# Multi-Element Detectors

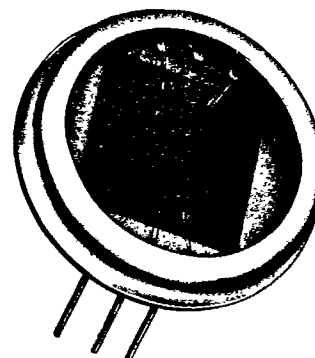1995250 CENTRONIC INC. E-O                    90D 00171   D   T-41-45

## Quadrant Detectors Type QD

### GENERAL DATA

| | |
|---|---|
| Typical Crosstalk | 0.5% |
| Typical Uniformity (over centre 6mm) | ±2.0% |
| Typical Uniformity (over full detector) | ±5.0% |
| Typical Relative Response at 35° incident angle | −2.0% |
| Typical Relative Response at 60° incident angle | −15.0% |

| Nom. Active Area mm$^2$ | Type No. (−add suffix) | Dia. Active Area mm | Separation† (Metallurgical) mm | Typical Dark Current Per Element (-0 Device only) $V_R$ =30V nA | Typical NEP (Noise Equivalent Power) | | Package | Guard†† Ring |
|---|---|---|---|---|---|---|---|---|
| | | | | | at Wavelength nm | W. Hz$^{-\frac{1}{2}}$ | | |
| 7 | QD 7-(0/1/2 etc) | 3 | 0.2 | 10 | 900 | $1.0 \times 10^{-13}$ | 14 | |
| 50 | QD 50- | 8 | 0.2 | 100 | 900 | $3.3 \times 10^{-13}$ | 15 | |
| 100 | QD 100- | 11 | 0.2 | 300 | 900 | $5.0 \times 10^{-13}$ | 16 | √ |
| 320 | QD 320- | 20 | 0.3 | 1000 | 900 | $1.0 \times 10^{-12}$ | 17 | √ |

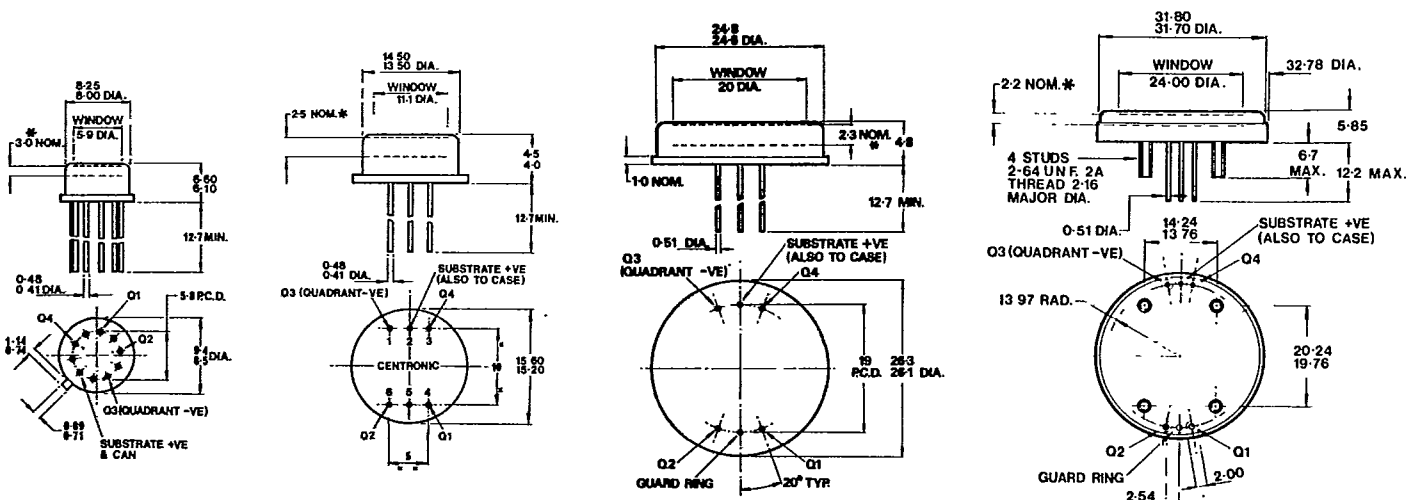†Optical separation is typically 50% of metallurgical for λ =1064 nm

†† -3 and -4 spectral response curves only

**Ordering Example** 50mm$^2$ nominal active area, optimised for 1064nm, order code QD 50-4.

Centronic quadrants are made to exacting standards in excess of most commercial requirements (and are currently being supplied for NATO systems e.g. NATO stock no. 51961/99/038/1228). Full military specification diodes are readily available using Centronic's extensive optical and environmental testing facilities which have full military approval to Defence Standard (UK) 05-21. Centronic expertise covers the whole range of technology from silicon slice preparations and "in-house" package manufacture, to military approved test and calibration facilities.

Centronic specialise in custom manufacturing commercial and military quadrant detectors. Among the devices manufactured are a QD 320-4 sealed in a special lightweight package and an eight sector multiple quadrant of 38mm diameter.

**Packages** (all dimensions in mm) Dimension* refers to distance between window and active area.



14 (TO5)                15 (TO8)                16                    17