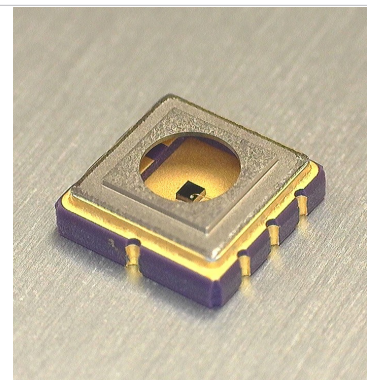


Sensitivity Wavelength Range: 220nm ~ 358nm

The MTSM1057SMF2-046 is a square (0.46mm x 0.46mm) 0.21mm² active area Silicon Carbide Photodiode in an isolated, hermetic package with a UV transmitting glass window. Custom packaging options for this die are available

FEATURES

- > Hermetically Sealed Package
- > 5mm x 5mm Seam Welded Surface Mount Package
- > High Sensitivity
- > Spectral Range: 220nm - 358nm



Absolute Maximum Ratings (Ta=25°C)

ITEMS	SYMBOL	RATINGS	UNIT
Operating Temperature Range	Topr	-55 to +170	°C
Storage Temperature Range	Tstg	-55 to +170	°C
Reverse Breakdown Voltage	Vr	50	V

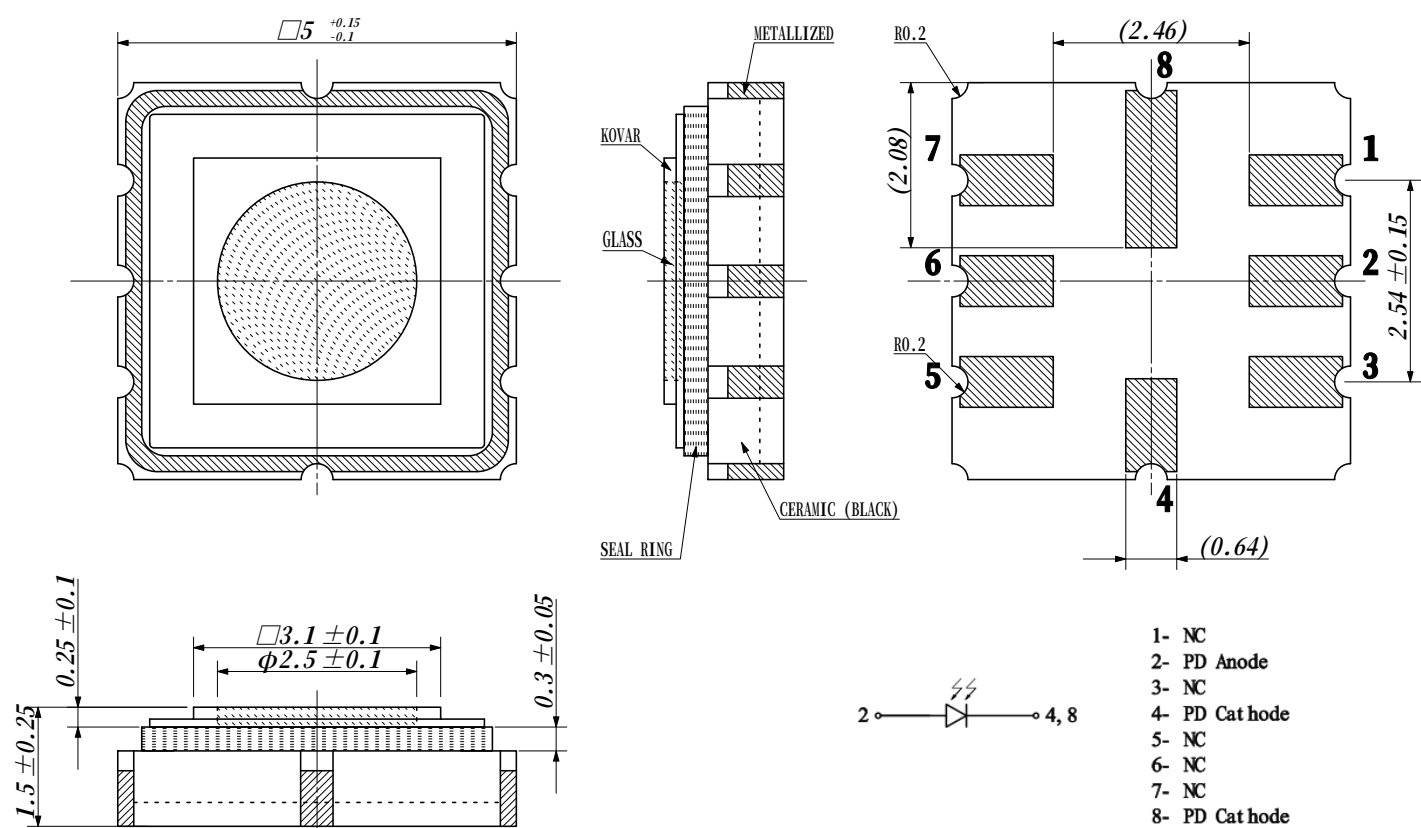
Note: Also available on PCB - Starboard MTSM1057SMF2-046S (See Page 3)

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Radiant Sensitivity Area	Φ		0.26 mm x 0.26 mm, 0.06 mm ²			
Responsivity	R	λ=280nm	--	0.13	--	A/W
Dark Current	ID	VR=1V	--	0.5	--	fA
Sensitivity Range	λ	VR=0V	220	--	358	nm
Peak Sensing Wavelength	λp	VR=10mV	--	280	--	nm
Photo Sense Current	Io	10mW/cm ² @peak	--	0.8	--	uA
Serial Capacitance	CS	V=0V, 1MHz	--	1.5	--	pF
Shunt Resistance*	Rs		--	<1	--	GΩ

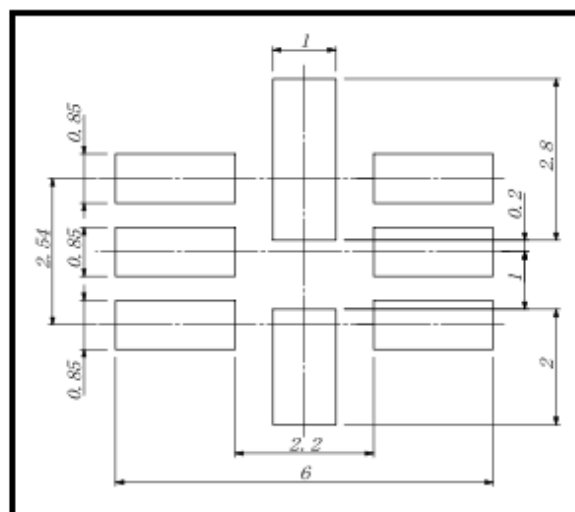
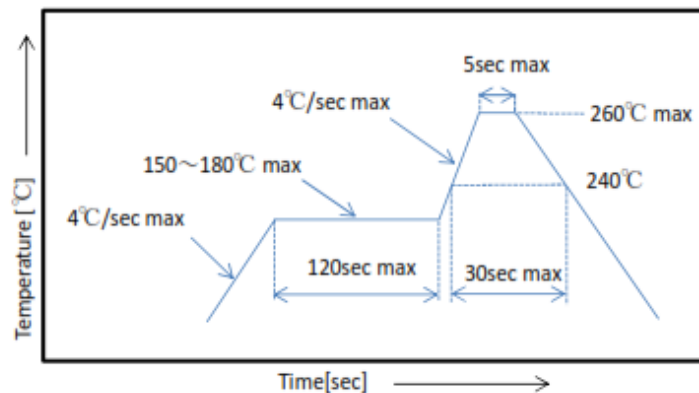
*Estimated Shunt Resistance

Package Dimensions



Recommended Soldering Pattern [mm]

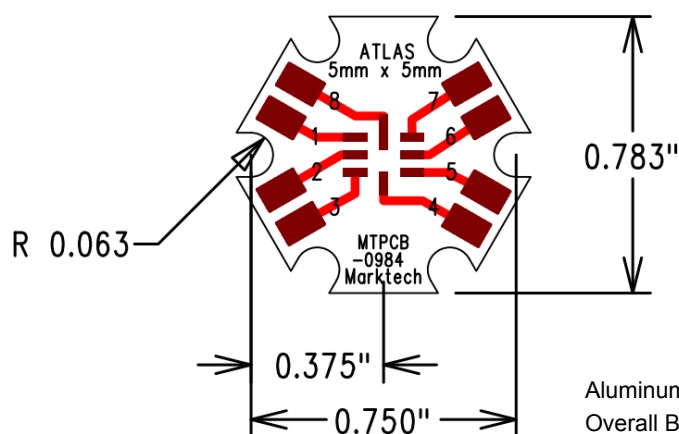
Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



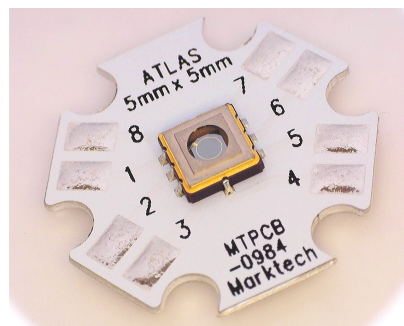
The information contained herein is subject to change without notice.

2025-11-06

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.

2025-11-06

Spectral Responsivity

