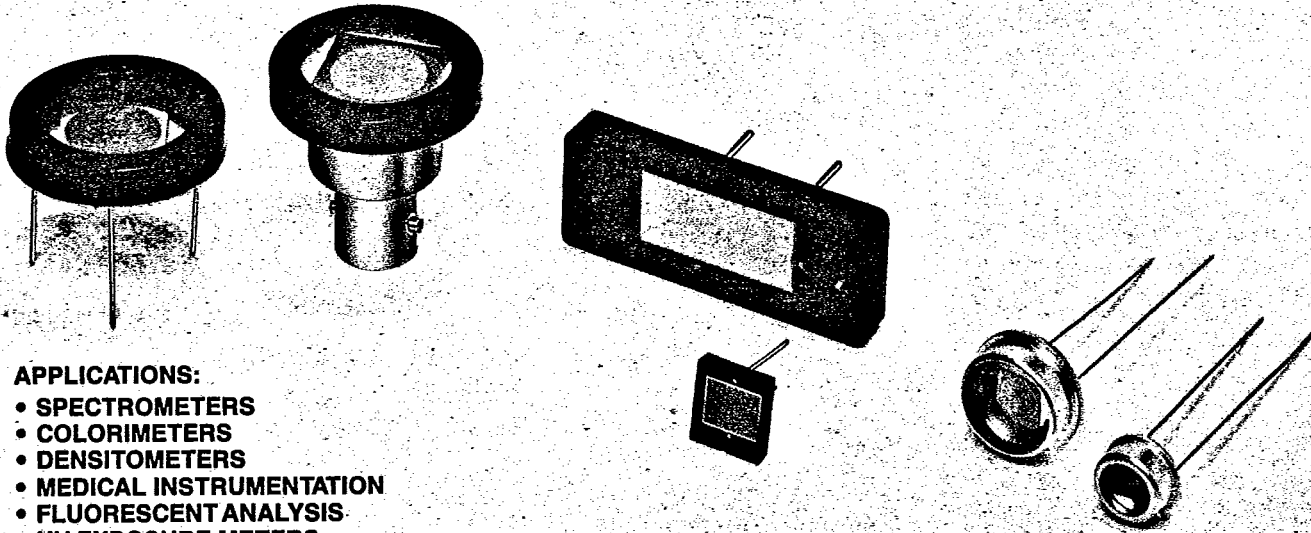
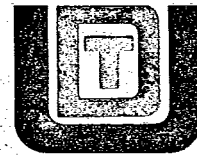


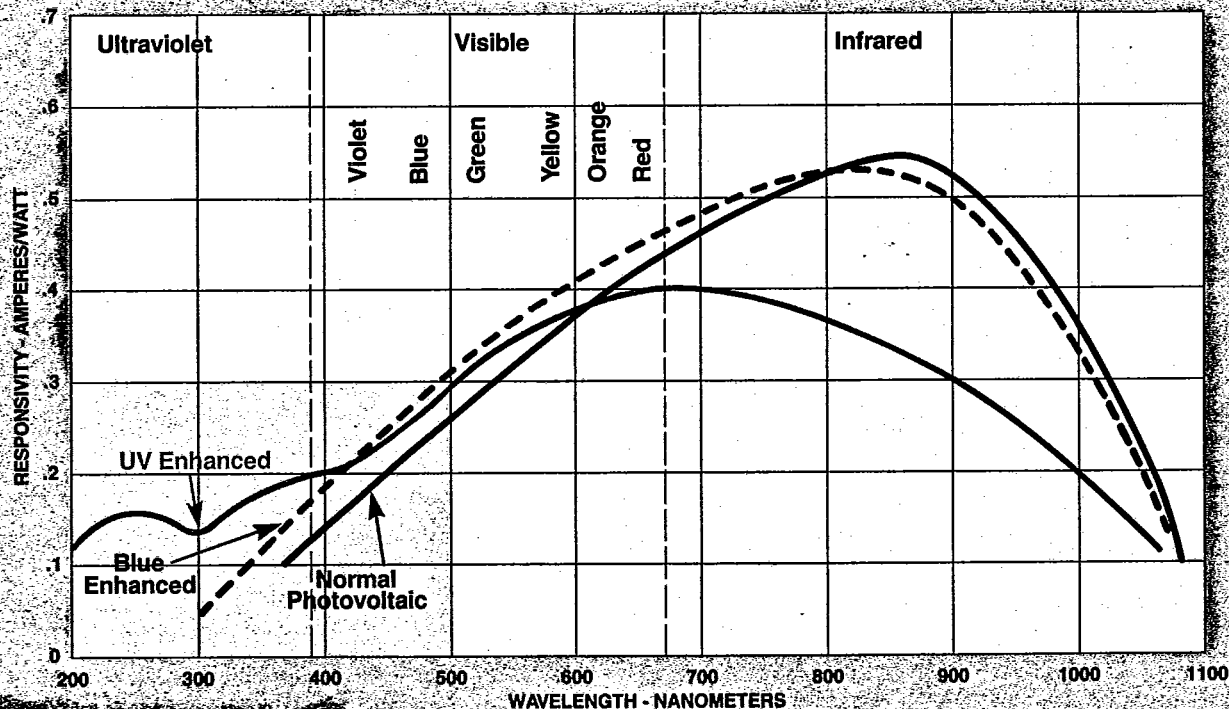
# UV/BLUE SILICON PHOTODIODES



## APPLICATIONS:

- SPECTROMETERS
- COLORIMETERS
- DENSITOMETERS
- MEDICAL INSTRUMENTATION
- FLUORESCENT ANALYSIS
- UV EXPOSURE METERS
- UV CHEMICAL ANALYSIS
- LABORATORY STANDARDS

## SPECTRAL RESPONSE



## UV/Blue Silicon Photodiodes

Recent advancements in UDT silicon photodiode technology have made possible greatly increased performance and stability in the UV/Blue spectral range.

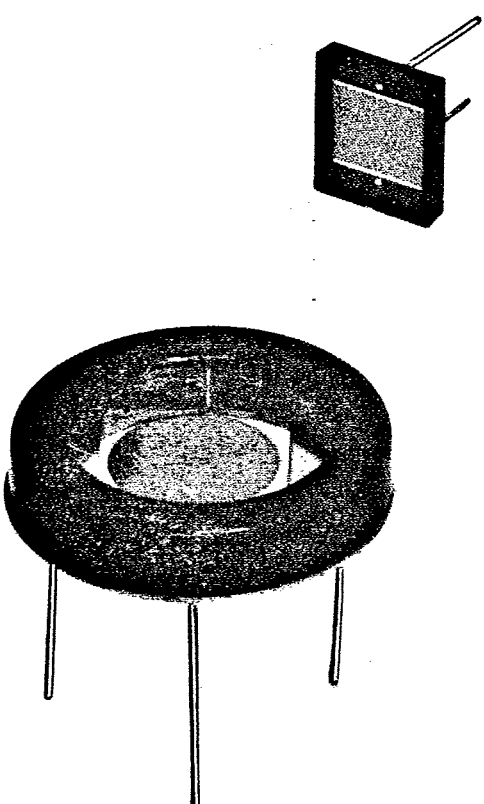
Two families of devices are available from UDT; blue enhanced, optimized for operation in the range of 300 to 500 nanometers; and inverted channel UV enhanced, optimized for 200 to 400 nanometer use.

The inverted channel structure of UDT UV enhanced photodiodes provides resistance to damage from high energy UV irradiance.

UV exposure tests performed by UDT and other respected laboratories have proven that UDT UV enhanced photodiodes have the highest reliability and stability of any devices now available.



## BLUE ENHANCED PLANAR SI



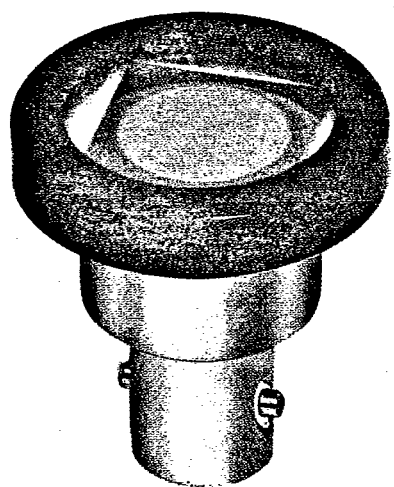
### TYPICAL CHARACTERISTICS (AT 22°C)

| Model Number  | Active Area (cm <sup>2</sup> ) | Package Type         | Responsivity (A/W) | W |
|---------------|--------------------------------|----------------------|--------------------|---|
| PIN-5DP/SB    | .051                           | TO-5                 | 0.16               | @ |
| PIN-10DP/SB   | 1.0                            | BNC                  | 0.16               | @ |
| PIN-10DP-I/SB | 1.0                            | Isolated Low Profile | 0.16               | @ |
| UDT-220/SB    | 2.0                            | 1x2cm Plastic        | 0.16               | @ |

UDT blue enhanced detectors are optimized for near UV to visible (300 to 500nm) to provide optimized signal-to-noise ratio over a wide dynamic range.



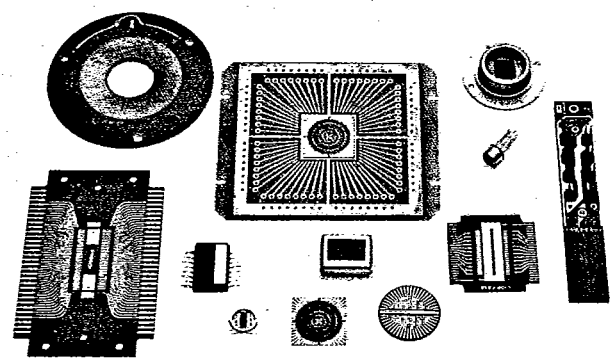
## INVERTED CHANNEL UV EN



### TYPICAL CHARACTERISTICS (AT 22°C)

| Model Number | Active Area (cm <sup>2</sup> ) | Package Type         | Responsivity (A/W) | W |
|--------------|--------------------------------|----------------------|--------------------|---|
| UDT-UV005    | .051                           | TO-5                 | 0.15               | @ |
| UDT-UV20     | 0.2                            | TO-8                 | 0.15               | @ |
| UDT-UV35     | 0.35                           | TO-8                 | 0.15               | @ |
| UDT-UV35P    | 0.35                           | Plastic TO-8         | 0.15               | @ |
| UDT-UV50     | 0.5                            | BNC                  | 0.15               | @ |
| UDT-UV50L    | 0.5                            | Isolated Low Profile | 0.15               | @ |
| UDT-UV100    | 1.0                            | BNC                  | 0.15               | @ |
| UDT-UV100L   | 1.0                            | Isolated Low Profile | 0.15               | @ |

UDT inverted channel UV detectors represent the state-of-the-art in UV devices, both in responsivity (in the 200 to 400nm range), and unparalleled stability under extended exposure to high-intensity UV radiation. All types have quartz windows to minimize loss in the UV spectral range.

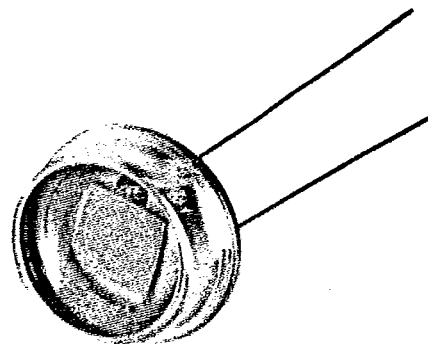
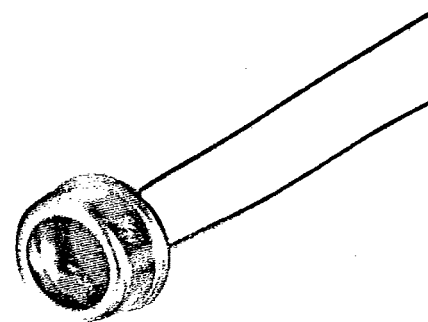


Custom photodiodes, hi-rel devices, special selections, custom multielement arrays and assemblies are all available at competitive prices with a fast turnaround.

# SILICON PHOTODIODES

C

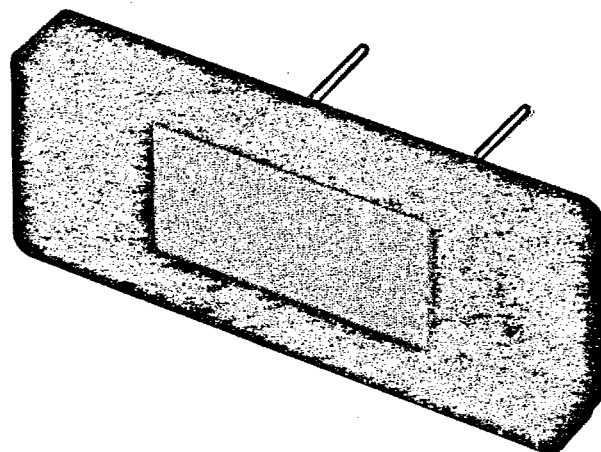
| wavelength (nm) | C <sub>j</sub> @ 0V (pf) | Rsh (MΩ) | NEP (w/√Hz)           | T <sub>r</sub> (μsec) | Isat (mA) |
|-----------------|--------------------------|----------|-----------------------|-----------------------|-----------|
| 410             | 450                      | 80       | 7x10 <sup>-14</sup>   | 0.2                   | 2.0       |
| 410             | 8800                     | 2        | 4.5x10 <sup>-14</sup> | 0.5                   | 10.0      |
| 410             | 8800                     | 2        | 4.5x10 <sup>-14</sup> | 0.5                   | 10.0      |
| 410             | 17000                    | 0.1      | 2.5x10 <sup>-12</sup> | 2.0                   | 10.0      |



# ENHANCED SILICON PHOTODIODES

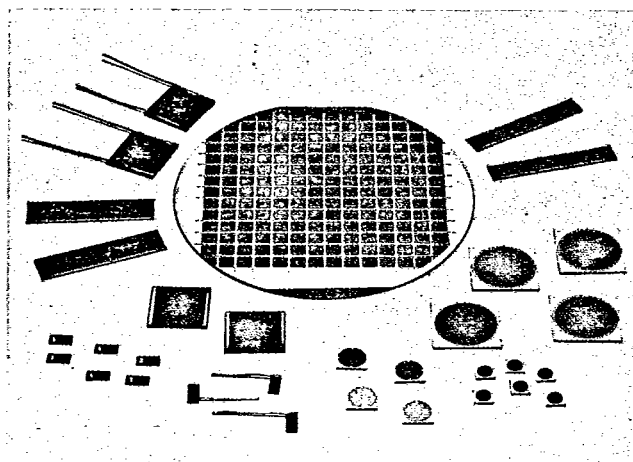
C

| wavelength (nm) | C <sub>j</sub> @ 0V (pf) | Rsh (MΩ) | NEP (w/√Hz)           | T <sub>r</sub> (μsec) | Isat* (mA) |
|-----------------|--------------------------|----------|-----------------------|-----------------------|------------|
| 254             | 300                      | 100      | 8x10 <sup>-14</sup>   | 0.9                   | 0.2        |
| 254             | 1000                     | 50       | 10 <sup>-13</sup>     | 2.0                   | 0.2        |
| 254             | 1600                     | 30       | 1.5x10 <sup>-13</sup> | 3.0                   | 0.2        |
| 254             | 1600                     | 30       | 1.5x10 <sup>-13</sup> | 3.0                   | 0.2        |
| 254             | 2500                     | 20       | 1.8x10 <sup>-13</sup> | 3.5                   | 0.2        |
| 254             | 2500                     | 20       | 1.8x10 <sup>-13</sup> | 3.5                   | 0.2        |
| 254             | 4500                     | 10       | 2.5x10 <sup>-13</sup> | 5.9                   | 0.4        |
| 254             | 4500                     | 10       | 2.5x10 <sup>-13</sup> | 5.9                   | 0.4        |



\*Saturation current may be increased by a factor of approximately 10 (to 2-4mA) by applying a reverse bias of 2-5 volts. (UV005, 20, 50 & 100 are also available in FIL package. See UDT FIL brochure for package details.)

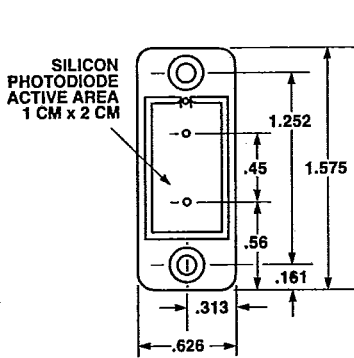
NOTE: High performance blue and UV enhanced PHOTOPS (Detector/Amplifier Hybrids) are also available from UDT. Contact factory for specifications and pricing.



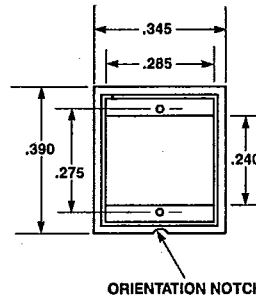
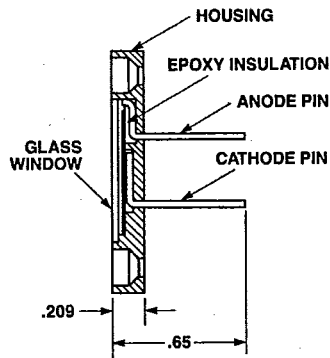
UDT also supplies a complete line of photodiode chips, wafers, solderable chips and chips with lead wires.

3

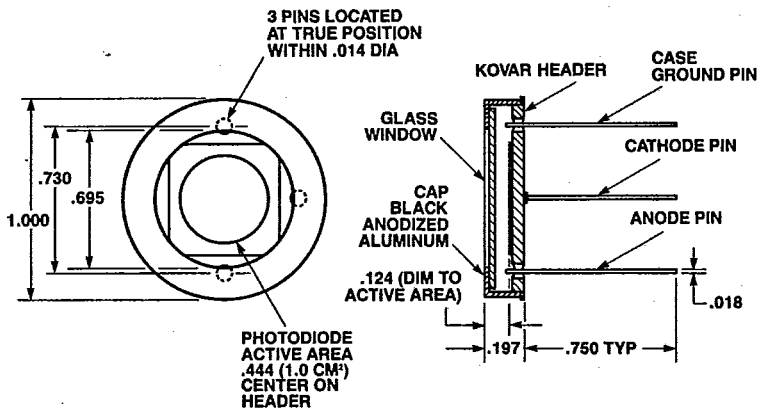
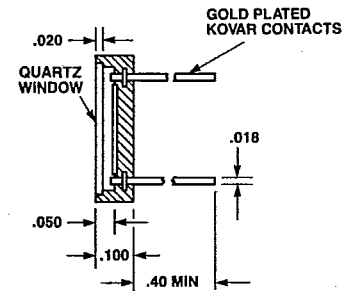
MECHANICAL DETAILS



1 x 2cm PLASTIC



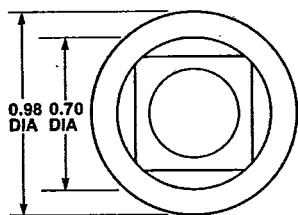
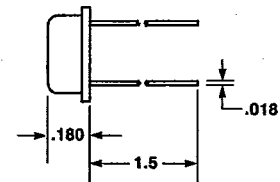
PLASTIC TO-8



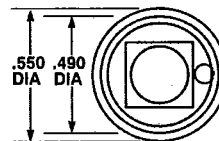
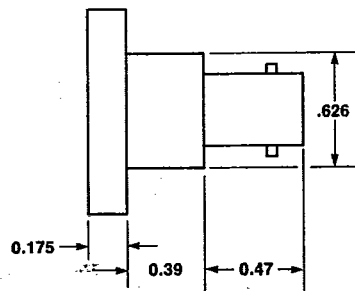
ISOLATED LOW PROFILE



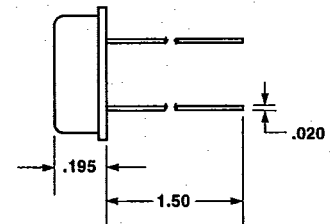
TO-5



BNC



TO-8



Information in this brochure is believed to be accurate and reliable, however, no responsibility is assumed by UDT for its use.



UNITED DETECTOR TECHNOLOGY

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