ORTEC®
AMETEK®

R Series

Ruggedized® Partially Depleted Silicon Detectors

Main Application: Charged-particle spectroscopy in vacuum or in air with ambient light; cleanable.

Ordering Information

- **To Order:** Add the appropriate letter **prefix** for the mounting desired. Example: **BR**-015-050-100.
- **NOTE:** Alpha Suite Compatible Detectors: ULTRA-AS and Low-Background R Series detectors in B-mount are guaranteed compatible with the Alpha Suite products (DUO, MEGA, ARIA, ENSEMBLE). All other detectors require an approved special for compatibility and warranted specifications.

Active Area (mm^2)	Guaranteed Maximum Resolution (keV)**		Minimum Resolution Depth 100 µm	Minimum Resolution Depth 300 µm	Guaranteed Maximum Resolution (keV)**		Minimum Resolution Depth 500 µm
	α	β	Model No.	Model No.	α	β	Model No.
50	15	7	R-015-050-100	R-015-050-300	15	7	R-015-050-500
	17	8	R-017-050-100	R-017-050-300	17	8	R-017-050-500
150	16	10	R-016-150-100	R-016-150-300	16	10	R-016-150-500
	19	11	R-019-150-100	R-019-150-300	18	11	R-018-150-500
300	19	13	R-019-300-100	R-019-300-300	19	13	R-019-300-500
	21	15	R-021-300-100	R-021-300-300	21	15	R-021-300-500
450	20	14	R-020-450-100	R-020-450-300	20	14	R-020-450-500
	24	19	R-024-450-100	R-024-450-300	24	18	R-024-450-500
600	25	17	R-025-600-100	R-025-600-300	25	19	R-025-600-500
	33	28	R-033-600-100	R-033-600-300	33	29	R-033-600-500
900	30	25	R-030-900-100	R-030-900-300	30	25	R-030-900-500
	40	35	R-040-900-100	R-040-900-300	53	48	R-053-900-500
2000	50	45	R-050-2000-100	R-050-2000-300	50	45	R-050-2000-500
	60	55	R-060-2000-100	R-060-2000-300	80	75	R-080-2000-500

* Supplied in B Mount unless specified otherwise by the appropriate letter prefix. Other areas, depths, and configurations available on special order. **First three digits of Model No. indicate total system resolution FWHM for 241AM, 5.486-MeV alphas, using standard ORTEC electronics and 0.5-µs shaping time constants. Beta resolution approximated by pulse generator width FWHM.

"SEE-NO-ALPHA" R Series

R Series detectors are available in a "SEE-NO-ALPHA" version. Detectors delivered will have been checked for noise, and the resolution specification is warranted. To guard against backscattering contamination, the detector will not have been exposed to an alpha source.

Active Area (mm^2)	Minimum Depletion Depth 100 µm
	Model No.
300	TR-SNA-300-100
450	TR-SNA-450-100
600	TR-SNA-600-100

Active Area (mm^2)	Minimum Depletion Depth 100 µm
	Model No.
300	BR-SNA-300-100
450	BR-SNA-450-100
600	BR-SNA-600-100
900	BR-SNA-900-100

Mounting Arrangements

A This is a "ring mount"; i.e., the silicon wafer is offered on its ring without output connectors.

B Microdot connector on the rear of the can.

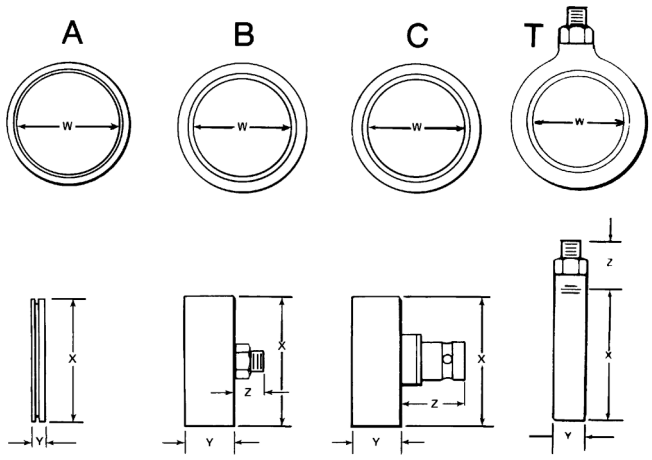
C BNC connector on the rear of the can.

T Microdot on the side of the can; without adjustable screws.

Dimensions are given in millimeters.

Detector Size (mm^2)	W (Nominal)	Type A Mount		Type B Rear Microdot			Type C Rear BNC			Type T § Transmission Mount		
		X	Y	X	Y	Z	X	Y	Z	X	Y	Z
050	8.0	15.2	3.7	16.7	12.3	7.1	16.7	12.3	15.9	19.4	7.9	9.9
150	13.8	22.0	3.7	23.6	12.3	7.1	23.6	12.3	15.9	26.1	7.9	9.9
300	19.5	27.1	3.7	28.6	12.3	7.1	28.6	12.3	15.9	31.6	7.9	9.9
450	23.9	30.5	3.7	32.0	12.3	7.1	32.0	12.3	15.9	34.8	7.9	9.9
600	27.6	34.1	3.7	36.1	12.3	7.1	36.1	12.3	15.9	38.4	7.9	9.9
900	33.9	43.2	3.7	45.2	12.3	7.1	45.2	12.3	15.9			
2000	51.0			65.5	12.3	7.1	65.5	12.3	15.9			
Tol.	±0.5	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3

§Built into a Microdot connector only.



Specifications subject to change
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