## **Product Information Bulletin**

# **Thermal Management Solutions**

For DRAGONpuck® and HFDisk modules



# Thermal Management Solutions for the DRAGONpuck and HFDisk Modules.

OSRAM SYLVANIA is continuing with its leadership by providing complete system solutions, including offering thermal management solutions. This new heatsink helps to provide proper thermal management to the DRAGONpuck® and HFDisk modules allowing for a service life of 50K hours at a TcPoint of 40°C.

- Helps provide a service life up to 50,000 hours when the temperature at the Tc Point is maintained at 40°C
- For use with the DRAGONpuck® and HFDisk modules
- Sleek, innovative heatsink design for compact fixtures
- The DRAGONpuck and HFDisk modules can easily be placed within the heatsink by means of a M3X8 screw which is included in the packaging
- · Contains four wire exit ports
- Available in white
- Packaged with two self-tapping screws for mounting
- Dimensions (H x Dia.): 0.79 in x 3.5 in (20mm x 89mm)

## **Product Availability**

| Product can be used with: |       |  |  |  |
|---------------------------|-------|--|--|--|
| Description               | NAED  |  |  |  |
| DRAGONpuck/OS/DP3/W2-865  | 70108 |  |  |  |
| DRAGONpuck/OS/DP3/W2-854  | 70107 |  |  |  |
| DRAGONpuck/OS/DP3/W2-847  | 70120 |  |  |  |
| DRAGONpuck/OS/DP3/W2-833  | 70142 |  |  |  |
| DRAGONpuck/OS/DP3/A1      | 70121 |  |  |  |
| DRAGONpuck/OS/DP3/Y1      | 70124 |  |  |  |
| DRAGONpuck/OS/DP3/V1      | 70123 |  |  |  |
| DRAGONpuck/OS/DP3/B1      | 70122 |  |  |  |
| DRAGONpuck/OS/W3-865      | 70170 |  |  |  |
| DRAGONpuck/OS/W3-854      | 70169 |  |  |  |
| DRAGONpuck/OS/W3-847      | 70168 |  |  |  |
| DRAGONpuck/OS/W3-833      | 70167 |  |  |  |
| HFDisk/3/W2-833           | 70203 |  |  |  |
| HFDisk/3/W2-847           | 70204 |  |  |  |

# **Ordering and Specification Information**

| ltem<br>Number | Ordering<br>Abbreviation | Color | Height     | Diameter  |
|----------------|--------------------------|-------|------------|-----------|
| 70136          | Heatsink/DRAGONpuck-50   | White | 0.79 (in.) | 3.5 (in.) |

# **Application Information**

## **Applications**

Task lighting – reading lights, under cabinet lighting Accent lighting – cove lighting, outdoor/landscape lighting Shelf lighting Refrigerated and freezer display case lighting Light box, backlit graphics, edge lighting Vehicle cabin lighting – RV, truck, boat, airplane Solar powered installations





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## **Maximum Ratings For Heatsink Assembly**

| Ambient<br>Temperature<br>°F(°C) | LED Module Operating Temp<br>Tc-Point<br>°F (°C) | LED Module<br>Life Rating,<br>hrs <sup>1,2,3</sup> |
|----------------------------------|--|--|
| 70° (21°)                        | 97° (36°)  | 50K  |
| 80° (27°)                        | 115° (46°)                                       | 45K  |
| 90° (32°)                        | 131° (55°)                                       | 40K  |

- LED module must maintain good contact with heatsink for the necessary thermal management of the LED module. (See assembly information for more details)
- 2. The maximum operating temperature of the Tc point (up to 85°C) is to specify the absolute maximum Tc temperature without causing permanent damage to the LED module.
- 3. 50K hour service life for a Tc of 40°C

| Parameter                         | Rating               |  |
|-----------------------------------|----------------------|--|
| Operating Temperature at Tc-Point | -30+85°C (-22+185°F) |  |
| Storage Temperature               | -30+85°C (-22+185°F) |  |
| Maximum Allowable Current (dc)    | 350 mA               |  |
| Maximum Reverse Voltage           | 0 V                  |  |

## **Dimensions**





## **Safety Information**

WARNING: ONLY QUALIFIED PERSONNEL SHOULD PERFORM INSTALLATION.

# TO AVOID ELECTRICAL SHOCK OR COMPONENT DAMAGE, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OF THE POWER SUPPLIES AND/OR MODULES.

Failure to install the power supplies and/or LED modules in accordance with the National Electric Code (NEC), all applicable Federal, State and local electric codes as well as the specific Underwriter's Laboratories (UL) safety standards for the installation, location and application may cause serious personal injury, death, property damage and/or product malfunction. These instructions are guidelines for installation of OSRAM LED modules and power supplies. Installation requirements may vary depending on the application. Licensed electricians should provide all installation services for connection of both primary and secondary (input/output) of the power supplies.

The LED Module incorporates no protection against short circuits, overload or overheating. Therefore it is absolutely necessary to operate the modules with an electronically stabilized power supply offering protection against the above mentioned safety risks.

## OSRAM OPTOTRONIC power supplies are specifically designed with protection features for safe operation.

When using power supplies other than OPTOTRONIC the following basic safety features are required in addition to any other application specific concerns and local safety codes:

- Short circuit protection
- Overload protection
- Overheat protection
- · Correct output voltage, including consideration for ripple and spikes.

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## Industrial Commercial

Phone: 1-800-263-2852 Fax: 1-800-667-6772

#### **Special Markets**

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# **Application and Assembly Information**

- 1. The mounting of the module is facilitated by means of a M3x8 (8mm) screw, which fits to a threaded hole in the rear of the DRAGONpuck and HFDisk housing. Mounting screws are provided with the heatsink assembly.
- 2. The module should be in good thermal contact with the designed metallic mounting service. Use of an appropriate heatsink compound is recommended to eliminate air gaps. T Putty-504, manufactured by Lairdtech (www.lairdtech.com) has been tested and meets the conditions of our thermal management tests.
- 3. Installation of the DRAGONpuck and HFDisk must include provisions for appropriate thermal management to avoid premature failure of the product and to obtain expected service life. Service life (i.e. lumen depreciation) is primarily a function of LED temperature which is to be monitored on the circuit board at the designated "Tc-Point".
- 4. Once heat is transferred to a "heatsink" it still must be allowed to escape the "system". The assembly should be located in an area that can provide adequate ventilation and it should be kept away from other direct sources of heat. A heatsink transferring the thermal energy to the inside of the enclosed cavity may ultimately be of little use.