

SPECIALIST DETECTORS FOR NUCLEAR PHYSICS

SILICON DETECTOR TYPE: SINGLE SIDED AC COUPLED MICROSTRIP DETECTOR
 TECHNOLOGY: 3 INCH SILICON
 DESIGN: Silicon planar totally depleted ion implanted detector p on n high resistivity silicon with over voltage capability. The detectors are all designed to have a leading silicon edge cut and located within 500 μm of the active region. Horizontal strip detectors have strips perpendicular to the leading edge. Vertical strip detectors have strips parallel to leading edge. Both strip designs are offered in right handed (RH) and left (LH) handed versions.

PART DESIGNATION:	NN1 RH	NN2 LH	NN3 RH	NN4 LF
ORIENTATION:	Horizontal	Horizontal	Vertical	Vertical

ACTIVE AREA:	25 cm^2 50 x 50 mm^2
N ^o of CHANNELS:	50
ELEMENT PITCH:	1 mm
READOUT:	100 %
THICKNESS:	300 μm 500 μm
THICKNESS TOLERANCE:	$\pm 15 \mu\text{m}$
THICKNESS UNIFORMITY:	$\pm 5 \mu\text{m}$
FULL DEPLETION (FD):	30 V typical, 30 V maximum
OPERATING VOLTAGE:	FD to 2 x FD
ELEMENT CAPACITANCE:	20 pF typical
ELEMENT LEAKAGE CURRENT:	10 nA typically, 50 nA maximum
TOTAL LEAKAGE CURRENT:	250 nA typically, 500 nA maximum
DAISY CHAINING:	YES
GUARD RING:	Yes or Floating
METALLISATION:	8000 \AA
METALLISATION TOLERANCE:	$\pm 1000\text{\AA}$
OXIDE WIDTH:	500 μm
RADIATION HARDNESS:	1 $\text{nA/cm}^2/100 \text{ Rads}$

PACKAGE:	PCB LH or RH
N ^o of CHANNELS USED:	48 (Outside 2 channels are not used on PCB)

MINIMUM ACCEPTANCE LEVEL:	100 %
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EXPERIMENTS:	CERN DELPHI VSAT Calorimeter
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QUALITY ASSURANCE :ISO9001

