

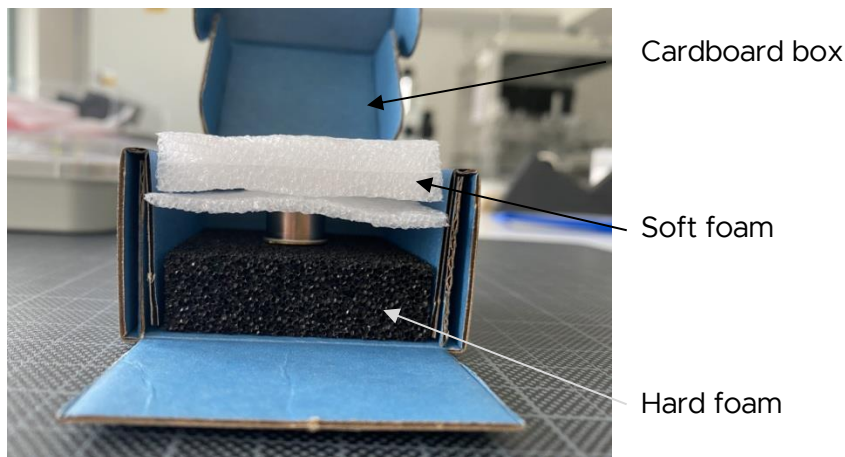
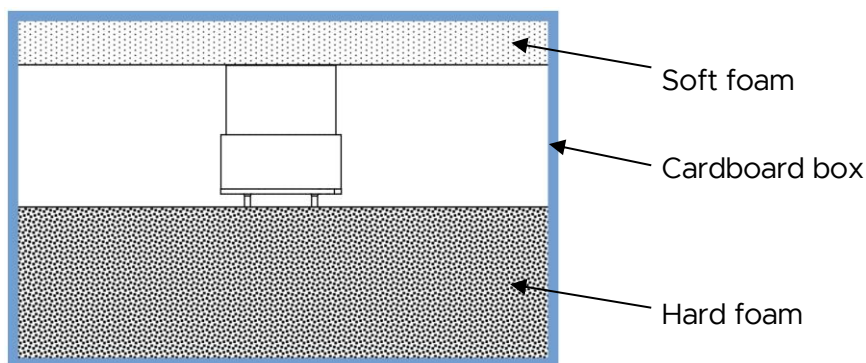
Handling instructions for TO emitter

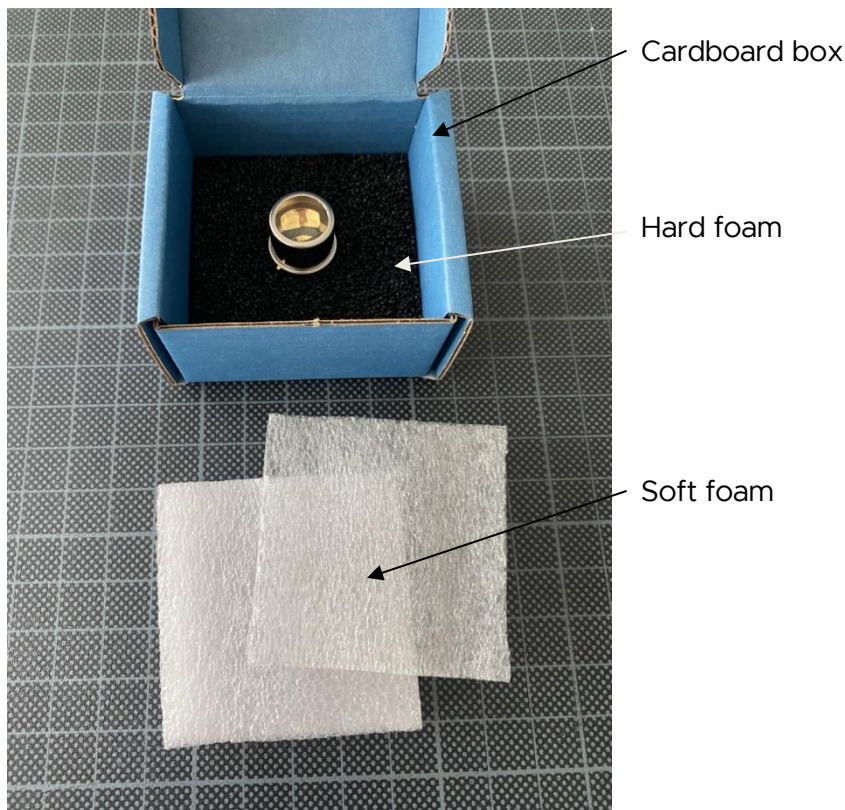
Transportation and Storage, Electrostatic discharge Protection

Our products comply with the normal requirements for electronic components regarding transportation and storage. Protect the components especially against exceptional mechanical loads or harmful, particularly corrosive gases or vapors.

High humidity damages electronic components. For this reason, our products should not be exposed to any extreme humidity, particularly in combination with high temperatures. Store the emitters dry and at normal room temperature. Provided that our products are delivered in moisture protected packaging, they should not get damaged.

Infrasolid emitters are shipped in ESD-safe packing, which contains two types of foam:





Furthermore, we recommend:

- Transporting and storing the emitters in the original box until processing

Handling

Note the following when handling the product and also after installing into a device.

(1) Basic precautions

- When touching the product, it is recommended to wear gloves or use tweezers. Touching the product with bare hands may cause degradation in characteristics, problems with solder wettability, and plating corrosion.
- Perform work in a clean place.

(2) Window material

- Electrical and optical characteristics may deteriorate if dust, stain, or scratches are on the window material. Dust, stain, or scratches on the window material can degrade light transmittance and sensitivity.
- To prevent scratches and cracks on the window material, do not apply strong friction, shock, or pressure. Avoid sharp or hard objects from making contact with the window material. In particular.
- Use an air blower to remove dust adhering to the window material.
- If oil, grease, or other substances that cannot be removed with an air blower adheres to the window material, gently wipe it away with a cotton swab moistened with ethyl alcohol and the like to prevent the window from being scratched. Rubbing strongly or

wiping the same section over and over will cause scratches and degrade the electrical and optical characteristics or the reliability.

- Do not rub the window material with a dry cloth or cotton swab. Doing so may cause scratches resulting in malfunctions.
- Take precautions to protect the window material from stain or scratches when packing or shipping equipment, in which the product is installed.

(3) Vibration, shock, and stress

- If long-term vibration or frequent or strong shock is applied to the product, the package may break causing the characteristics to be impaired.
- Using the product under external stress may damage the inside of the product or connected parts.
- On some products with optical filters, the filter may fall out if excessive force or continuous vibration is applied to the filter section.

(4) Cleaning

Avoid cleaning with solvent as much as possible. If you must, note the following points.

- Use alcohol solvents such as ethyl alcohol.
- Check that there is no problem with the cleaning method by experimenting in advance.
- Gently wipe stain off from the window material using a cotton swab moistened with ethyl alcohol or the like (**Fig. 1**).
- Do not use ultrasonic cleaning or steam cleaning as it may cause critical damage to the product. Dip washing is recommended.
- If you use non-cleaning solder to mount the product, do not clean the flux. If you do, leakage or other problems may occur between terminals, which can lead to operation errors.

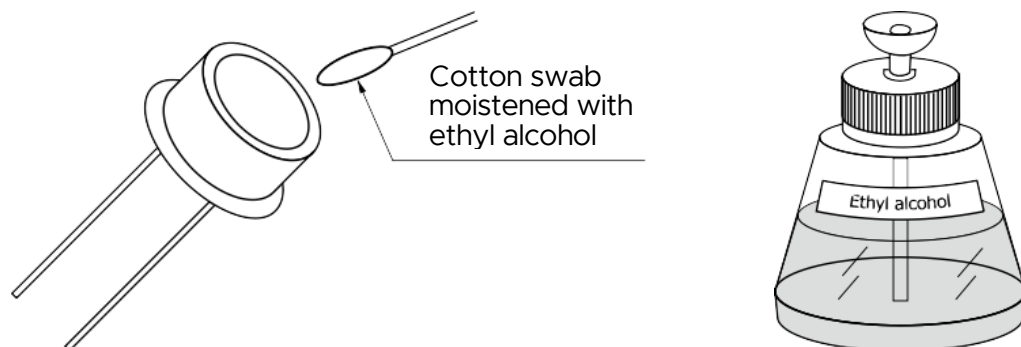
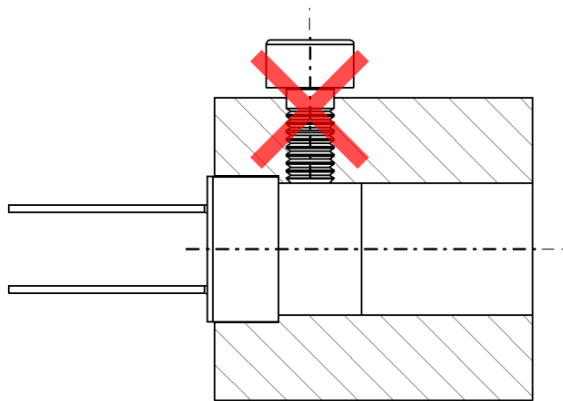


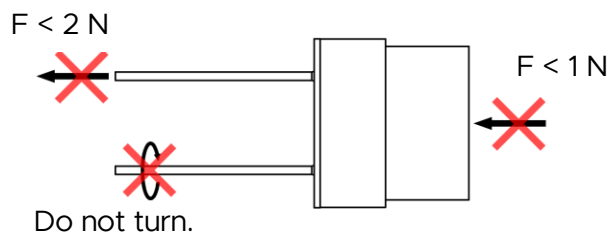
Fig. 1: Gently wipe stain off from the window material using a cotton swab moistened with ethyl alcohol or the like.

Limits of mechanical stress

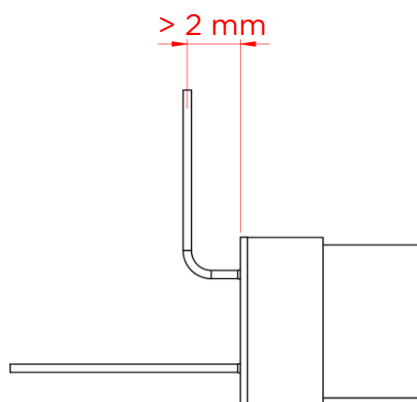
- Do not fasten the cap with screws.
- Do not turn or bend the header pins.
- Do not pull the pins with more than 2 N.
- Do not press the cap with more than 1 N.
- Do not bend the straight header pins more than 10°.
- Use pliers to bend the header pins more than 10° at a minimum distance of 2 mm from the header.



Do not fasten the cap with screws



Do not pull the pins with more than 2 N.
Do not press the cap with more than 1 N.
Do not turn the header pins.



Do not bend the header pins by hand, because the glass enclosure may be damaged, resulting in leakage.
Use pliers to bend the header pins instead.
The distance between the bending point and the header must be greater than 2 mm.

Storage

Be sure to strictly comply with the storage conditions described in the delivery specification sheet, instruction manual, or the like.

- Avoid wetting, exposure to direct sunlight, harmful gas, or dirt, or storage in a place with sudden temperature changes.
- Do not lay a heavy object or load on the product or the package.
- When storing the products after transferring them into another case, use a case that is difficult to be charged with static electricity. When storing electrostatic sensitive devices, be sure to put them in a conductive case.
- If the product is stored in a poor environment (conditions exceeding the recommended storage conditions in **Tab. 1**), the solderability may lower or electrical characteristics may decrease. When the storage conditions are described in the datasheet, delivery specification sheet, or the like, be sure to comply with them.
- For products that have moisture sensitivity level (MSL) indicated in the datasheet, delivery specification sheet, or the like, follow **Tab. 2**.

USAGE PRECAUTIONS: Avoid skin contact. Protect against physical damage and avoid generating dust. STORAGE PRECAUTIONS: Keep away from foodstuffs. Keep away from acids and strong bases.

Protective gloves made of nitrile rubber (0.11 mm) are required. Use of a laboratory coat is suggested. Safety goggles or safety glasses with side shields are required if there is any possibility of chipping or dust creation. Respirators must be worn when the threshold limit is exceeded. Provide adequate general mechanical ventilation, and local exhaust ventilation.

The above information is believed to be correct but does not purport to be all inclusive and must be used only as a guide.

Tab. 1: Recommended storage conditions

Parameter	Storage conditions
Product not packed in moisture- proof bag	Temperature: 15 °C to 35 °C Humidity: 45% to 75%

Tab. 2: Moisture sensitivity level and storage conditions in accordance with JEDEC J-STD-020D.

Moisture sensitivity level (MSL)	Storage period	Storage temperature and humidity
1	Unlimited	30 °C or less, 85% or less
2	1 year	
2a	4 weeks	
3	168 hours	
4	72 hours	30 °C or less, 60% or less
5	48 hours	
5a	24 hours	

Soldering instructions

Overheating and inadequate heat sinking during soldering can damage the emitter!

Use only manual soldering considering the following instructions:

- Use temperature-controlled soldering irons.
- Use solder wire with no-clean flux.
- Use a heat sink to dissipate heat.
- Do not touch the TO cap and base plate with the soldering tip during soldering.
- Use the following maximum soldering times for the given maximum soldering temperatures T and the distance L between the soldered joint and the TO base plate:

Temperature T	Distance L		
	2 mm	5 mm	8 mm
245 °C	6 s	10 s	14 s
265 °C	5 s	8 s	11 s
300 °C	3 s	5 s	7 s

