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Contact Fulham for availability. Not for use in new designs.

E351548

TM40RT05XX-2X6

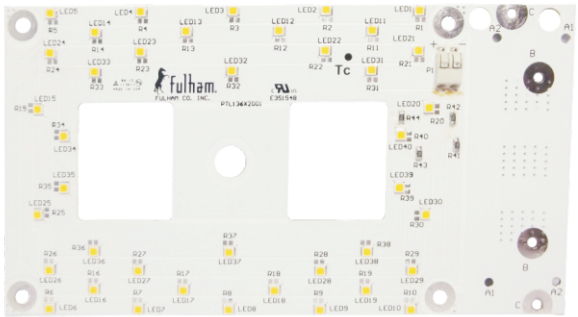
Constant Current LED Rectangle Module

- High Density, high brightness chip array for use in Class 2 Rectangular applications
- Constant current for maximum efficacy
- Available in standard CCT's
- Dimmable when used with a dimmable driver
- Suitable for DLC and Energy Star compliant luminaires
- 80 CRI standard and 90 CRI available

General Ratings

Max Lumen Output @ Max Current	1950 lumens @ 4000K / 80 CRI*
Max Current Input	500 mA
Nominal DC Power Consumption @ Max Current	16W
Nominal Operating Voltage @ Max Current	32VDC
Beam Angle	120°
CRI	80, 90
Operating Ambient Temperature Range (Ta)	-35 to +40°C / -31 to +104ºF
Maximum Module Case Temperature (Tc)	+90°C
Estimated Lumen Maintenance (L70)	>50,000 hours at max Tc
Color Consistency	Binning per ANSI C78.377-2008; 7 SDCM
Overall Size	4” x 7.4” x 0.22” H
Material / Weight	FR4 / 73g
Maximum Screw Installation Torque	35 inch - lbs
Safety/Compliance	cURus (File # E351548, PTL136X20www**)
	Class 2 Lighting System
	RoHS Compliant
Warranty	5 years with suitable Fulham LED Drivers

* At Tc mod = 25ºC
** www = PCB Rev #



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Part Numbering Matrix

TM 40 RT 05 40 - 2 0 6 C

Color Temperature
27 = 2700K
30* = 3000K
35 = 3500K
40* = 4000K
50 = 5000K

CRI
0* = 80
1 = 90

Module Options
Blank* = Standard
C = Conformal Coating

* Indicates standard module options. All others are built to order

Electrical Specifications[1,2,3]

LED Module Part Number	Number of LED	Module Input Current	Abs. Max Forward Voltage	Nom. Forward Voltage	Nom. Rated Power
TM40RT05xx-2x6	40	350mA	36 VDC***	31 VDC	10.9W
		500mA**	37 VDC***	32 VDC	16W

** Indicates maximum rated current. Modules may be operated at a current less than or equal to this value. Reference Current vs. Rel. Lum. Flux Table to calculate estimate lumen output at lesser currents.
*** Absolute maximum forward voltage was not used in calculating nominal rated power. Data is provided to assist in selecting proper LED driver.

Optical Specifications[1,2,3]

LED Module Part Number	Color Temperature	Module Drive Current	Nominal Luminous Flux @ 90CRI	Nominal Luminous Flux @ 80CRI	Efficacy @80CRI
TM40RT0530-2x6	3000K	500mA	1350 lumens	1800 lumens	112 lm/W
TM40RT0540-2x6	4000K	500mA	1450 lumens	1950 lumens	121 lm/W

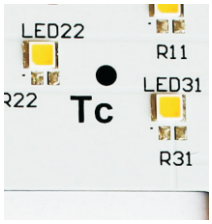
Current vs Relative Luminous Flux Table

Forward Current	Lumen Multiplier
500	1
350	0.74

1) Electrical and optical specifications are based on Tc mod = 25ºC. Reference Amb. Temp. vs Rel. Lum. Flux for other temperatures.
2) Standard lumen output and efficacy is calculated for standard options. Reference CCT vs Rel. Lum. Flux chart for lumen ratio calculation.
3) Specifications are subject to change without notice.

Thermal Specifications

	LED Module
Storage Temperature Range	-35 to 100°C
Operating Ambient Temperature Range	-35 to 40°C
Maximum Case Temperature (Tc mod)	90°C



Tc located on module

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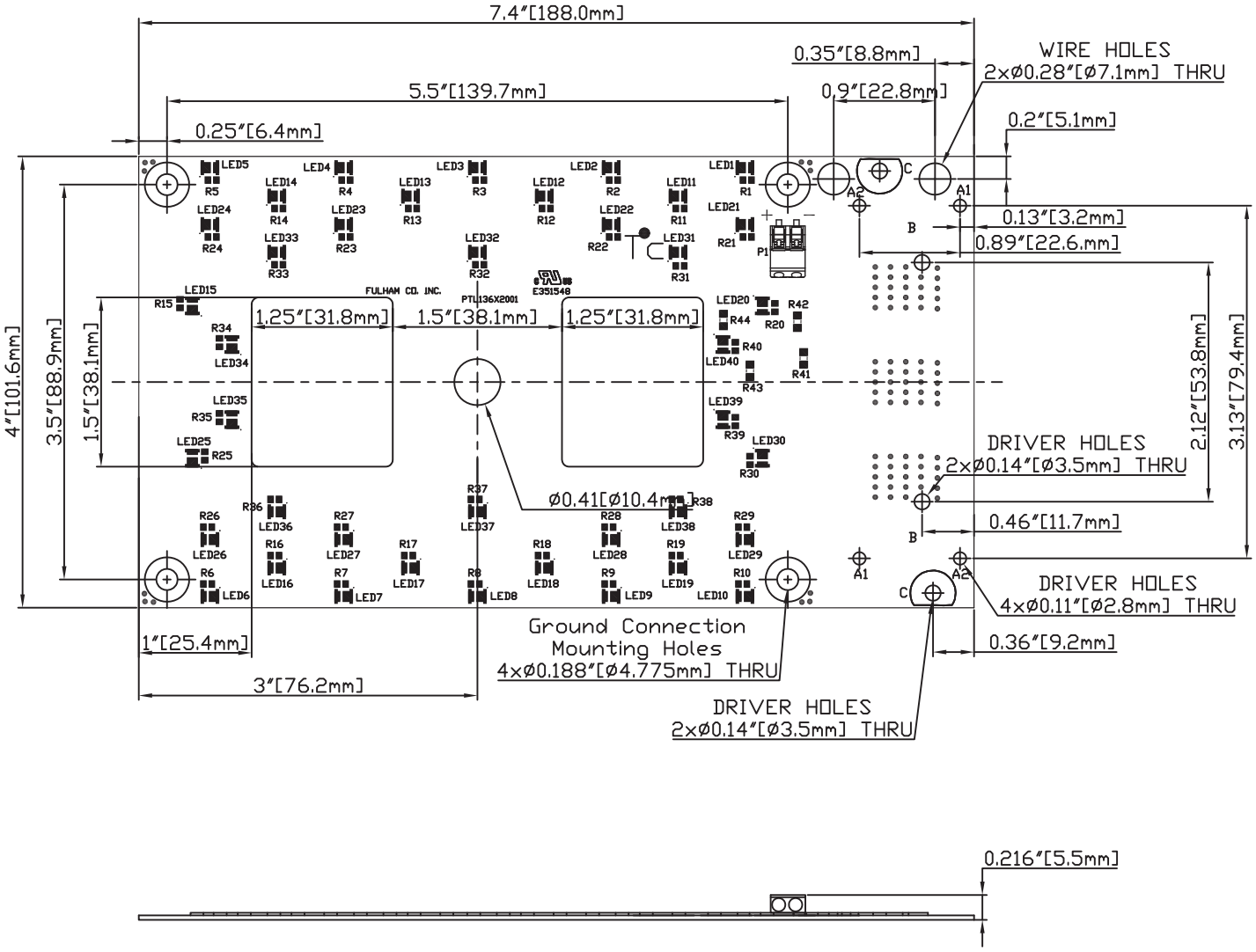
Mechanical Drawings



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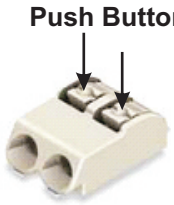
Termination Notes

- If connectors are used, use solid wire size 24 – 18 AWG, rated at a minimum 50V, minimum 105°C, and stripped to length between 6-7 mm (0.24-0.28 inches).
- Push button for insertion of conductor and for easy removal of wires.



Fastening Notes

- If fastening by screw hole, use any screw with diameter less than 0.185 in (4.7mm). Use all available screw holes to ensure good contact between back side of module and mounting surface. Refer to max specified torque for installation. Suggested screw sizes: #6 or M4 Pan Head screw.
- If fastening using double-sided tape, start with clean, dust-free surface. Peel backing and place LED module on mounting surface. Firmly press down on the module to ensure good adherence. Follow the double-side tape manufacturer's installation instructions.

Environmental Rating

- Modules are rated for dry locations, unless option for conformal coating is requested.
- Conformal coating is acrylic based and rated for Environment and Moisture Protection per IPC-CC-830.

Electrostatic Sensitive Product (ESD)

- Fulham LED products should be handled with proper measures to protect against any potential ESD damage.
- When servicing, personnel should be ground and direct contact with LED should be avoided.

Thermal Management

- Proper thermal management should be employed to ensure life and reliability of product.
- Use of thermal grease, paste, pad, or other material interface is highly recommended.

Polarity Notes

- Modules are polarity sensitive.
- Ensure that "positive" from LED Driver is connected to "positive" of LED modules and that "negative" from LED Driver is connected to "negative" of LED modules.
- Polarities of modules are marked with "+" for positive and "-" for negative.

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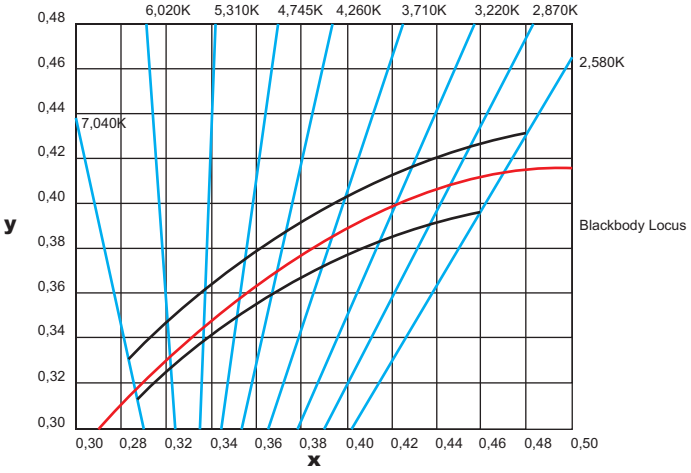
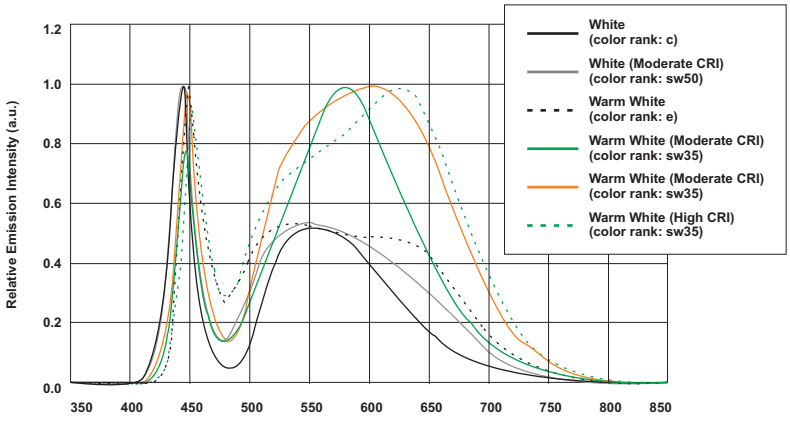
Color and Binning



Ref. Nichia
Chromaticity Diagram for ANSI bins
For reference only. For more detailed info, contact factory.

Optical Spectrum***



*** Value varies depending on product type and color rank
Ref. Nichia
LED Catalogue 2013
For reference only. For more detailed info, contact factory.

Thermal De-Rating

Ambient Temperature (Ta)	Relative Luminous Flux
25ºC	1
30ºC	0.991
35ºC	0.989
40ºC	0.980
45ºC	0.975
50ºC	0.970
55ºC	0.960
60ºC	0.950

CCT vs Luminous Flux

CCT	Relative Luminous Flux
2700K	0.87
3000K	0.93
3500K	0.96
4000K	1.00
5000K	1.07

Ref. Nichia
LED757 Spec Sheet
For reference only. For more detailed info, contact factory.

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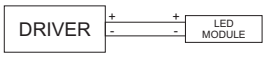
Compatible Fulham LED Drivers

Fulham Part Number	Driver Description	# of Modules/Driver	Wiring Diagram
TCD11200350-11C	350 mA, 11W CC Driver, 120VAC Input, Triac Dimmable	1	A
TC11200350-15C	350 mA, 15W CC Driver, 120VAC Input	1	A
T1T11200350-15L	350 mA, 15W CC Driver, 120VAC Input, Triac Dimmable	1	A
T1M13470350-28C	350 mA, 28W CC Driver, 347V Input, 0-10V Dimmable	1	A
T1M13470500-28C	500 mA, 28W CC Driver, 347V Input, 0-10V Dimmable	1	A
TCD3MLT0350-50L	350 mA,50W CC Driver, 120-230VAC Input, 0-10V Dimmable, 3 Output Channels	3 (1/Ch)	E
TCD4UNV0350-56L	350 mA, 56W CC Driver, Universal Input, 0-10V Dimmable, 4 Output Channels	4 (1/Ch)	E
FHS2-UNV-36L	HotSpot2 at 350 - 500 mA output. Selection of appropriate Fulham battery pack depends on number of modules connected to the HotSpot2 product		

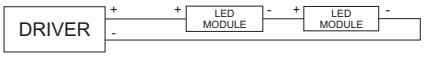
NOTE:
1. Subject to rated loading conditions.
2. Modules are polarity sensitive. Ensure that “positive” from LED Driver is connected to “positive” of LED modules and that “negative” from LED Driver is connected to “negative” of LED modules.
3. List is subject to change without notice.

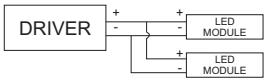
Wiring Diagram



A - Single Channel Driver, 1 LED Module connected

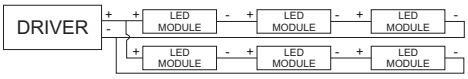
B - Single Channel Driver LED modules connected in series

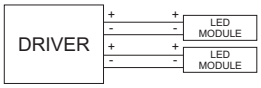




C - Single Channel Driver, LED Modules connected in parallel

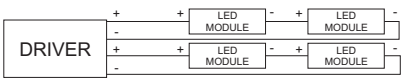
D - Single Channel Driver LED Modules connected in series & parallel

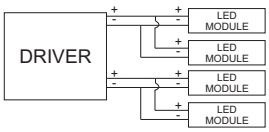




E - Multi-Channel Driver LED Module/channel connected

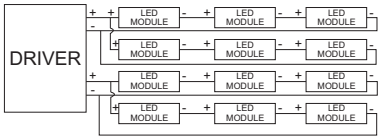
F - Multi-Channel Driver LED Modules connected in series





G - Multi-Channel Driver LED Modules connected in parallel

H - Multi-Channel Driver LED Modules connected in series & parallel



Fulham extends a limited warranty only to the original purchaser or to the first user for a period of 5 years from the date of manufacture when properly installed and operated under normal conditions of use. For complete terms and conditions, please reference the Fulham product catalog (www.fulham.com)

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