805-4155　FAX : 06-4805-0211
URL http//:www.nikiglass.co.jp



Typical quantum efficiency of the AXUV photodiodes.



Typical responsivity of the AXUV photodiodes to photons, electrons and hydrogen ions

Absolute Devices / Transfer Standards

	Sensitive Area (mm²)	Size (mm)	Package Type	Shunt Resistance (M-Ohm) @ 10 mV	Dark Current @ 50V	Capacitance @ 0V	Risetime (10%-90%)
AXUV100	100	10 X 10	Ceramic	100	*	20 nF**	10 µSec**
AXUV100EUT ##	100	10 X 10	Ceramic	100	*	20 nF**	10 µSec**
AXUVSP2	96	6 X 16	Ceramic	100	*	20 nF**	10 µSec**
AXUV96	96	6 X 16	Metal	100	*	20 nF**	10 µSec**
AXUV50HE1	50	8 Ø	Ceramic	10	*	3 nF**	6 µSec**
AXUV20	20	5 Ø	Metal	1000	*	2 nF**	2 µSec**
AXUV20A	20	5 Ø	Ceramic	100	*	5 nF**	1 µSec**
AXUV20BNC	20	5 Ø	BNC	1000	*	2 nF**	2 µSec**
AXUV20HE1	20	5 Ø	Ceramic	10	*	500 pF**	0.2 µSec**
AXUV300 #	330	22 X 15	Plastic	20	*	40 nF**	15 µSec**
AXUV300M/G	330	22 X 15	Metal	20	*	40 nF**	15 µSec**
AXUV576	576	24 X 24	Metal	5	*	120 nF**	50 µSec**
AXUV10	10	10 X 1	Ceramic	1000	*	2 nF**	2 µSec**
AXUV36@	36	6 X 6	Metal	10	*	10 nF**	10 µSec**

AXUV-1600 with five AXUV-300 chips is available
AXUV-100 photodiode with eutectically mounted chip for vacuum environments lower than 10^-9 torr
@ With 5 micron physical silicon thickness.

All AXUV products have at least 7 orders of magnitude of dynamic range.
Please specify if detectors with larger than dynamic range are required.
* May be selected for a specific application at no additional cost.
** Devices with better values may be selected.