

## Sensitivity Wavelength Range: 800nm~2600nm

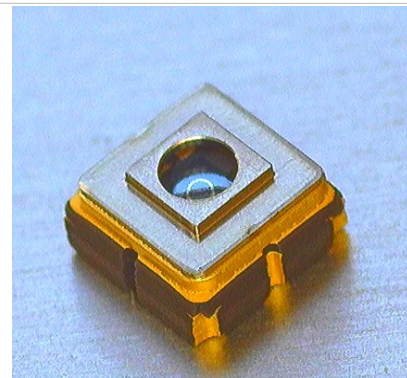
The MTSM2601SMF1-030 from Marktech, a high sensitivity and high reliability product series, is ideally suited for Optical Communication devices. Custom packaging options for this die is also available.

### FEATURES

- > High Speed Response
- > 3mm x 3mm Seam Welded Surface Mount Package
- > Active Area of 0.3mm  $\Phi$  / High Sensitivity
- > Spectral Range 800nm - 2600nm
- > Hermetically Sealed

### APPLICATIONS

- > High Speed Optical Communications
- > Industrial Controls
- > Gas/Water Analysis
- > LIDAR
- > Medical



## Absolute Maximum Ratings (Ta=25°C)

| ITEMS                       | SYMBOL | RATINGS     | UNIT |
|-----------------------------|--------|-------------|------|
| Active Area                 | $\Phi$ | 0.3         | mm   |
| Operating Temperature Range | Topr   | -40 to +85  | °C   |
| Storage Temperature Range   | Tstg   | -40 to +125 | °C   |

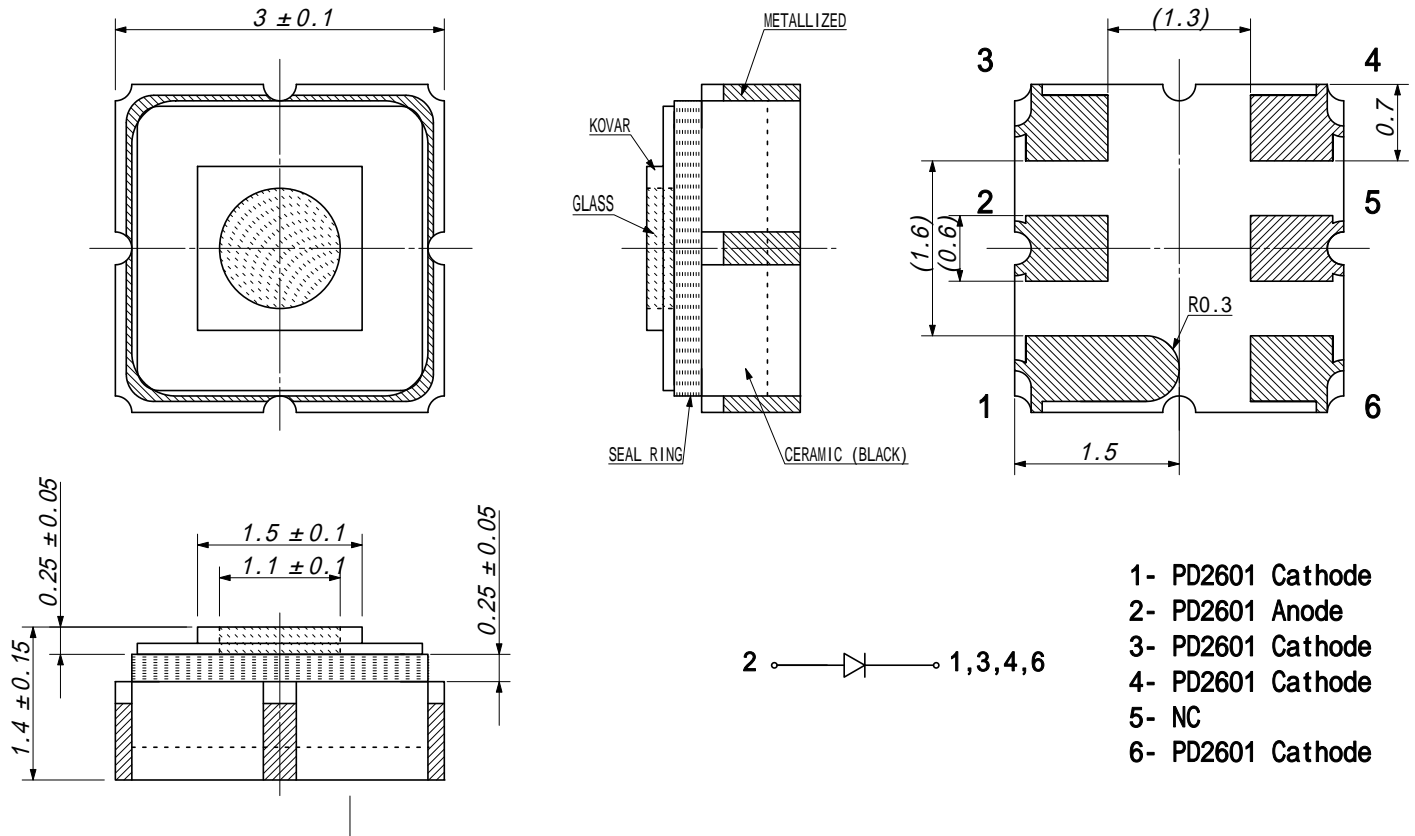


**Note: Also available on PCB - Starboard MTSM2601SMF1-030S (See Page 3)**

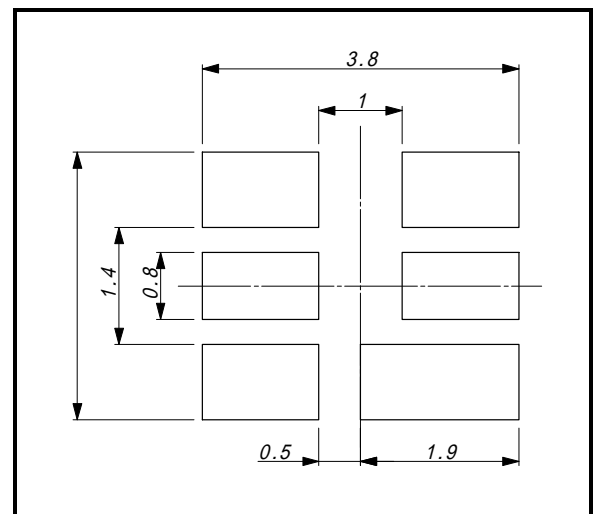
## Electrical & Optical Characteristics (Ta = 25°C)

| ITEMS                             | SYMBOL    | CONDITIONS        | MIN | TYP  | MAX  | UNIT    |
|-----------------------------------|-----------|-------------------|-----|------|------|---------|
| Breakdown Voltage                 | VR        | IR=100uA          | --  | --   | 1    | V       |
| Sensitivity Range                 | $\lambda$ | VR=0V             | 800 | --   | 2600 | nm      |
| Dark Current                      | ID        | VR=0V             | --  | 1    | --   | nA      |
| Dark Current                      | ID        | VR=1V             | --  | 43   | --   | uA      |
| Capacitance                       | C         | VR=0V             | --  | 150  | --   | pF      |
| Capacitance                       | C         | VR=1V             | --  | 20   | --   | pF      |
| Responsivity                      | R         | $\lambda$ =2400nm | --  | 1.24 | --   | A/W     |
| Shunt Resistance                  | RS        | VR=10mV           | --  | 9    | --   | kOhm    |
| Quantum Efficiency                | QE        | $\lambda$ =1840nm | --  | 72   | --   | %       |
| Light Current @ $\lambda$ =1300nm | IL        | If=10mA           | --  | 25   | --   | $\mu$ A |
| Light Current @ $\lambda$ =1300nm | IL        | If=20mA           | --  | 50   | --   | $\mu$ A |

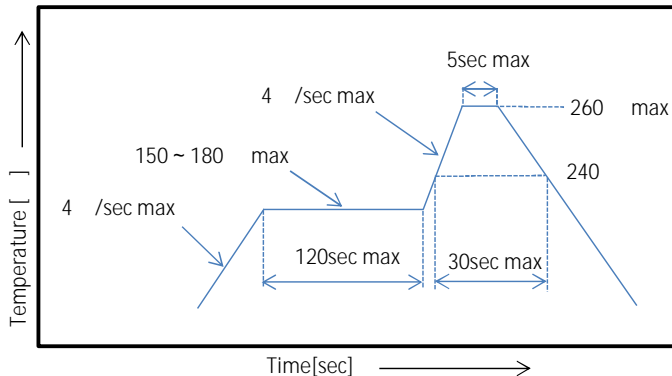
## Package Dimensions



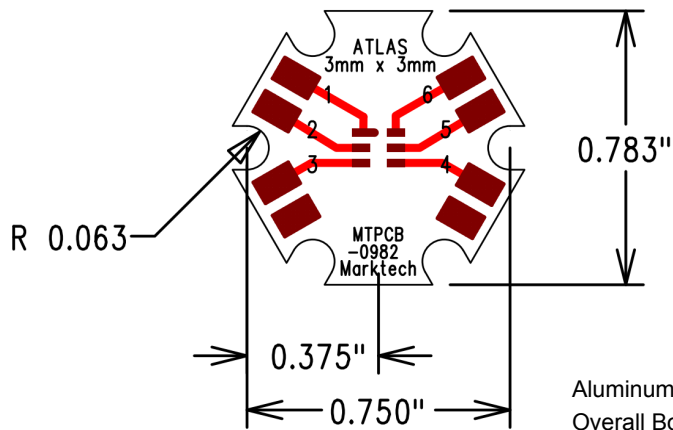
### Recommended Soldering Pattern [mm]



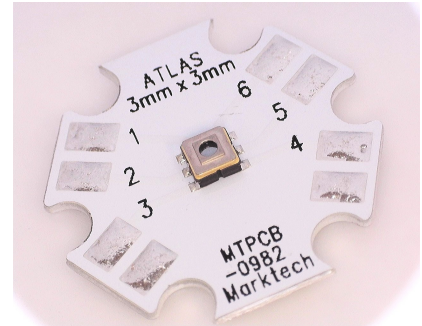
### Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



## Starboard Dimensions



|       |         |
|-------|---------|
| Pin 1 | Cathode |
| Pin 2 | Anode   |
| Pin 3 | Cathode |
| Pin 4 | Cathode |
| Pin 5 | NC      |
| Pin 6 | Cathode |



Aluminum Core Board 0.040" (1.02mm) Thickness  
Overall Board Dimensions: +/- 0.010" (0.254mm)

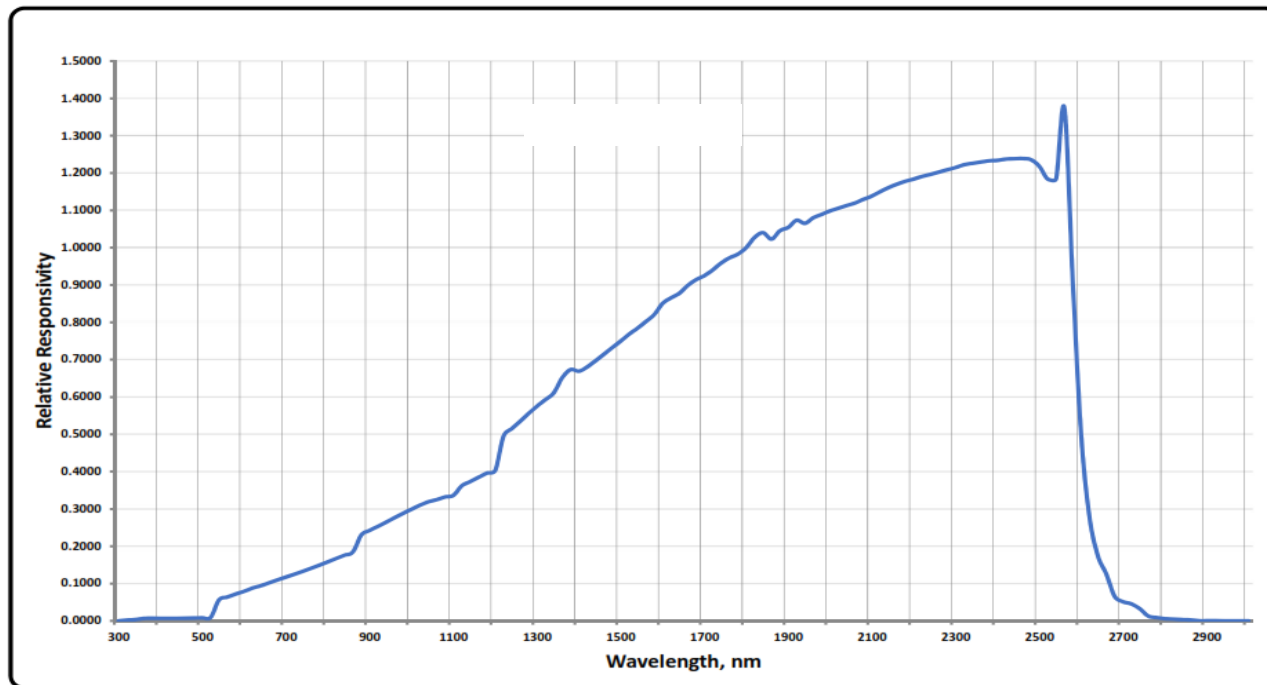


We reserve the right to make changes to improve technical design and may do so without further notice. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.

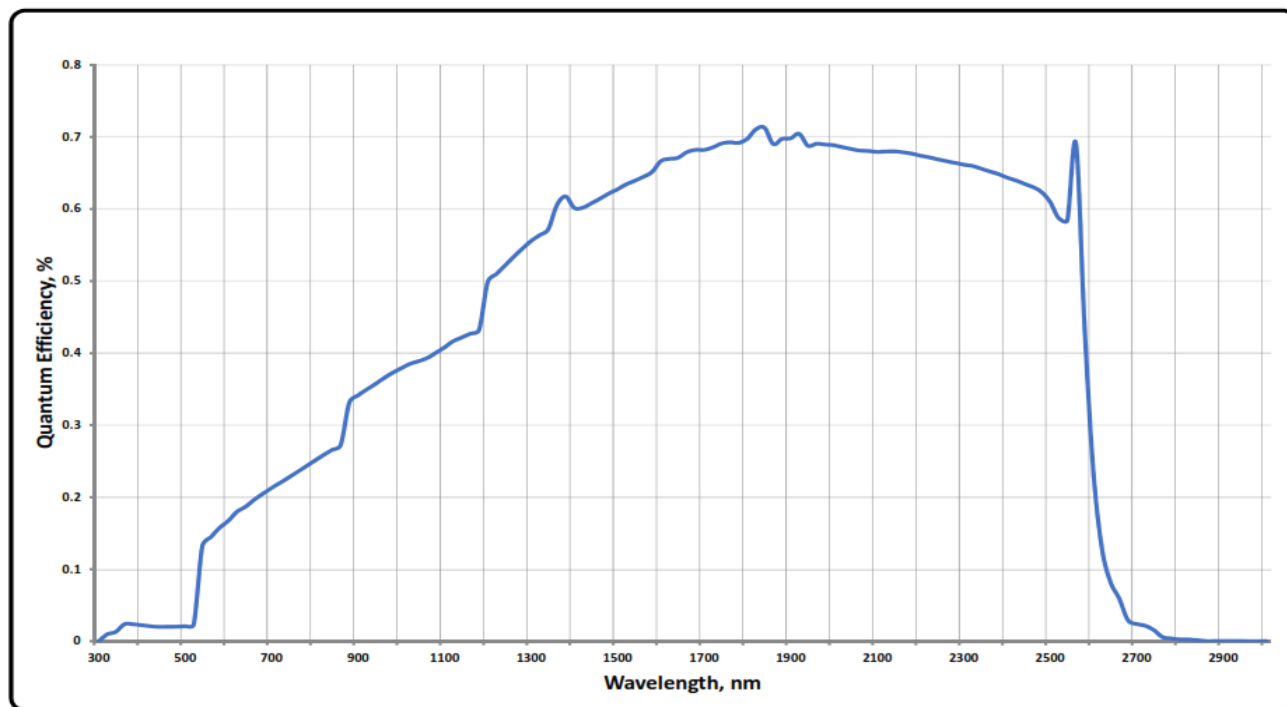
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## Spectral Responsivity

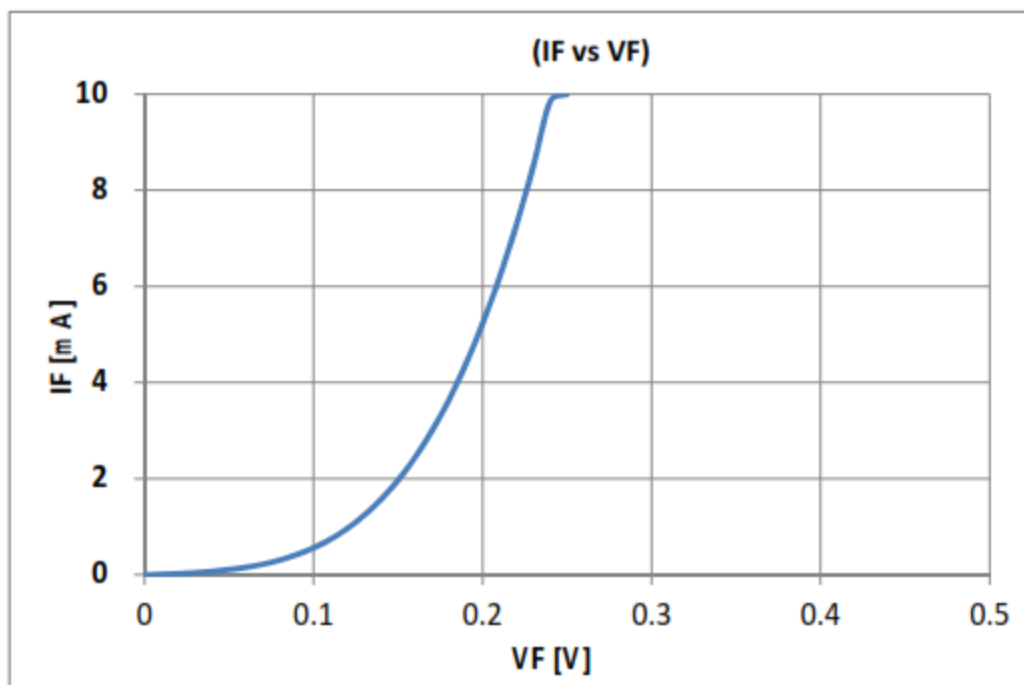
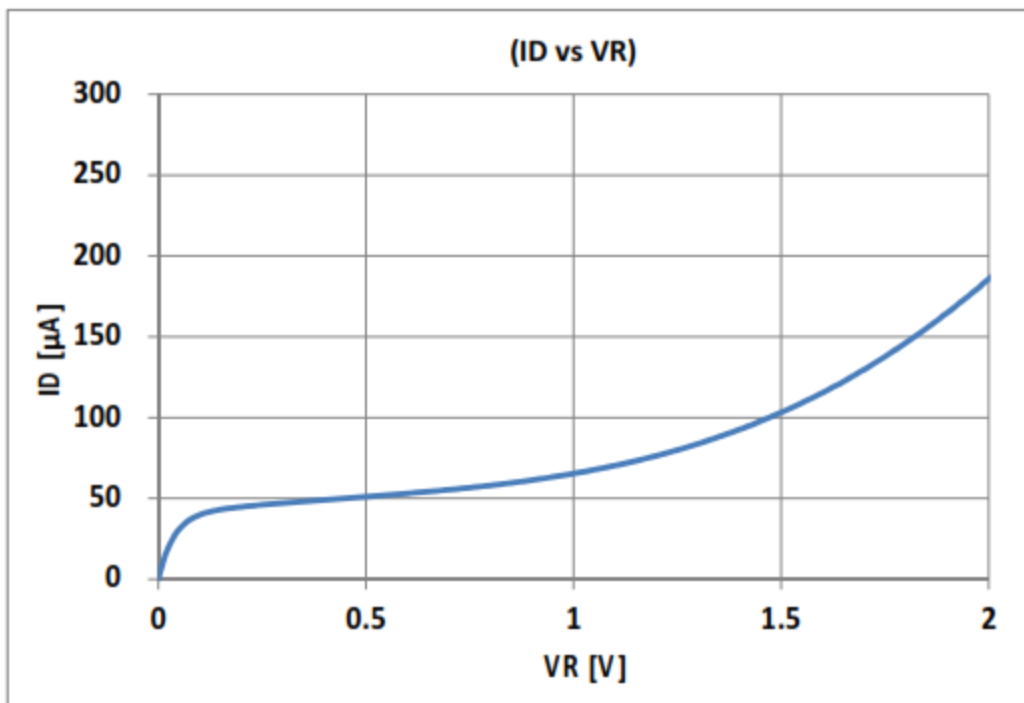


## Quantum Efficiency



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