

# 10 W Flood Illuminator Module Handling and Storage

The Lumentum state-of-the-art 10 W flood illuminator module's compact package integrates three-junction VCSEL arrays, an optical diffuser, a ceramic substrate, and a photodiode to provide high efficiency, reliability, and the highest optical peak power in a consumer-grade flood illuminator with built-in eye safety function.

This application note gives general information on the assembly and design of the solder pad of the 10 W flood illuminator. It is important that the mounting process follow the suggested guidelines outlined in this document. This includes recommended solder pads, packaging information, recommended reflow soldering profile, cautions for handling, storage, cleaning, and static electricity.

**Recommended Solder Pad**

Lumentum recommended solder pad is shown in Figure 1

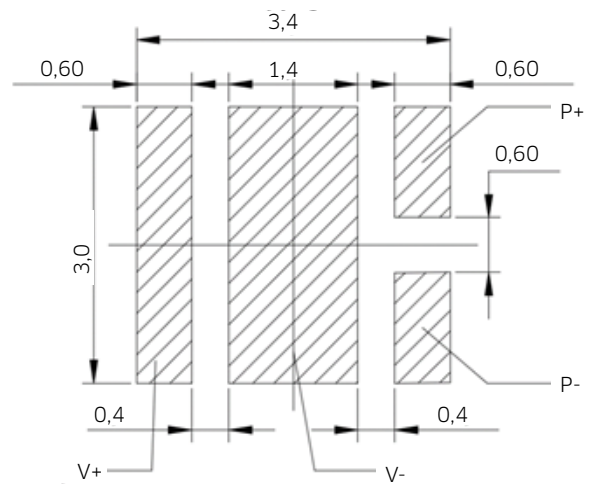
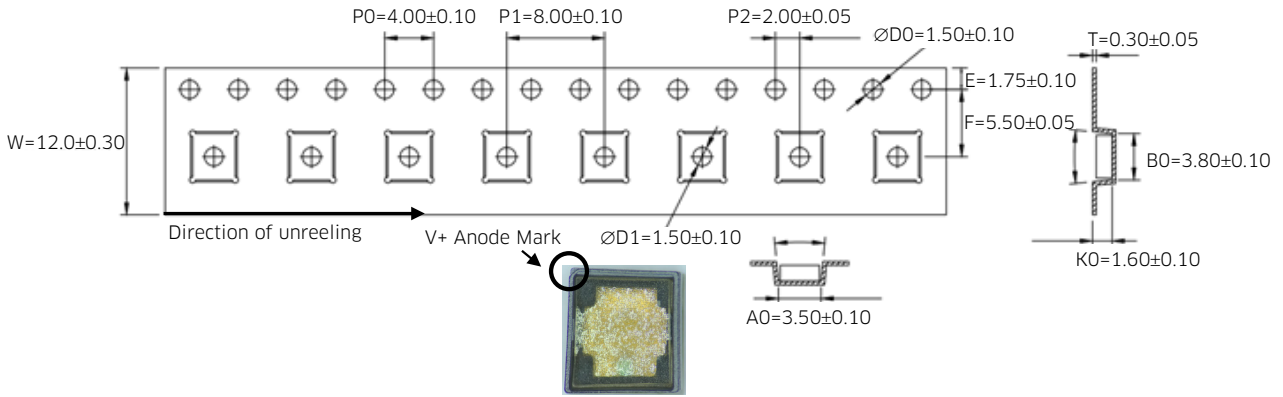
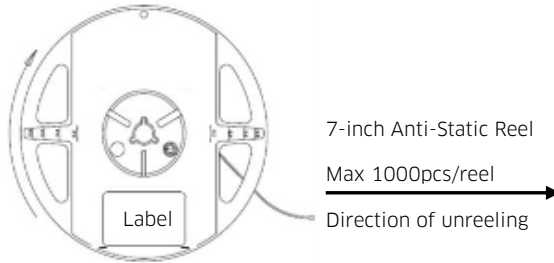


Figure 1: Recommended solder pad

**Packing Carrier Information**



Note: The V+ Anode Mark is alignment to the hole



Note: Label will identify the Reel ID which can be used for traceability.

Figure 2: Packing carrier information

**Packing Box**

**Table 1: Packing Box Information**

Box Type	Size (mm)	Tape Reel Q'ty	Max
Small	280x228x72	1~4	4-Tape Reel Bag
Middle	390x220x260	7~24	Every Block 7 Reels x 3 Blocks
Big	540x460x220	64	Every Block 8 Reels x 8 Blocks

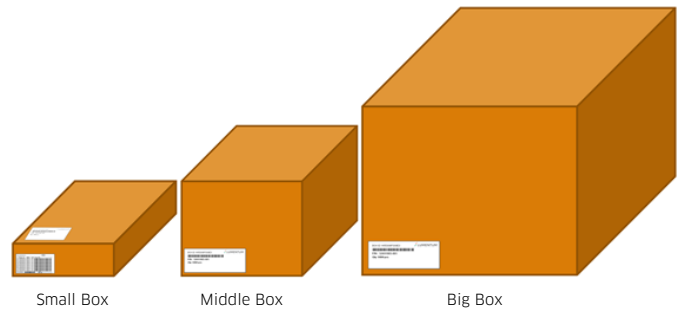


Figure 3: Packing box outlook

**Recommended Reflow Soldering Profile  
(JEDEC-STD-020 Latest Version Compliant)**

- One-time soldering is recommended. Reflow more than three times is not allowed (including repair module from solder pad)
- The peak soldering temperature should be controlled below 260°C and within 10 seconds.

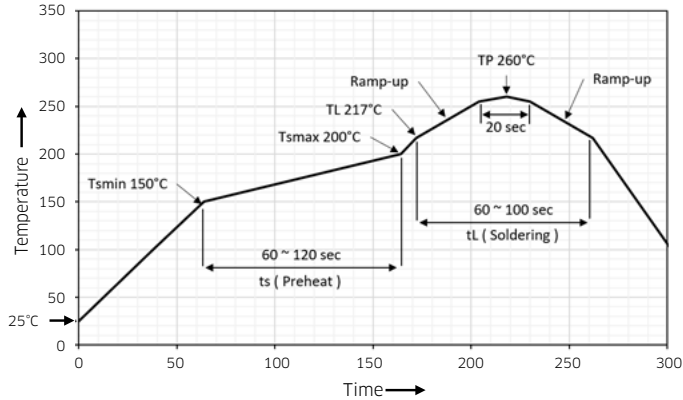


Figure 4. Recommended reflow soldering profile (JEDEC-STD-020 latest version compliant)

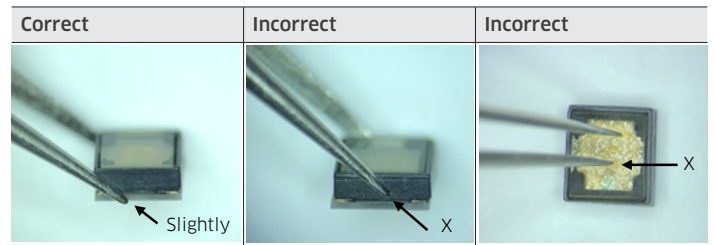
**Table 2: Recommended Reflow Soldering Profile Features and Conditions**

Profile Features	Conditions
<b>Preheat</b>	
Temperature min (Tsmmin)	150 °C
Temperature max (Tsmmax)	200 °C
Time (Tsmmin to Tsmmax)	90±30 s
<b>Soldering</b>	
Temperature (TL)	217 °C
Soldering (tL)	60~100 s
Peak temperature (TP)	260 °C max. <10 s
Ramp-up rate	3°C / s max.
Ramp-down rate	3~6°C / s

**Cautions for Handling**

- Do not touch the lens and housing with tweezers or fingers
- Do not apply force more than 1 kg onto the lens surface directly
- Excessive force could damage the module
- Please handle the module by clamping ceramic substrate.

**Table 3: Handling Guidelines**



**Cautions for Storage**

**Sealed package:**

- The module should be stored under 30°C, 70% RH
- Recommend using within one year.

**Unsealed package:**

- The module must be stored at temperatures below 30°C, 60% RH
- The module is classified in MSL-3. It is recommended to use it within 168 hours (7 days)
- The unused module should be resealed and stored in moisture proof bag or original package bag with the absorbent material
- If package has been opened for longer than one week or the moisture absorbent material faded away, baking treatment is needed before using. Recommended baking condition: 60±5°C, 20 hours (one time only).

### **Cleaning**

- Wet cleaning or ultrasonic cleaning is not allowed
- If cleaning is required, recommend using alcohol as a solvent.

### **Static Electricity**

- Static electricity sensitive component. Wearing an anti-electrostatic glove and wristband is necessary when handling the module
- To avoid damaging the module, an ESD-safe environment is required
- Static electricity protection circuit is recommended.



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