

HF²Stick XB

Hi-Flux 2nd Generation Module



The HF²Stick XB brings new possibilities for white light applications.

The HF²Stick XB, Hi-Flux 2nd generation stick eXtra Bright, contains 4 hi-flux LEDs that provide up to 47 LPW. With a forward emitting luminous flux comparable to that of many fluorescent lamp fixtures, HF²Stick XB may be specified for fluorescent specialty applications such as shelf lighting, refrigerator/freezer and display cases.

Each board contains connectors on each end that allow for easy installation when used with the HF²Stick XB connector systems.

In continuing with its leadership in the lighting industry by providing complete system solutions, OSRAM SYLVANIA offers OPTOTRONIC® power supplies specially designed to operate the HF²Stick XB modules. A wide range of 24V power supplies are available.

- Available with 4 hi-flux LEDs on a metal core board
- Each board contains screw holes for proper mounting
- Size of entire module (L x W) 11.5 in. x 1 in. (292mm x 25mm)
- Optimal operation with OPTOTRONIC® 24V power supplies (Literature code ECS050R1)
- No ultraviolet or infrared radiation
- Service life of up to 50,000 hours when temperature at the T_c point is maintained at 40°C
- Better efficacy than incandescent or tungsten halogen light sources
- Board to Board connections allowed with the HF²Stick XB Connector System (PIB LED057) – up to 4 modules on a single power feed
- Low profile of 11mm including input connectors
- ROHS compliant

Product Availability

Product	Wattage (W)	Color
HF ² StickXB/4/W3-827-11.5	5.6	White – 2700K
HF ² StickXB/4/W3-841-11.5	5.6	White – 4100K
HF ² StickXB/4/W3-865-11.5	5.1	White – 6500K

Application Information

Applications

Shelf lighting
Under cabinet
Refrigerator and freezer case lighting
Cove lighting
Display lighting
Street lighting

Compatible Power Supplies and Controls

OT20/120-240/24S (NAED 51512)
OT75/120/24 (NAED 51513)
OT75/120-277/24E (NAED 51514)
OT96/120-277/24 (NAED 51511)



Application Information (continued)

Application Notes

1. Installation of the HF²Stick XB must include provisions 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”. (A Tc-Point temperature of 40°C should be sufficient to enable a service life of 50,000 hours.)
2. There is no exact installation prescription to obtaining an appropriate Tc-Point temperature due to variations in fixture designs. In general, the HF²Stick XB module should be adhered to a flat, metal surface which has enough surface area to transfer the heat from the LED to the surrounding air. The metal surface can be part of the mass of the fixture itself.
3. 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.
4. The fixture makers’ strategy should be to design a prototype fixture and test that fixture in an appropriate 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.

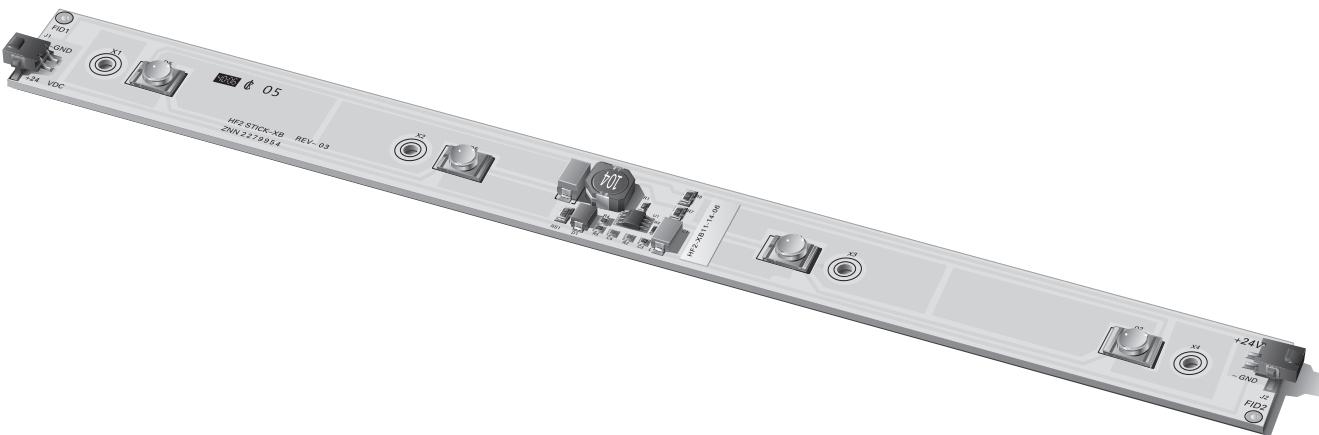
Minimum and Maximum Ratings

Parameter	Symbol	Values
Operating Temperature at Tc-Point	T _{op}	-30...+70°C (-22...+158°F)
Storage Temperature Range	T _{stg}	-30...+85°C (-22...+185°F)
Voltage Range	V _{max}	23 – 25 V _{dc}

Notes:

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

Dimensions



	Length in. (mm)	Width in. (mm)
Entire PCB	11.5 (292)	1.0 (25)

Safety Information

1. The LED module and all of its components must not be subject 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 above mentioned safety risks. OSRAM 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 OSRAM LED power supplies need to be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
5. Correct electrical polarity needs to be observed. 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.
8. Only install according to the heat sinking parameters outlined in the Application Notes section.
9. Modules may be hot to touch; use caution.

Assembly Information

1. The module should be installed onto flat surfaces to facilitate intimate contact between the circuit board and the substrate material. The module should not be installed onto curved surfaces.
2. The mounting of the module is carried out by attaching it at the mounting holes.
3. Heat sink compounds may be used to facilitate heat transfer from the module to the heat sink material.
4. Please ensure the power supply is of adequate power to operate the load. See the requirements under the section titled Power Supply Ordering Information.
5. Electrical connection from the power supply to the LED modules is made using the HF2Stick XB Connector system.
6. A maximum of 4 HF2 Stick XB LED modules can be operated from a single power feed. Operation of greater than 4 LED modules in series will create an unbalanced load.

Ordering and Specification Information

Item Number	Ordering Abbreviation	Color	Power (W)*	Volts (V DC)	Viewing Angle (°)*	Number of LEDs	Color Temp (K)**	Luminous Flux (lm)*	LPW
70212	HF2StickXB/4/W3-827-11.5 in	White	5.6	24	100	4	2700	130	23
70225	HF2StickXB/4/W3-841-11.5 in	White	5.6	24	100	4	4100	150	27
70226	HF2StickXB/4/W3-865-11.5 in	White	5.1	24	100	4	6500	240	47

* All data is related to the entire module. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.

** CRI>70 for the 2700K. All other white color temperatures have a CRI>80. Due to the special conditions of the manufacturing processes of LED, 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.

Packaging Notes: Case qty – 50 pcs
Minimum order qty: 10 pcs

Power Supply Ordering Information

OPTOTRONIC® 20W (51512)		OPTOTRONIC 75W (51513, 51514)		OPTOTRONIC 96W (51511)	
No. of Modules	Max. Length (ft)	No. of Modules	Max. Length (ft)	No. of Modules	Max. Length (ft)
3	2.87	11*	12.45	14*	13.4

* A maximum of 4 LED modules can be operated from a single power feed. Operation of greater than 4 LED modules in series will create an unbalanced load. Contact OSI Marketing for information regarding dimming applications with HF2-XB

Ordering Guide

HF2Stick XB	/	4	/	W3-827	-	11.5
HF2Stick XB module		# of LEDs		Color code: Color Temperature W3-827=White, 2700K		Length

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