

Mounting Arrangements for Charged-Particle Detectors

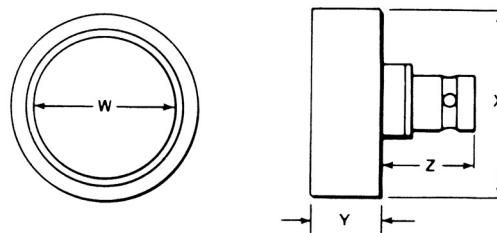
The letter indicating the type of mount for a silicon charged-particle detector is not necessarily the same as the letter indicating the detector type; for example, a B Series surface barrier detector is never supplied in a B mount.

Here is a brief description of the different mounts and the detectors with which they can be mated:

- A** This is a "ring mount"; i.e., the silicon wafer is offered on its ring without output connectors. This infrequently used arrangement is available on special request and only with A, B, C, F, R, and ULTRA Series. ULTRA-AS and ULTRA-CAM detectors are not available mounted in this manner.
- B** This mounting arrangement (Microdot connector on the rear of the can) is by far the most popular and is offered with A, F, and R Series, and ULTRA, ULTRA-AS and ULTRA CAM detectors.
- C** This mounting arrangement (BNC connector on the rear of the can) is also popular and is offered with A, F, and R Series, and ULTRA, ULTRA-AS and ULTRA CAM detectors.
- E** This is a special type of transmission mount in which four screws can be carefully adjusted to avoid excessive pressure on particularly fragile silicon wafers. Very thin ($\leq 25 \mu\text{m}$) D Series, special large-area B Series (active area $\geq 900 \text{mm}^2$), and a few special detectors are provided in an E mount.
- L** This mounting arrangement (BNC connector on the back of the can) is used exclusively with L Series detectors.
- T** This mounting arrangement (Microdot on the side of the can) is used in two cases:
 1. This is the mounting arrangement routinely supplied with B, C, and D Series ($>25 \mu\text{m}$) detectors.
 2. ULTRA, ULTRA-AS and R Series detectors in 576A Alpha Spectrometer modules having a horizontal sample tray. For this application, only one side of the can has an opening.

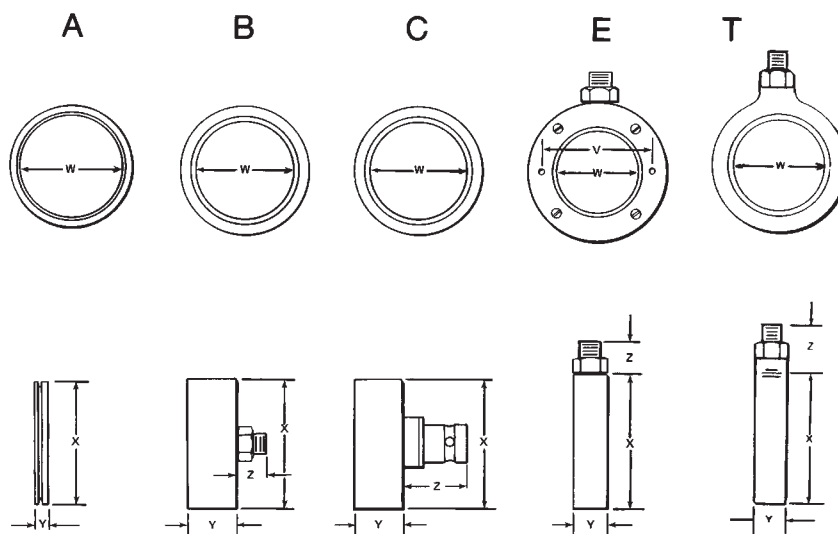
Choice of Mounts for Each Detector Series		
Detector Series	Specification	Mount
ULTRA and ULTRA-AS	600 mm ² and below	B, C, or T (closed back)
ULTRA and ULTRA-AS	above 600 mm ²	B or C
ULTRA CAM		B or C
A		A, B, or C
B		A or T (open back)
C		A or T (open back)
D	15 μm to 25 μm	E
D	40 μm to 100 μm	A or T (open back)
F		A, B, or C
L		L
R		A, B, C, or T (closed back)

L Mount (L Series)



Model No.	Dimensions (mm)			
	W	X	Y	Z
L-035-025-5	6.0	16.7	15.2	15.9
L-040-075-5	10.0	23.5	15.2	15.9
L-045-200-5	16.0	23.5	15.2	15.9
Tolerances	± 0.5	± 0.3	± 0.3	± 0.3

Mounting Arrangements for Charged-Particle Detectors



Detector Size (mm ²)	W (Nominal)	Type A		Type B Rear Microdot			Type C Rear BNC			Type E Demountable Transmission				Type T Transmission Mount		
		X*	Y	X	Y	Z	X	Y	Z	X	Y	Z	V	X	Y	Z
0.25	5.6	15.2	3.7	16.7	12.3	7.1	16.7	12.3	15.9	25.1	7.7	7.0	18.2	19.4	7.6	9.9
050	8.0	15.2	3.7	16.7	12.3	7.1	16.7	12.3	15.9	25.1	7.7	7.0	18.2	19.4	7.6	9.9
100	11.3	22.0	3.7	23.6	12.3	7.1	23.6	12.3	15.9	31.9	7.7	7.0	25.0	26.1	7.6	9.9
150	13.8	22.0	3.7	23.6	12.3	7.1	23.6	12.3	15.9	31.9	7.7	7.0	25.0	26.1	7.6	9.9
200	16.0	27.1	3.7	28.6	12.3	7.1	28.6	12.3	15.9	37.1	7.7	7.0	30.1	31.6	7.6	9.9
300	19.5	27.1	3.7	28.6	12.3	7.1	28.6	12.3	15.9	37.1	7.7	7.0	30.1	31.6	7.6	9.9
400	22.6	30.5	3.7	32.0	12.3	7.1	32.0	12.3	15.9							
450	23.9	30.5	3.7	32.0	12.3	7.1	32.0	12.3	15.9	40.2	7.7	7.0	33.3	34.8	7.6	9.9
600	27.6	34.1	3.7	36.1	12.3	7.1	36.1	12.3	15.9	43.8	7.7	7.0	36.9	38.4	7.6	9.9
900	33.9	43.2	3.7	45.2	12.3	7.1	45.2	12.3	15.9	58.8	7.7	7.0	50.8			
1200	40.0			48.8	12.3	7.1	48.8	12.3	15.9							
1700	47.0			59.0	12.3	7.1	59.0	12.3	15.9							
2000	51.0			65.5	12.3	7.1	65.5	12.3	15.9							
3000	62.0			76.2	12.3	7.1	76.2	12.3	15.9							
Tolerances	±0.5	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.5	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3

V, W, X, Y, and Z dimensions given in millimeters.

E Mounts are furnished on totally depleted detectors ≥ 900 mm² in area, on special D Series detectors ≤ 25 μ m in thickness, and on some other special detectors. E Mounts may be disassembled by removing screws. V dimension provides distance between mounting holes that are 1.7 mm in diameter and suitable for 0.080 screws.

T Mount built into a Microdot connector only.

For A and B Series detectors 1500 or 2000 μ m deep add 1.5 mm to Y dimension.

Specifications subject to change
092910

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