DRAGONpuck

LED Modules for Accent Lighting Applications

Key Features & Benefits

- Compact module with three high-flux LEDs and an on-board optic makes it an ideal choice for accent lighting
- Small and innovative lighting design makes it perfect for compact fixtures
- Pre-wired with a 7.9 inch polarized cable helping decrease the complexity of installation
- Module can be attached to a metallic heat sink surface with an M3x8 screw further simplifying the installation process
- Long life: up to 50,000 hours when temperature at Tc point is maintained at 40ºC
- A designer heat sink is available specifically for DRAGONpuck modules

The DRAGONpuck LED module by SYLVANIA bridges the gap between the requirements of white light illumination and the capabilities of LED technology. These modules provide bright and intense illumination for accent lighting applications.

The DRAGONpuck module consists of three high-flux LEDs mounted on a metal substrate circuit board and an optical lens. The module is more efficient than incandescent or halogen light sources with a similar luminous intensity. DRAGONpuck is optimally paired with OPTOTRONIC® constant current power supplies.

Product Offering

Ordering Description	Wattage (W)	Color
DRAGONpuck/OS/DP3/W3F-727	3.6	2700K
DRAGONpuck/OS/DP3/W3F-854	3.6	5400K

Application Information

Applications

- Task lighting – reading lights, under cabinet lighting
- Accent lighting – cove lighting
- Shelf lighting
- Retail display case lighting
- Vehicle cabin lighting
- Solar powered installations

Specifications and Certifications

c UL us The SYLVANIA DRAGONpuck is UL2108 Recognized for US and Canada Class 2 Unit (UL file # E258264)

RoHS Compliant

Listed in Sign Components Manual (SAM)

Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Description	Module Diameter (in.)	No. of LEDs	Power (W)	Voltage (Vdc)	Current per module (mA)	Color Temperature**	Luminous Intensity (cd)*	Beam Angle (degrees)
70281	DRAGONpuck/OS/DP3/W3F-727	1.38	3	3.6	10.3	350	2700K	900	16
70169	DRAGONpuck/OS/DP3/W3F-854	1.38	3	3.6	10.3	350	5400K	1400	16

* All data is related to entire module. Due to the special conditions of the manufacturing processes of LEDs, the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.
**CRI >70 for all 2700K. All other white color temperatures have a CRI >80.

Ordering Guide

DRAGONpuck	/	OS	/	DP3	/	W3F	–	7–8	27
Module Name						White 3rd Generation Fine Bin		CRI 7 > 70 8 > 80	Color Temperature 27 = 2700K 54 = 5400K

Power Supply Information

	Max. No. of Modules per Power Supply			
	OT3 #51524	OT9 #51525	OT9 DIM #51526	OT10 #51635
All Item Numbers	1	2	2	2

Notes:
1. OPTOTRONIC® power supplies are optimally paired with SYLVANIA LED Modules and are designed with protection features for safe operation.
2. The module is designed to work with Constant Current power supplies only. Reference the Power Supply PIB # ECS052 for product specific information.

Minimum and Maximum Ratings

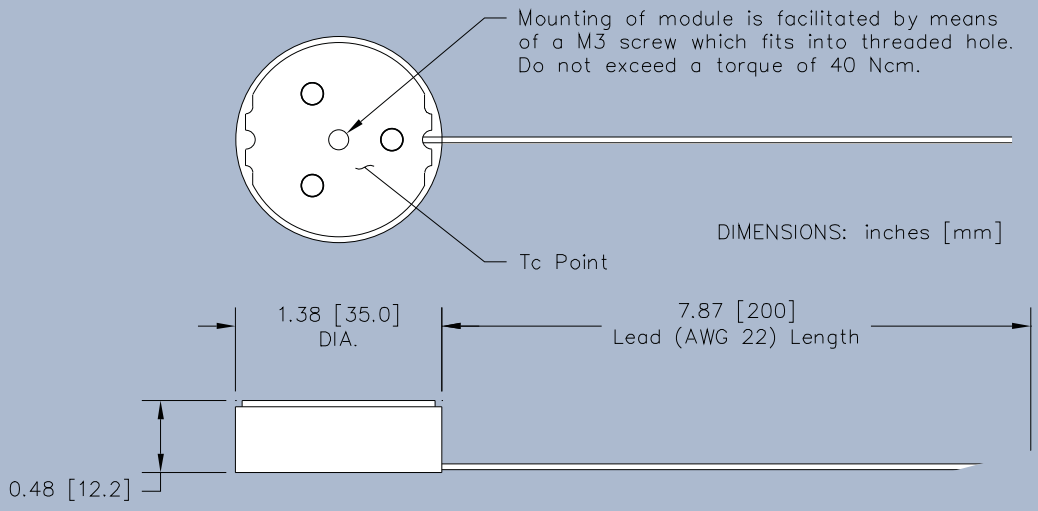
Parameter	Symbol	Values
Operating Temperature at Tc point	T_{op}	-30... +85°C (-22 to +185°F)
Storage Temperature	T_{stg}	-30... +85°C (-22 to +185°F)
Maximum Allowable Current (dc)	I_{max}	350mA
Maximum Reverse Voltage	V_R	0 Vdc

Notes:
1. Exceeding maximum ratings for operating and storage temperature will reduce expected lifetime or destroy the LED Module.
2. Exceeding maximum ratings for operating current will cause hazardous overload and will likely destroy the LED Module.
3. The temperature of the LED Module must be measured at the Tc point in a thermally stabilized environment.
   For the exact location of the Tc point see the “Assembly Drawing”.

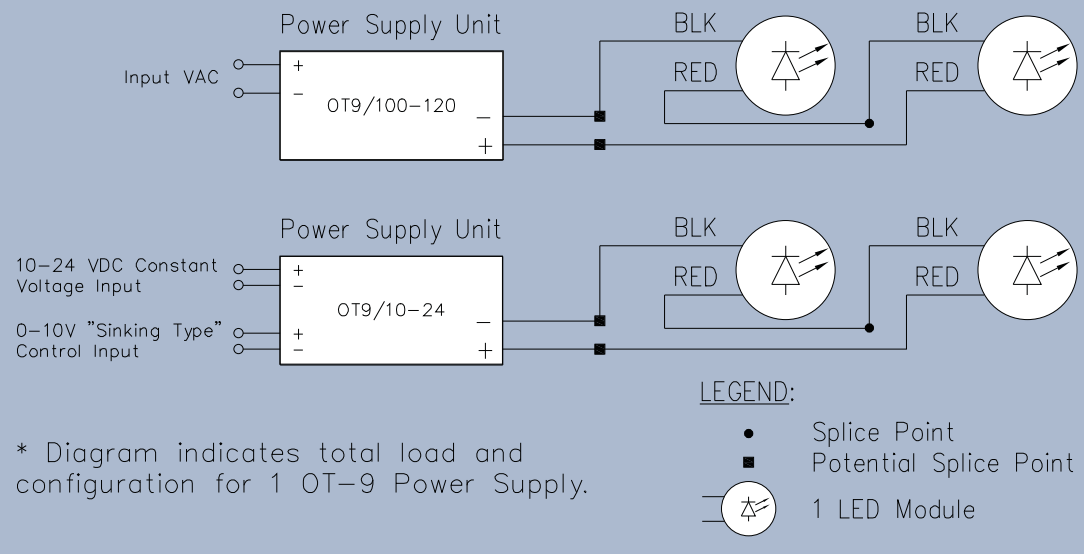
Accessories

Item Number	Ordering Abbreviation	Description	Diameter	Height
70136	Heatsink/DRAGONpuck-50	Heatsink	3.5 in.	0.79 in.

Assembly Diagram

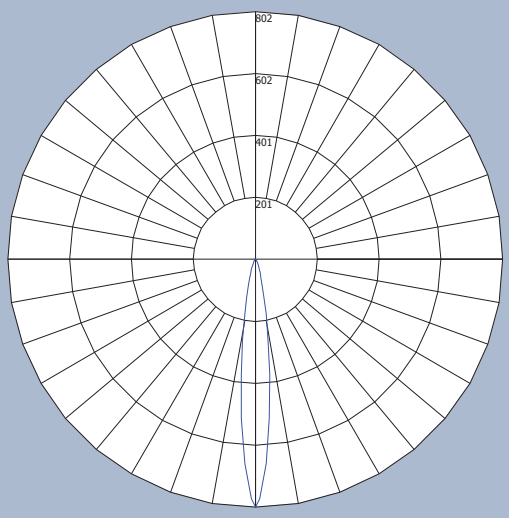


Wiring Diagram



* Diagram indicates total load and configuration for 1 OT–9 Power Supply.

Candlepower Distribution



Angle (°)	Intensity (cd)	Angle (°)	Intensity (cd)
0	802	25.5	23
1	776	29	16
3	663	33	11
5	517	37.5	8
7	377	42.5	6
9	264	47.5	5
11	180	55	3
13	120	65	2
15	88	75	1
17	64	85	1
19.5	46	90	0
22.5	32		

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.

1. The LED module itself and all its components shall not be subjected to mechanical stress and assembly must not damage or destroy conducting paths on the circuit board.
2. Observe correct electrical polarity, incorrect polarity may destroy the module. (Depending on the product, incorrect polarity may lead to emission of red, or no light.)
3. Ensure that the power supply is of adequate power to operate the total load.
4. Electrostatic Discharge (ESD) precautions shall be incorporated when handling or installing the module.
5. Damage by corrosion and improper heat sinking will not be honored as a material defect claim. It is the user's responsibility to ensure adequate heat sink and protection against corrosive agents such as moisture, condensation or other harmful elements.
6. Modules may be hot to the touch. Use caution when handling.

Assembly Information

1. The module should be in good thermal contact with the designed metallic mounting surface. Use of an appropriate heat sink compound is recommended to eliminate air gaps.
2. To obtain maximum LED-lifetime please read carefully the recommended procedures concerning thermal management in our application note "Lifetime of LED-modules" before beginning construction of luminaires. This application note is available from your SYLVANIA representative.
3. Installation of the DRAGONpuck must include provision for 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. There is no exact installation prescription to maintaining the stated Tc point temperature because every fixture design is different. In general, the DRAGONpuck module should be mounted to a clean, flat metal surface which has enough surface area to transfer the heat from the module to the surrounding air. The metal surface can be part of a conventional finned heat sink or can be part of the mass of the fixture itself.
5. Concerning fixture design, it is important to understand that once heat is transferred to a "heat sink", that heat must still be allowed to escape the "system". A heat sink transferring the thermal energy to the inside of an enclosed cavity may ultimately be of little use.
6. The fixture makers' strategy should be to design a prototype fixture and test that fixture in an appropriate ambient environment while monitoring the temperature at the Tc point which should be allowed enough time to reach thermal equilibrium. Tc point temperature can be measured with a standard thermocouple in direct contact with the circuit board at the Tc point or by use of ML4C Series non-reversible OMEGALABELS® (www.omega.com) or equivalent.

United States
OSRAM SYLVANIA
100 Endicott Street
Danvers, MA 01923

Trade
Phone: 1-800-255-5042
Fax: 1-800-255-5043

National Accounts
Phone: 1-800-562-4671
Fax: 1-800-562-4674

OEM/Special Markets
Phone: 1-800-762-7191
Fax: 1-800-762-7192

Display/Optic
Phone: 1-888-677-2627
Fax: 1-800-762-7192

Canada
OSRAM SYLVANIA LTD.
2001 Drew Road
Mississauga, ON L5S 1S4

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

OEM/Special Markets/Display/Optic
Phone: 1-800-265-2852
Fax: 1-800-667-6772

www.sylvania.com