

### Sensitivity Wavelength Range: 600nm ~ 1750nm

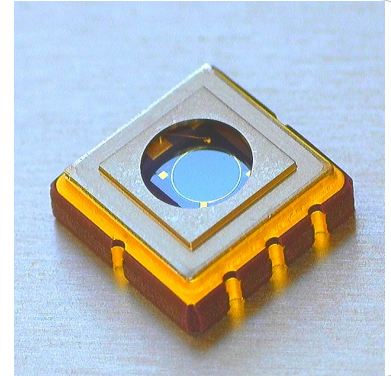
The 1346 series from Marktech, a high sensitivity and high reliability product series, is ideally suited for Optical Communication devices. Custom packaging options for this die are also available.

#### FEATURES

- > High Speed Response (Max: 2Gbps)
- > 5mm x 5mm Seam Welded Surface Mount Package
- > Active Area of 1.5mm / High Sensitivity
- > Spectral Range: 600nm - 1750nm
- > Hermetically Sealed

#### APPLICATIONS

- > High Speed Optical Communications
- > Industrial Controls
- > Optical Switches
- > LIDAR
- > Medical



### Absolute Maximum Ratings (Ta=25°C)

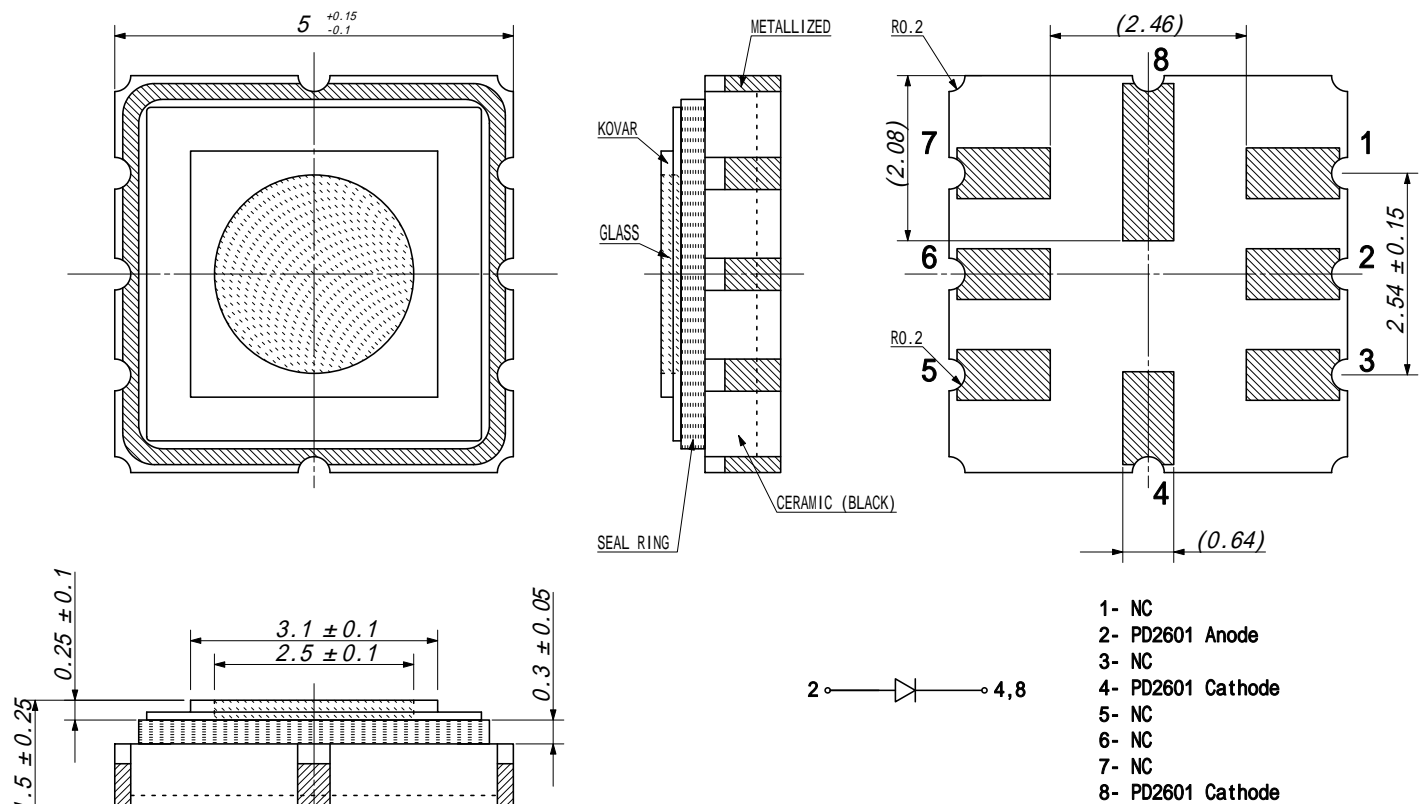
ITEMS	SYMBOL	RATINGS	UNIT
Active Area	$\Phi$	1.5	mm
Operating Temperature Range	T <sub>opr</sub>	-40 to +85	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +125	°C

**Note: Also available on PCB - Starboard MTSM1346SMF2-150S (See Page 3)**

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

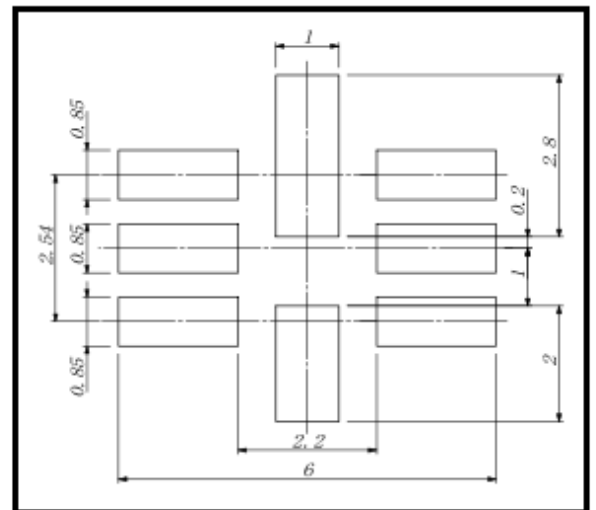
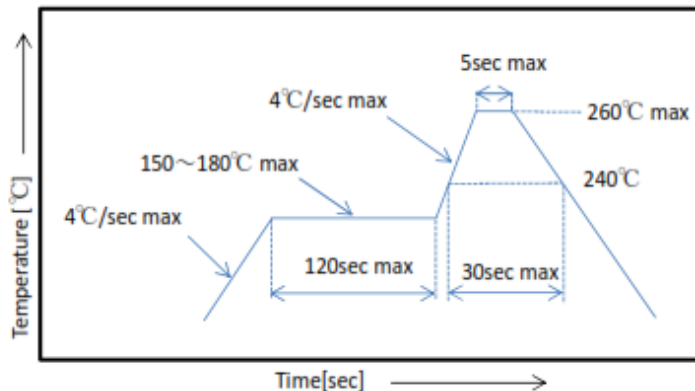
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Breakdown Voltage	VR	IR=10uA	--	--	1	V
Sensitivity Range	$\lambda$	VR=0V	600	--	1750	nm
Dark Current	ID	VR=0V	--	0.01	--	nA
Dark Current	ID	VR=1V	--	26	--	nA
Junction Capacitance	C	VR=0V	--	12	--	pF
Junction Capacitance	C	VR=1V	--	12	--	pF
Responsivity	R	$\lambda$ =1650nm	--	0.74	--	A/W
Quantum Efficiency	QE	$\lambda$ =1660nm	--	55	--	%
Shunt Resistance	RSH	VR=10mV	--	665	--	MΩ
Switching Times	T <sub>r</sub> , T <sub>f</sub>	VR=1V	--	1	--	ns
Light Current @ $\lambda$ =1300nm	IL	IF=10mA	--	250	--	μA
Light Current @ $\lambda$ =1300nm	IL	IF=20mA	--	500	--	μA

## Package Dimensions

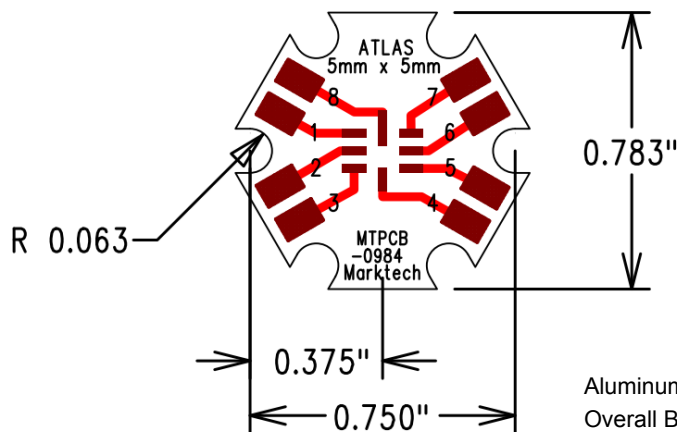


### Recommended Soldering Pattern [mm]

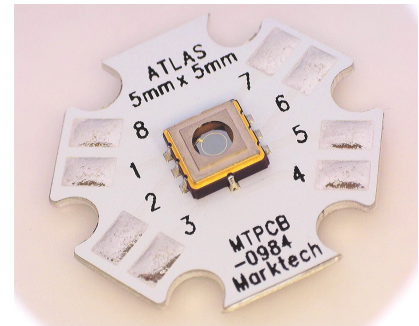
### Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



## Starboard Dimensions



Pin 1	NC
Pin 2	Anode
Pin 3	NC
Pin 4	Cathode
Pin 5	NC
Pin 6	NC
Pin 7	NC
Pin 8	Cathode



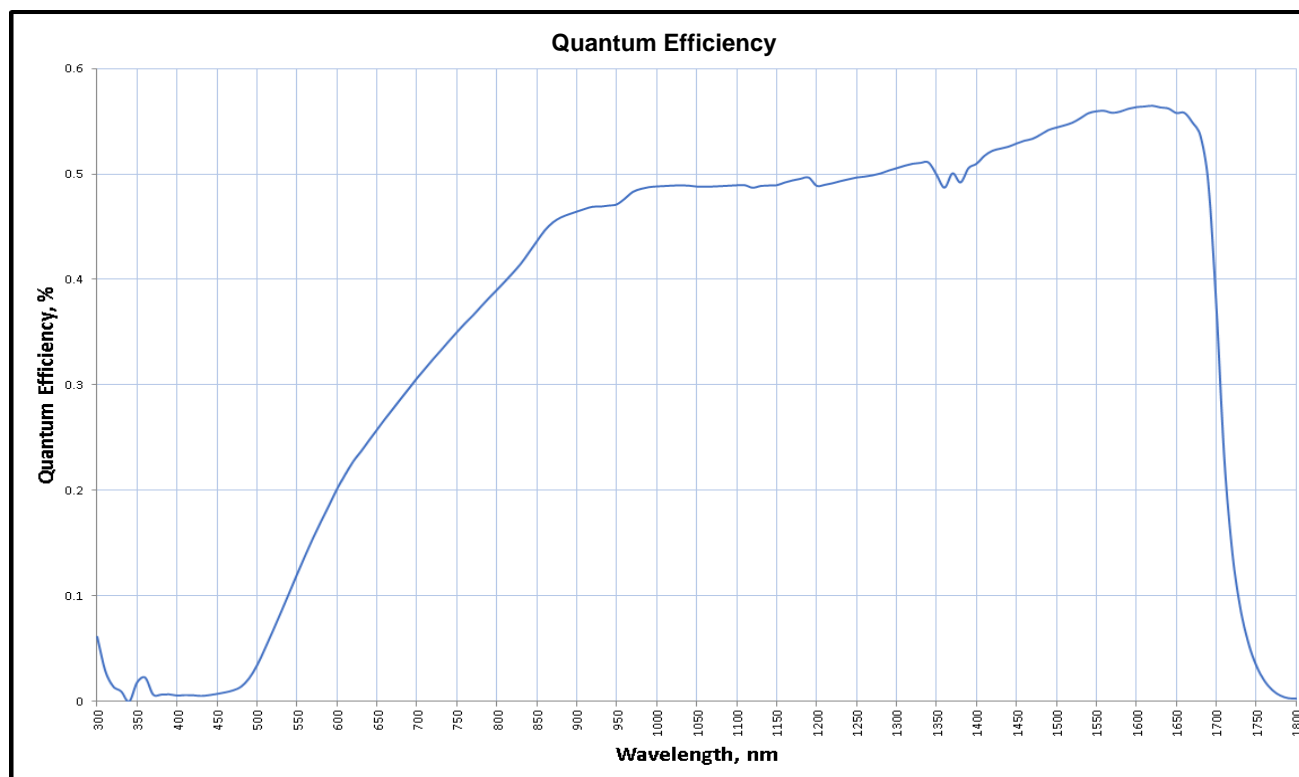
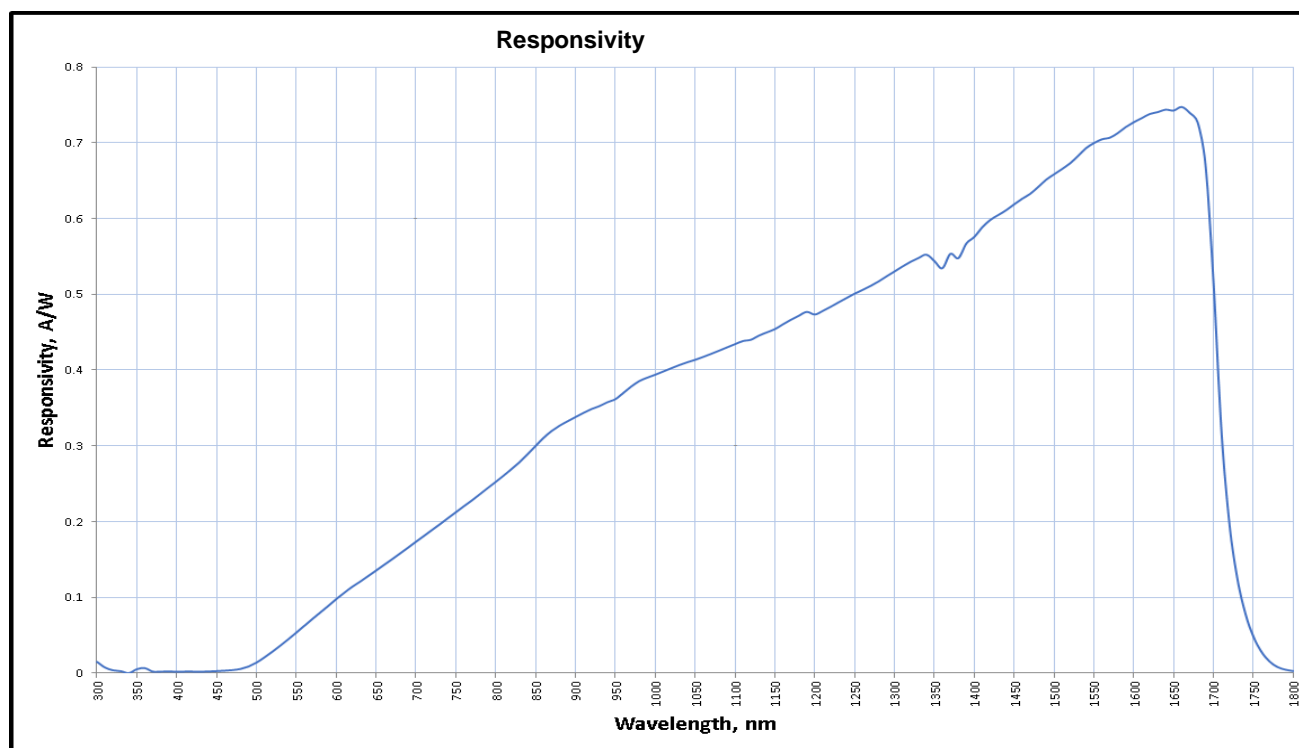
Aluminum Core Board 0.040" (1.02mm) Thickness  
Overall Board Dimensions: +/- 0.010" (0.254mm)



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.

The information contained herein is subject to change without notice.

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