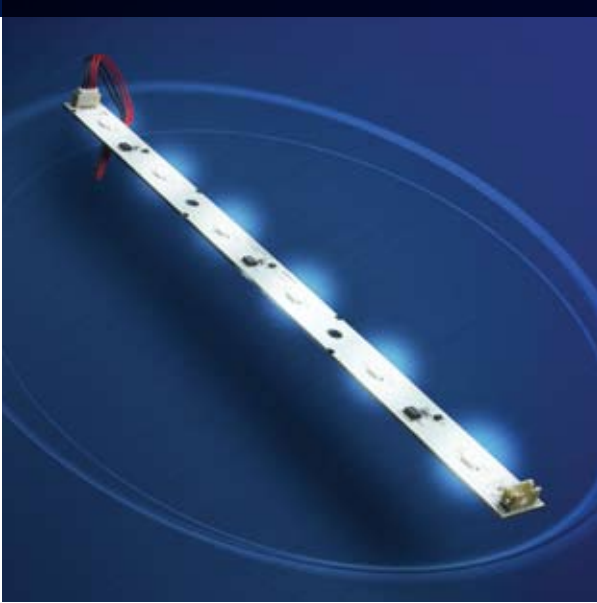


HF²Stick

Hi-Flux 2nd Generation LED Module



The HF²Stick, Hi-Flux 2nd generation LED stick contains 6 hi-flux LEDs providing 375 lumens per foot. With a luminous flux comparable to that of many fluorescent lamp fixtures, HF²Stick 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 connector systems. HF²Stick is optimally paired with SYLVANIA OPTOTRONIC® 24 Vdc power supplies.

Key Features & Benefits

- Hi-Flux LED Module on metal core circuit board
- Each board contains screw holes for proper mounting
- Designed for optimal operation with OPTOTRONIC 24Vdc power supplies.
- Dimmable
- Service life up to 50,000 hours when temperature at the Tc point is maintained at 40°C
- Board-to-board and power feed connector systems are available for ease of installation.
- RoHS compliant
- Size of entire module (L x W x H) 11.8in x 0.8in x 0.33in

Product Offering

Ordering Description	Wattage (W)	Color
HF2Stick/6/W3F-727	12	2700K
HF2Stick/6/W3F-854	12	5400K

Application Information

Applications

- Shelf lighting
- Undercabinet lighting
- Refrigeration and freezer case lighting
- Cove lighting
- Display lighting
- Signage



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Description	Module Length	No. of LEDs	Power (W)*	Voltage (Vdc)	Current (mA)	Beam Angle	Color Temp.**	Initial Lumens
70285	HF2Stick/6/W3F-727	11.8 in.	6	12	24	500	120	2700K	300
70232	HF2Stick/6/W3F-854	11.8 in.	6	12	24	500	120	5400K	375

*All data is related to the entire module measured at Tc point of 25°C. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process. End users need to take into account lumen depreciation as the temperature rises with various thermal management solutions installed.

**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-6 pcs. Minimum order qty. 6 pcs.

Ordering Guide

HF2Stick	/	6	/	W3F	/	7-8	27
HF2Stick		No. of LEDs		Color Code		CRI 7 > 70 8 > 80	Color Temperature 27 = 2700K 54 = 5400K

Power Supply Ordering Information

LED Item Number	OPTOTRONIC® 20W (51512)		OPTOTRONIC 50W (51598)		OPTOTRONIC 75W (51513, 51514)		OPTOTRONIC 96W (51511, 51599)		OPTOTRONIC 240W (51515)	
	No. of Modules	Max. Length (ft)	No. of Modules	Max. Length (ft)	No. of Modules	Max. Length (ft)	No. of Modules	Max. Length (ft)	No. of Modules**	Max. Length (ft)
70285	1	1	4	4	6*	6	8*	8	3 x 6	18
70232	1	1	4	4	6*	6	8*	8	3 x 6	18

*Maximum of 4 LED modules can be operated from a single power feed.

**The OT240 has three power branches.

Accessories



Item Number	Ordering Abbreviation	Length (in.)	Description
70251	HF2Stick-Linear/Conn/2Pin-Input	20	Power Feed Connector
70252	HF2Stick-Linear/Conn-4in	4	Board to Board Connector
70253	HF2Stick-Linear/Conn-2in	2	Board to Board Connector
70186	Heatsink/Linear/1ft	12	Heatsink

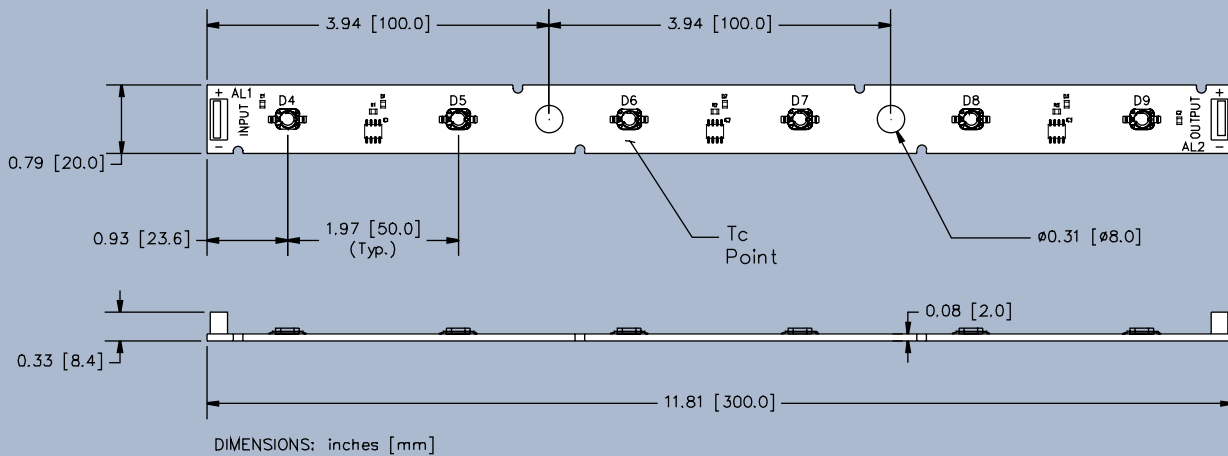
Minimum and Maximum Ratings

Parameter	Symbol	Values
Operating Temperature at T _c point	T _{op}	-30... +75°C (-22 to +162°F)
Storage Temperature Range	T _{stg}	-30... +80°C (-22 to +176°F)
Voltage Range	V _{max}	23-25 Vdc
Reverse Voltage	V _a	25 Vdc

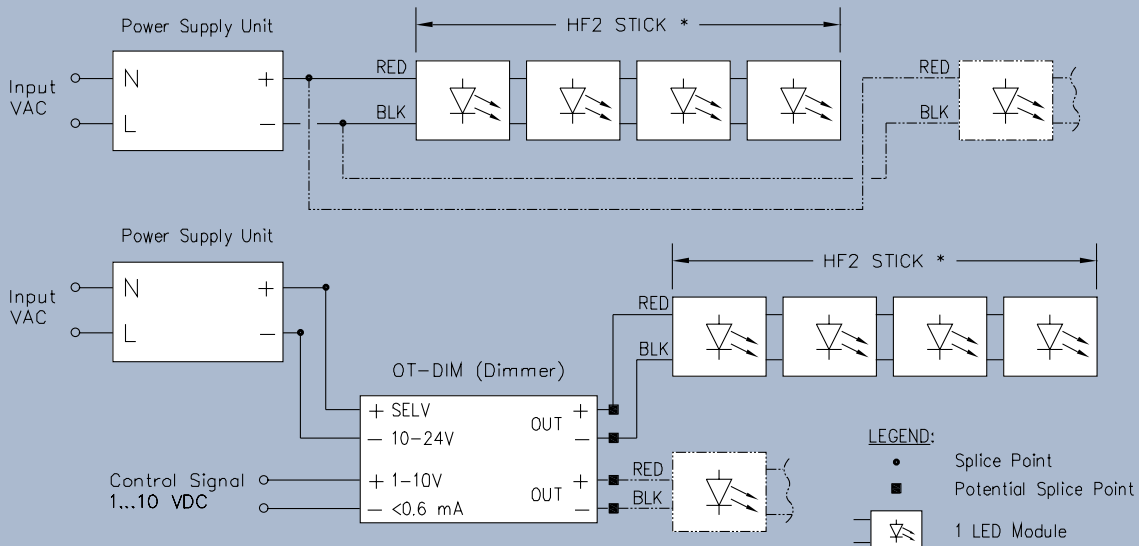
Notes:

1. Exceeding maximum ratings may damage the LED module and pose 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.

Assembly Diagram



Wiring Diagram



* Reference the "Maximum Product Load" circuit requirement charts for the maximum power supply load. Maximum of 4 LED modules can be operated from a single feed.

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 SYLVANIA 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.
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. The module should be installed on flat surfaces to facilitate intimate contact between the circuit board and the substrate material. The module should not be installed on curved surfaces.
2. Mount the module using the predrilled mounting holes.
3. Heat Sink compounds may be used to facilitate heat transfer from the module to the heat sink material.
4. Ensure the power supply has adequate power to operate the load. See the requirements under the section titled Power Supply Ordering information.
5. Make electrical connection from the power supply to the LED modules using the HF²Stick Linear Connector System.
6. A maximum of 4 HF²Stick LED modules can be operated from a single power feed. Operation of greater than 4 LED modules in series will exceed the current capacity of the connector system.

Application Information (continued)

Application Notes

1. Installation of the HF²Stick must provide 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 temperature of 40°C, which should be sufficient to enable a service life of 50,000 hours.
2. There is no exact installation prescription for obtaining an appropriate Tc point temperature, due to variations in fixture designs. In general, the HF²Stick 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 may 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 the enclosed cavity may ultimately be of little use.
4. The fixture manufacturer's 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 with 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