

SPECIALIST DETECTORS FOR NUCLEAR PHYSICS

SILICON DETECTOR TYPE:	COMBINATION DETECTOR/PHOTODIODE PIXEL ARRAY		
TECHNOLOGY:	3 INCH SILICON		
DESIGN:	Ion implanted totally depleted DC coupled structure with 5 x 5 mm ² pixels in 6 x 8 format. The device is suitable for both nuclear particle and photon detection with incident particles on the rear ohmic common cathode face and the electronics on the junction side readout at the edge by an overlay with through bonding on each pixel.		
ACTIVE AREA:	12cm ² 40 x 30 mm ²		
N ^o of CHANNELS:	48		
ELEMENT PITCH:	6 mm		
READOUT:	100 %		
THICKNESS:	300 μm	500 μm	1000 μm
THICKNESS TOLERANCE:	± 25 μm		
THICKNESS UNIFORMITY:	± 5 μm		
FULL DEPLETION (FD):	30 V	50 V	150 V
OPERATING VOLTAGE:	FD to FD + 20 V		
ELEMENT CAPACITANCE:	10 pF typically		
ELEMENT LEAKAGE CURRENT:	5 nA typically, 30 nA maximum		
TOTAL LEAKAGE CURRENT:	300 nA typically, 1 μA maximum		
METALLISATION:	8000 Å on contact only		
METALLISATION TOLERANCE:	± 1000Å		
PACKAGE:	PCB Fan out		
MINIMUM ACCEPTANCE LEVEL:	100 %		
CSI INTERFACE FOR X_RAY & GAMMA RAY DETECTION:	These detectors can interface with a CSI faceplate scintillator on the ohmic rear face of the array grooving the scintillator to match the detector pixels minimising crosstalk. This rear entry concept would also be suitable for the EHT CSI evaporated region without interfacing with the central function face. The structure with good electronics is capable of 5 % resolution with the Cs scintillator 660 KeV gammas.		
EXPERIMENT:	University of Southampton – Integral		

QUALITY ASSURANCE :ISO9001

