

NOTE



All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters. Unless otherwise specified, dimensions have a tolerance of ± 0.13 and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of LED holder (Type LH) used with Philips Lumileds LUXEON H (high-voltage LED light source) array emitter in retrofit bulbs and luminaires. This holder allows direct attachment of the emitter to a cooling device using customer-supplied standard screws and provides a mechanical and thermal connection to the emitter. The emitter employs a solder-type wire termination.

The holder features a frame, 2 screw holes that each accept a mounting screw, and 2 LED alignment features, and 2 clips that are designed to holder the emitter in place.

NOTE



This application specification only covers requirements for the LED holder. Detailed description, recommended handling guidelines, thermal management, and cleaning requirements for the emitter, and preparation requirements for the cooling device must be obtained from Philips Lumileds Lighting Company.

When corresponding with personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided in Figure 1.

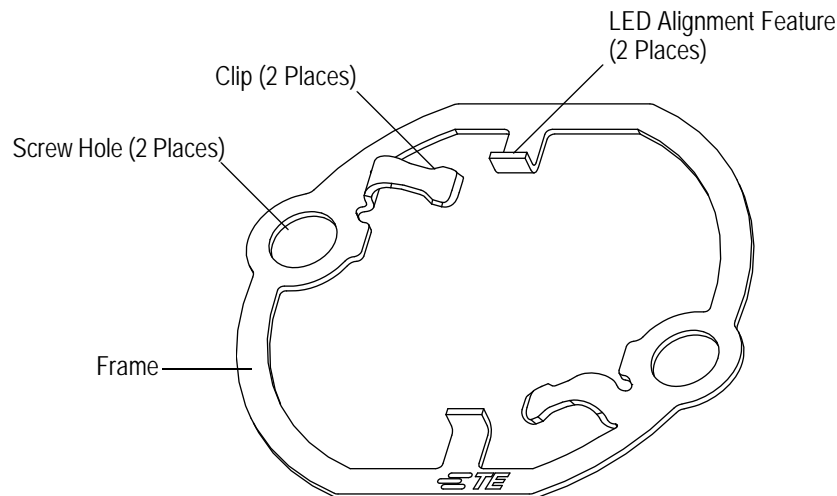


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Initial release of application specification

2.2. Customer Assistance

Reference Product Base Part Number 2154821 and Product Code L836 are representative of LED holder (Type LH). Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of this page.

Philips, Lumileds, and LUXEON are trademarks.

3. REQUIREMENTS

3.1. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, call PRODUCT INFORMATION at the number at the bottom of page 1.

3.2. Specifications

Design Objective 108-133002 provides expected product performance and test information.

3.3. Instructional Material

Instruction Sheets (408-series) provide product assembly instructions or tooling setup and operation procedures. There are no instruction sheets available at the time of publication of this document that pertain to this product.

3.4. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

3.5. Storage

A. Shelf Life

The holders should remain in the shipping containers until ready for use to prevent deformation to the clips. The holders should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

B. Chemical Exposure

Do not store holders near any chemical listed below as they may cause stress corrosion cracking in the frame.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur	Nitrites	Tartrates

3.6. Operating Temperature

The holder is designed to operate in a temperature range of -40 to 110°C [-40 to 230°F].

3.7. Wire Selection and Preparation

Wire selection and preparation must be obtained from Philips Lumileds Lighting Company.

3.8. Cooling Device

The cooling device must be sized accordingly for heat dissipation.

The cooling device must be clean and flat with no crowns or peaks in the mounting area. A hole pattern must be drilled and tapped in the cooling device using the dimensions provided on the customer drawing for the specific holder. A reference sample of the hole pattern is shown in Figure 2.

Reference Sample of Cooling Device Hole Pattern

Note: Not to Scale

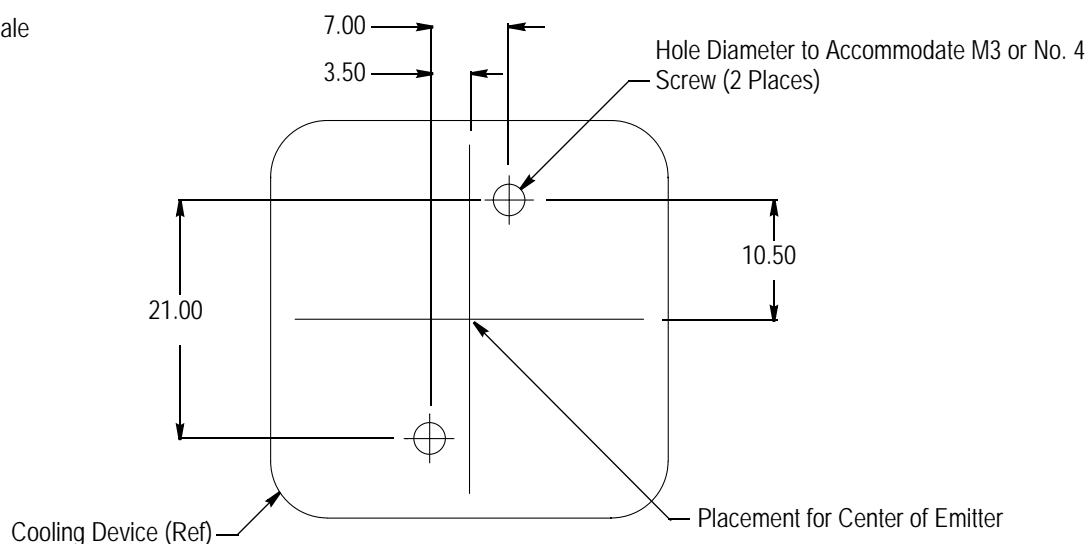


Figure 2

3.9. Mounting Hardware

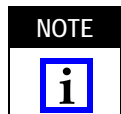
The holder requires two M3 or No. 4x6-mm (minimum) screws each with a 5.50 head diameter to be mounted onto the cooling device.



To protect against corrosion, screws from ferrous metals (other than stainless steel) should be zinc plated or have an equivalent protective coating. Button head screws are recommended; flat head screws are not recommended.

3.10. Assembly

1. A thermal interface material (TIM) with a maximum thickness of 0.25 must be applied to the emitter area of the cooling device. For acceptable thermal interface materials, contact Philips Lumileds Lighting Company. See Figure 3, Detail A.
2. The emitter must be placed over the TIM on the cooling device. See Figure 3, Detail B.
3. The holder must be placed over the emitter so that the emitter is within the LED alignment features, and the holder mounting holes align with the holes of the cooling device. See Figure 3, Detail B.
4. The customer-supplied screws must be threaded through the screw holes of the holder and into the holes of the cooling device. The screws must be tightened to a torque between 0.28 and 0.45 N [2.5 and 4.0 in-lb]. See Figure 3, Detail B.
5. The wires must be soldered to the emitter connection pads according to the requirements of Philips Lumileds Lighting Company. See Figure 3, Detail C.



Depending on the final assembly configuration, the wires can be soldered in a previous step in the process.

3.11. Removal

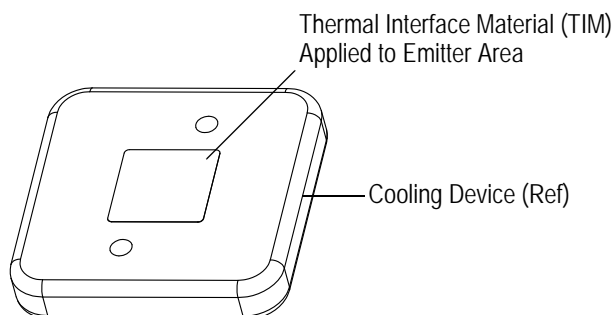
The holder can be removed from the cooling device by removing the screws. Care must be taken to prevent damage to the wire connections.

3.12. Replacement and Repair

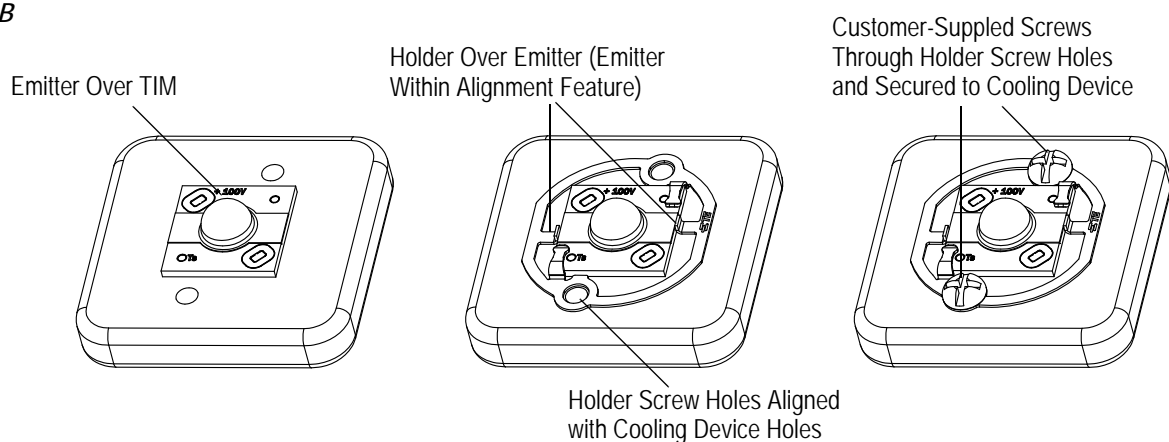
Defective or damaged holders must not be used.

Assembly

Detail A



Detail B



Detail C

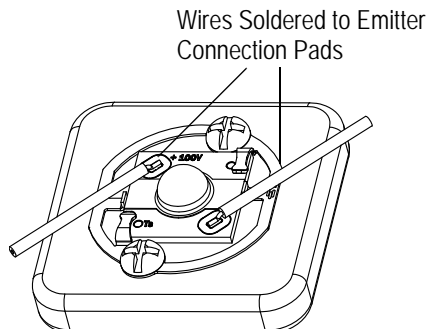


Figure 3

4. QUALIFICATION

LED holder (Type LH) does not require outside agency approval.

5. TOOLING

A standard torque screwdriver is required for installing and removing the holder from the cooling device.

6. VISUAL AID

The illustration below shows a typical application of LED holder (Type LH). This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

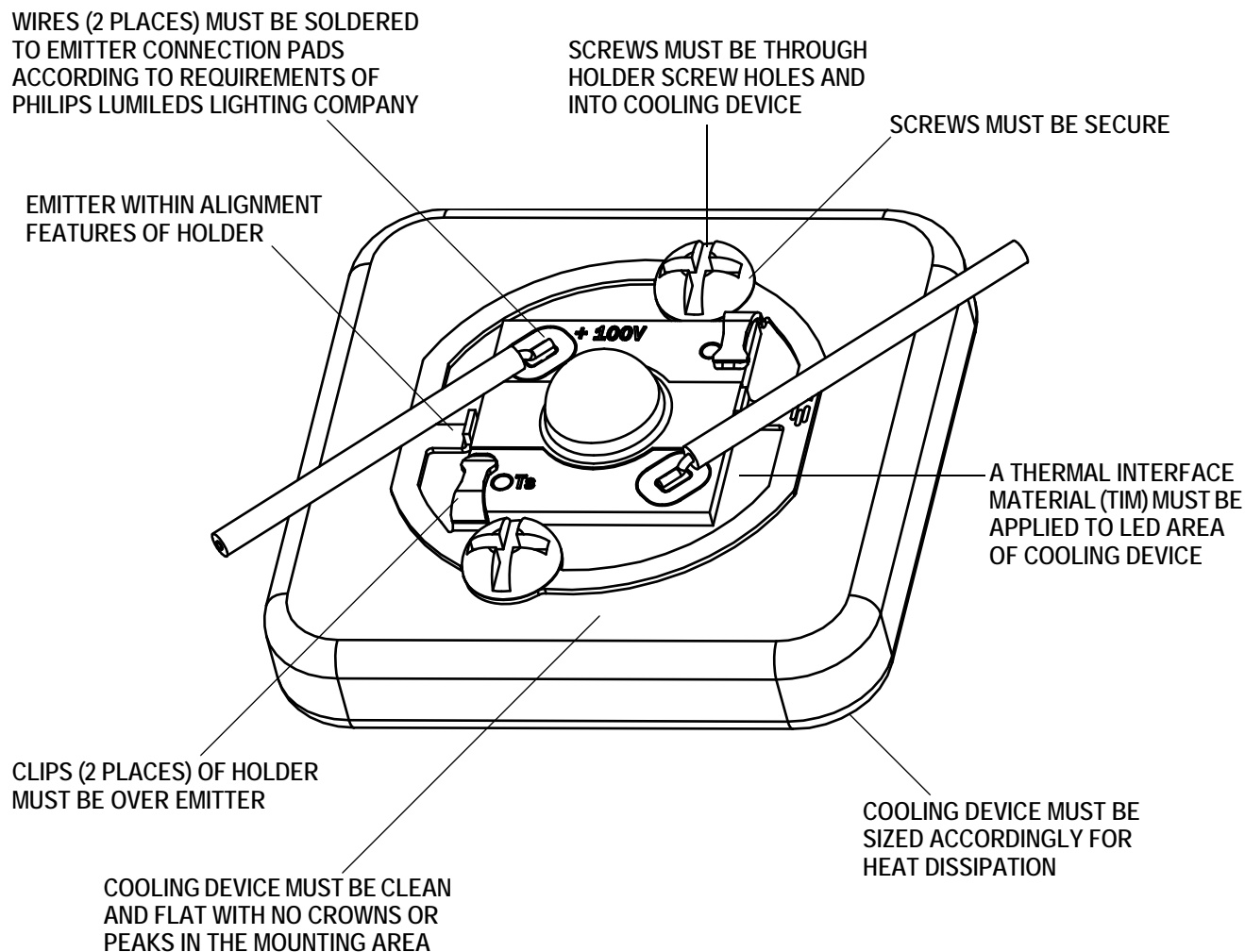


FIGURE 4. VISUAL AID