

HF²Narrow Stick

Compact High Intensity LED Module



The SYLVANIA HF²Narrow Stick LED module is an innovative module comprised of a closely packed array of small, discrete LEDs on boards under 5/8" wide. The module is designed to provide highly uniform, intense illumination and is available in 4" and 10". The module is also available in a half power version for lengths in color temperatures.

The HF²Narrow Stick modules may be conveniently connected end-to-end with the integrated 2-pin connectors. These modules are optimally paired with SYLVANIA OPTOTRONIC® 24 Vdc power supplies and may be dimmed using the OPTOTRONIC OT-DIM control interface.

Key Features & Benefits

- Compact, intense output from narrow 0.53 inch wide modules at only 0.24 inches high
- Modules may be joined with integrated connectors
- Long life: Up to 50,000 hours when temperature at Tc point is maintained below 65°C
- Available in both a full and half output version
- Optimal operation with OPTOTRONIC 24Vdc power supplies
- Minimal heat generation
- Dimmable
- RoHS compliant
- 150° beam angle

Product Offering

Ordering Description	Wattage (W)	Color
HF2 Narrow Stick 729 4"	3.4	2900K
HF2 Narrow Stick 729 10"	8.4	2900K
HF2 Narrow Stick 735 4"	3.4	3500K
HF2 Narrow Stick 735 10"	8.6	3500K
HF2 Narrow Stick 740 4"	3.4	4000K
HF2 Narrow Stick 740 10"	8.4	4000K
HF2 Narrow Stick 729H* 10"	4.2	2900K
HF2 Narrow Stick 735H* 10"	4.2	3500K
HF2 Narrow Stick 740H* 10"	4.2	4000K

* H denotes half power

Application Information

Applications

- Edge lighting
- Accent lighting
- Cove lighting
- Under cabinet
- Refrigeration



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Abbreviation	No. of LEDs	Power (W)	Voltage (Vdc)	Current (mA)	Color Temperature (K)	Initial Lumen (lm)	Beam Angle (°)	CRI
70372	HF2 Narrow Stick 729 4"	42	3.4	24	140	2900	164	150	70
70369	HF2 Narrow Stick 729 10"	102	8.4	24	350	2900	410	150	70
70373	HF2 Narrow Stick 735 4"	42	3.4	24	140	3500	168	150	70
70370	HF2 Narrow Stick 735 10"	102	8.6	24	350	3500	420	150	70
70374	HF2 Narrow Stick 740 4"	42	3.4	24	140	4000	196	150	70
70371	HF2 Narrow Stick 740 10"	102	8.4	24	350	4000	490	150	70
70375	HF2 Narrow Stick 729H 10"	54	4.2	24	175	2900	205	150	70
70376	HF2 Narrow Stick 735H 10"	54	4.2	24	175	3500	210	150	70
70391	HF2 Narrow Stick 740H 10"	54	4.2	24	175	4000	245	150	70

Notes:

- All data is related to the entire module. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.
- Delivered lumens per board subject to change based on shipments of lumens per LED of 3 to 9 lumens.
- Color coordinates for the 2900K are (x=.4588, y=.4269), (x=.4420, y=.3910), (x=.4149, y=.3818), (x=.4300, y=.4168)
Color coordinates for the 3500K are (x=.4300, y=.4168), (x=.4149, y=.3818), (x=.3855, y=.3691), (x=.3945, y=.3997)
Color coordinates for the 4000K are (x=.3945, y=.3997), (x=.3855, y=.3691), (x=.3600, y=.3533), (x=.3638, y=.3804)

Ordering Guide

HF ²	Narrow Stick	/	7	29	H	4"
High Flux Second Generation	Module Name		CRI 70 typical	Color Temperature 29 = 2900K 35 = 3500K 40 = 4000K	Half Power Module	Length

Power Supply Information

Maximum Number of Modules Per Power Supply

Item Number	Ordering Description	Maximum Number of Modules Per Power Supply		
		4" Modules	10" Modules	10" H Modules
51503	OT6/100-120/24CE	1	-	1
51512	OT20/120-240/24S	5	2	4
51598	OT50/120/24LP	13	5	10
51514	OT75/120-277/24E	20	8	16
51510	OT96/120-277/24D	25	10	20
51511	OT96/120-277/24	25	10	20
51515	OT240/120-240/24/CH3	3x21	3x8	3x17

Note:

Combinations of 10" and 4" modules are possible if total power is kept within the limits of the power supply.

All data is based on a maximum load of the power supply with the LED modules calculated at their maximum wattage tolerance value of 3.74W (4"-42), 9.24W (10"-102) & 4.62W (10"-54). For the 10" modules, a single power feed should not exceed 5 LED modules. For the 4" module, a single power feed should not exceed 10 LED modules. Remaining load should be connected in a parallel power feed.

Minimum and Maximum Ratings

Parameter	Symbol	Values
Operating Temperature at Tc point	T _{op}	-30... +65°C (-22 to +158°F)
Storage Temperature Range	T _{stg}	-30... +85°C (-22 to +185°F)
Voltage Range	V _{max}	23-25 Vdc
Reverse Voltage	V _r	0 Vdc

Notes:

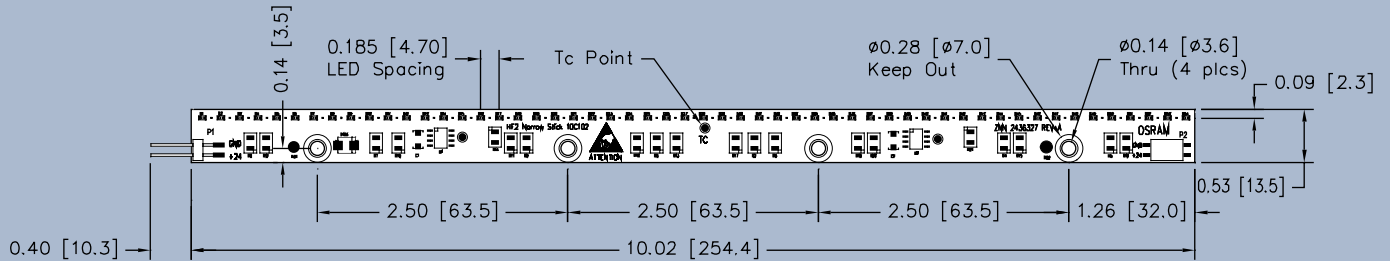
- Exceeding maximum ratings may damage the LED module and pose potential safety hazards.
- Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.
- Incorrect wiring may damage the LED module.
- Not intended for use with constant current power supplies.

Accessories

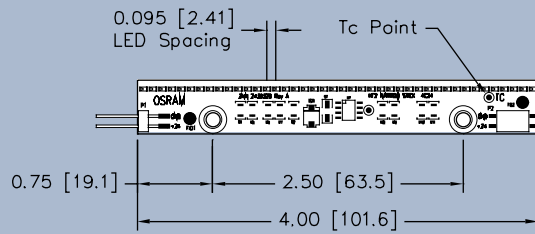


Item Number	Ordering Description	Length (in.)
70440	HF2 2-PIN 2" CONN	2
70441	HF2 2-PIN 4" CONN	4
70442	HF2 2-PIN 8" CONN	8
70443	HF2 2-PIN 60" INPUT CONN	60
70444	HF2 2-PIN 24" INPUT CONN	24

Assembly Diagram



HF2 Narrow 10" – 54 LED



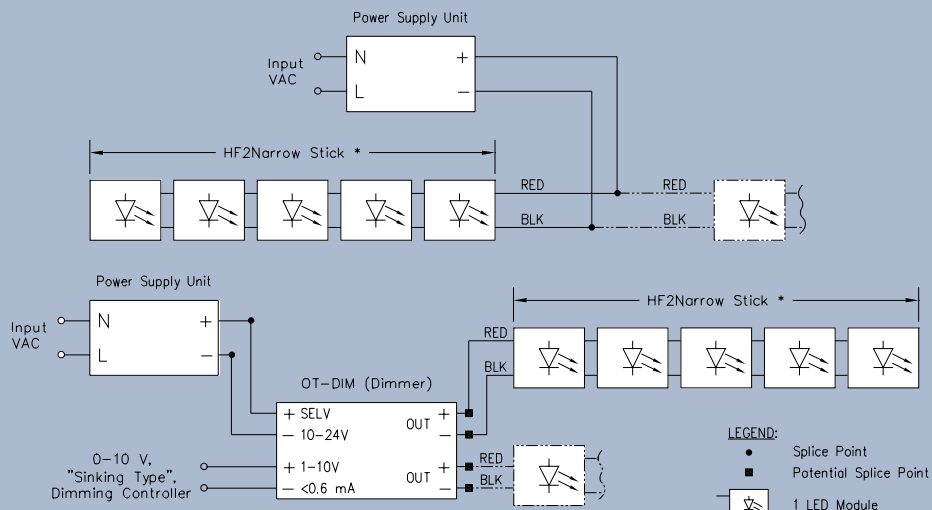
HF2 Narrow 4" – 42 LED

All dimensions are typical Unless Otherwise Noted (UON). Other than actual board size, "LED Spacing" is the only notable variation. This "LED Spacing" is noted below and visually represented in the diagram.

- HF2 Narrow 10" – 102 LED = 0.098"
- HF2 Narrow 4" – 42 LED = 0.095"
- HF2 Narrow 10" – 54 LED = 0.185"

Dimensions: inches [mm]

Wiring Diagrams



* For the 10" versions of the HF2Narrow Stick, a maximum of 5 LED modules can be operated on a single feed. For the 4" version of the HF2Narrow Stick, a maximum of 10 LED modules can be operated on a single feed.

**Remaining load may be connected with parallel power feed(s) in the middle of the module. It is recommended, if at all possible, that the power supply be located near this middle to help reduce potential voltage drops resultant of long power feeds.

To accurately determine maximum LED load, the derating values listed in the App. Note # LED026 must be factored in. Reference the "Maximum Product Load" circuit requirement charts for the maximum product load per power supply.

Safety Information

1. The LED module and all of its components must not be subjected to mechanical stress.
2. Assembly must not damage or destroy the conducting paths on the circuit board.
3. The LED module incorporates no protection against short circuits, overload or overheating. Therefore, it is absolutely necessary to operate the modules with an electrically stabilized power supply offering protection against the aforementioned safety risks. OPTOTRONIC power supplies are specifically designed with protection features for safe operation. Use of third party power supplies is not recommended.
4. Installation of the LED Modules and OPTOTRONIC LED power supplies should adhere to all applicable electrical and safety standards/ Installation should be performed only by qualified personnel.
5. Observe correct electrical polarity, incorrect polarity may destroy the module.
6. All LED Modules, up to the maximum number allowable for the power supply, should be installed in a parallel electrical connection (red to red and black to black).
7. Pay attention to standard ESD precautions when handling and installing the module. Reference ESD document LED093 found at sylvania.com/led.
8. Install according to the heat sinking parameters outlined in the Application Notes section.
9. Modules may be hot to the touch, use caution.

Assembly Information

1. Module to be installed in dry locations only.
2. The module should be installed onto a flat surface to facilitate intimate contact between the circuit board and the substrate material. The module should not be installed onto curved surfaces.
3. The mounting of the module is carried out by attaching it at the mounting holes.
4. Heat sink compounds may be used to facilitate heat transfer from the module to the heat sink material.
5. Please ensure the power supply is of adequate power to operate the load. See requirements under the section titled Power Supply Ordering Information.

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