

D Series

Planar Totally Depleted Silicon Surface Barrier Detectors

Main Application: Time-of-Flight measurements with heavy ions.

Unless specified otherwise, supplied in E Mount for up to 40.0 µm thickness; in T Mount for >40.0 µm thickness.

| Active Area (mm²) | Maximum Thickness | Depletion Depth† 15 μm Range 7-15 μm | Depletion Depth† 25 µm Range 15.1-25 µm | Depletion Depth† 40 µm Range 25.1-40 µm | Depletion Depth 50 μm Range 40.1-65 μm | Depletion Depth 75 µm Range 65.1-85 µm | Depletion Depth 100 μm Range 85.1-110 μm |
|-------------------------|-------------------|--|---|---|--|--|--|
| | Variation (µm) | Model No. | Model No. | Model No. | Model No. | Model No. | Model No. |
| 10 | ±0.5 | D-020-010-15 | | | | | |
| 50 | ±0.5 | D-035-050-15 | D-035-050-25 | D-020-050-40 | D-015-050-50 | D-015-050-75 | D-015-050-100 |
| 150 | ±1.0 | | D-060-150-25 | D-035-150-40 | D-030-150-50 | D-030-150-75 | D-025-150-100 |
| 300 | ±1.0 | | D-095-300-25 | D-055-300-40 | D-045-300-50 | D-040-300-75 | D-030-300-100 |
| 450 | ±3.0 | | D-100-450-25 | D-090-450-40 | D-070-450-50 | D-060-450-75 | D-060-450-100 |

All standard totally depleted detectors are cut off-axis from the parent crystal at a specific angle that will minimize channeling. Larger areas available on special order. Other areas and depths available on special order.

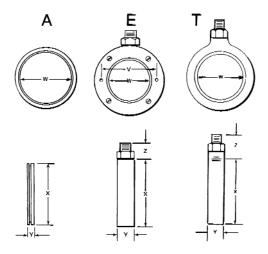
Mounting Arrangements

- 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. For 40 µm to 100 µm 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. For up to 40.0 µm thick detectors.
- T Microdot connector on the side of the can (open back) for depletion depth >40.0 µm.

†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.

Dimensions are given in millimeters.

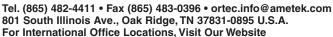
| Detector Size (mm²) | W (Nominal) | Type A Mount | | Type E† Demountable Transmission | | | | Type T Transmission Mount | | |
|---------------------------|----------------|-----------------|------|-------------------------------------|------|------|------|------------------------------|------|------|
| | | Х | Υ | Х | Υ | Z | V | Х | Υ | Z |
| 050 | 8.0 | 15.2 | 3.7 | 25.1 | 7.7 | 7.0 | 18.2 | 19.4 | 7.9 | 9.9 |
| 150 | 13.8 | 22.0 | 3.7 | 31.9 | 7.7 | 7.0 | 25.0 | 26.1 | 7.9 | 9.9 |
| 300 | 19.5 | 27.1 | 3.7 | 37.1 | 7.7 | 7.0 | 30.1 | 31.6 | 7.9 | 9.9 |
| 450 | 23.9 | 30.5 | 3.7 | 40.2 | 7.7 | 7.0 | 33.3 | 34.8 | 7.9 | 9.9 |
| Tol. | ±0.5 | ±0.3 | ±0.3 | ±0.5 | ±0.3 | ±0.3 | ±0.3 | ±0.3 | ±0.3 | ±0.3 |



Specifications subject to change









^{**} First three digits of Model No. indicate total system noise width measured with standard ORTEC electronics and 0.5-µs shaping time constants. Noise width is given for the smallest thickness (largest capacitance) in each range and specified nominal area. For high-capacitance units, performance depends on actual thickness and area.