

Detectors

for the Alpha and Beta Spectroscopy



Short description + Technical data



SARAD has been manufacturing ion-implanted silicon detectors for the alpha/beta spectroscopy since 1994. SARAD detectors have been proved very worthwhile a thousand times as standard detectors or in our radiation measuring

equipment.

Key features are their robust design, low background signal and an outstanding spectroscopic performance even at low bias voltages. Already bias voltages of 10 V enable to completely absorb the alpha radiation up to an emission energy of 10 MeV. The space-charge depletion depth of the BS detector types especially developed for beta detection radiation amounts to more than 500 μm .

All types can be used both under ambient conditions and in a vacuum chamber. The entrance window is provided with a passivation layer of aluminum of a thickness of 50 nm (V-type) or 500 nm (E-type). Therefore, the E types are especially suited for applications that require operation under daylight conditions.

The detectors will be delivered with a Microdot connector (industrial standard) to guarantee the full compatibility with other manufacturers. As an option, the detectors can also be ordered for BNC or SMA connectors.

Type	Sensitive area [mm ²]	Ø Housing [mm]	Height [mm]	Ø Window [mm]	Alpha FWHM [keV] *)
AS/BS 400 V/E	400	34	13.5	22	< 15/36
AS/BS 600 V/E	600	41	13	28	< 20/42
AS/BS 900 V/E	900	48	13	34	< 22/45
AS/BS 1200 V/E	1200	55	13	39	< 26/55
AS/BS 2000 V/E	2000	67	13	50	< 35/80

*) FWHM measured in vacuum with a beam angle from 85° to 95° (collimator) and 35 V bias

Bias voltage ABS-Types 10 ... 100V

Depletion depth > 100 μm at 10V bias voltage
> 500 μm at bias voltage as specified in the protocol

Passivation V-Types 50 nm
 E-Types 500 nm

This specification sheet is for information purposes only and is subject to change without notice. SARAD GmbH makes no warranties, expressed or implied, in this product summary. © SARAD GmbH. All rights reserved.

