

Narrow High Output Module For Linear Applications

Features & Benefits

- 23.5" long modules are scalable for legacy fluorescent applications to create a family of fixtures with different lengths
- Ideal for decorative linear luminaires: bath bars, recessed linear, cove and high end architectural
- Narrow 0.5" width, high efficacy linear family of modules replace T5HO and T8 linear fluorescent legacy light sources with superior CRI
- Available as single modules with pre-wired pigtails or strings of modules in parallel for longer applications
- LED spacing optimized to provide continuous illumination when modules are placed end-to-end using frosted or opaque lens
- Lower cost FR4 PCB includes notches at ends and high performance adhesive tape for thermal transfer and simple installation
- 90 CRI version meets California Title 24, 80 CRI meets DLC criteria
- Latest generation LED for high efficacy and color consistency



Compatible LED Drivers or Modules

Recommended Maximum DC Input Current to Module 700mADC
 Typical DC input Voltage to Module 37VDC

Ratings and Performance Specifications

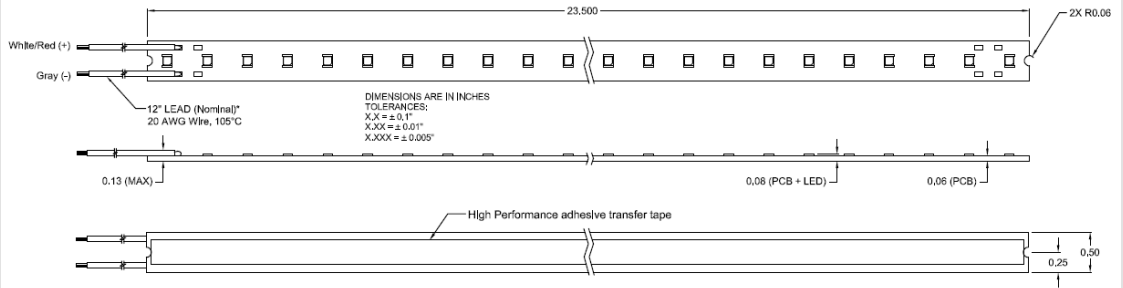
Nominal DC Power Consumption See Table 1
 Recommended Screw Installation Torque 75 inch ounces
 Maximum Operating Range Ambient Temperature (Ta) -40 to +50°C
 Maximum Solder Pad Temperature (Ts) +105°C
 Estimated Lumen Depreciation (TM-21) 70% initial lumens (L70) @ 100,000 hours
 Nominal Weight 55 grams
 Safety/Compliance UL Class 2 Recognized Component..... E321468

Application Notes

1. The use of any washer (lock, flat, etc.) will void the warranty due to possible damage and/or shorting to the circuit board.
2. This module requires a heat sink at full power for maximum performance. Care should be taken in the luminaire designs to allow heat to escape the system. Contact factory for thermal guidelines.
3. Abnormal operating conditions such as elevated ambient temperatures can be expected to negatively impact lumen output, product lifetime and/or performance.

BB48TO Series

Physical Dimensions



Polarity: white/red (+), gray (-), 12" nominal length leads, 20AWG, strip ends 0.063"
Ts measurement point is cathode of either center LED
Conformal coated top, peel and stick 3M 468 tape on back

Table 1, Performance Characteristics at 25C

Data from laboratory test measurements, actual results may vary.

Part Number	Nominal		Nominal	Nominal	Nominal
	CCT (Kelvin)	Minimum CRI	Light Output @700mA (Lumens)	Power Consumption @ 700mA (WDC)	Module Efficacy @ 700mA (DC LPW)
BB48TO-27-80-01	2700	80	3645	26	140
BB48TO-30-80-01	3000	80	3795	26	146
BB48TO-35-80-01	3500	80	3908	26	150
BB48TO-40-80-01	4000	80	3970	26	153
BB48TO-50-80-01	5000	80	4334	26	167

Options available

Example chain: BB48TO-xx-80-02, (2) modules in parallel, end-to-end with short leads
 90CRI minimum versions on special order, subtract 24% lumens

Packaging

Product is marked with SKU and lot information on non-LED side of module.
 Sold in groups of (18) unit(s) and packaged in ESD bags with SKU and lot information.

Warranty

5-Year limited warranty in accordance with published warranty conditions. Product must be used with compatible components (modules, drivers, engines and/or accessories) and no maximum ratings (such as Ts) shall be exceeded during any expected operating conditions of the system. If product is used with other manufacturer's product, compatibility must be recognized in writing by Permlight Technologies.

Permlight Technologies owns the following United States patents of which one or more may be applicable to the design and/or manufacture of this product: 6712486, 6578986, 6846093, 7114831, 7306353, 7102172, 7108396, 7329024, 7387406, 7582911, 7649327, 8926145, 8729810. Additional granted patents, patents pending and other IP protection rights may apply.