

R AND PHI DETECTOR FOR PARTICLE PHYSICS

SILICON DETECTOR TYPE: Double sided, AC coupled metal semicircular microstrip detector with multi guard rings.

DESIGN: This p-strips on n design includes a double metal layer for readout of the inner strips. The wafer layout includes 2 R-detectors and a single phi detector that can sustain operation in a high radiation environment up to 6×10^{14} protons/cm² or equivalent neutrons



Phi Detector

R Detector

PHI DETECTOR		R DETECTOR	
WAFER TECHNOLOGY	6 Inch	WAFER TECHNOLOGY	6 Inch
THICKNESS*	200 & 300 μm	THICKNESS	200 & 300 μm
SILICON	Standard or oxygenated	SILICON	Standard or oxygenated
INNER ACTIVE DIAMETER	8 mm	INNER ACTIVE DIAMETER	8 mm
INNER ACTIVE DIAMETER	40 mm	INNER ACTIVE DIAMETER	40 mm
N ^o STRIPS/SIDE	2048	N ^o STRIPS/SIDE	2048
STRIP PITCH	24 – 55 μm	STRIP PITCH	13 – 92 μm
STRIP WIDTH	16 – 28 μm	STRIP WIDTH	12 – 63 μm
POLYSILICON RESISTORS	1 MΩ	POLYSILICON RESISTORS	1 MΩ
COUPLING CAPACITANCE	80 pF	COUPLING CAPACITANCE	50 - 200 pF
FULL DEPLETION (FD) VOLTAGE	50 V max	FULL DEPLETION (FD) VOLTAGE	50 V max
OPERATING VOLTAGE	200 V	OPERATING VOLTAGE	200 V

EXPERIMENT: LHCb CERN

QUALITY ASSURANCE:ISO9001

