

## SPECIFICATION FOR APPROVAL

**Customer:** \_\_\_\_\_  
**Product Material No.:** \_\_\_\_\_  
**Model No.** \_\_\_\_\_ **LF-FTU021YA** \_\_\_\_\_  
**Version :** \_\_\_\_\_ **V3.1** \_\_\_\_\_

### Customer Approval

Tested by	Checked by	Approved by

### Ledfriend Approval

Tested by	Checked by	Approved by

### The full model numbers required by customers

Full model No.		Full model No.	
Full model No.		Full model No.	

### E.C. List

Version	Description of change	Engineer	Date
3.0	Format upgrade	Gan Junfei	2015-02-20
3.1	Delete ripple current value, optimize the value of PF, THD, efficiency	Gan Junfei	2016-03-03

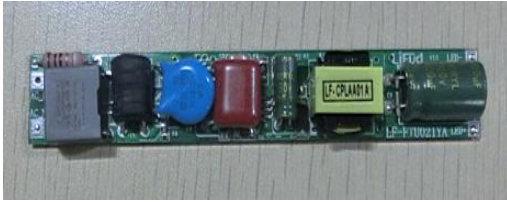
Shenzhen Ledfriend Optoelectronics Co., Ltd.

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<b>Model</b>	LF-FTU021YA	<b>Series</b>	linear non-isolated internal tube driver
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## 1. Product description



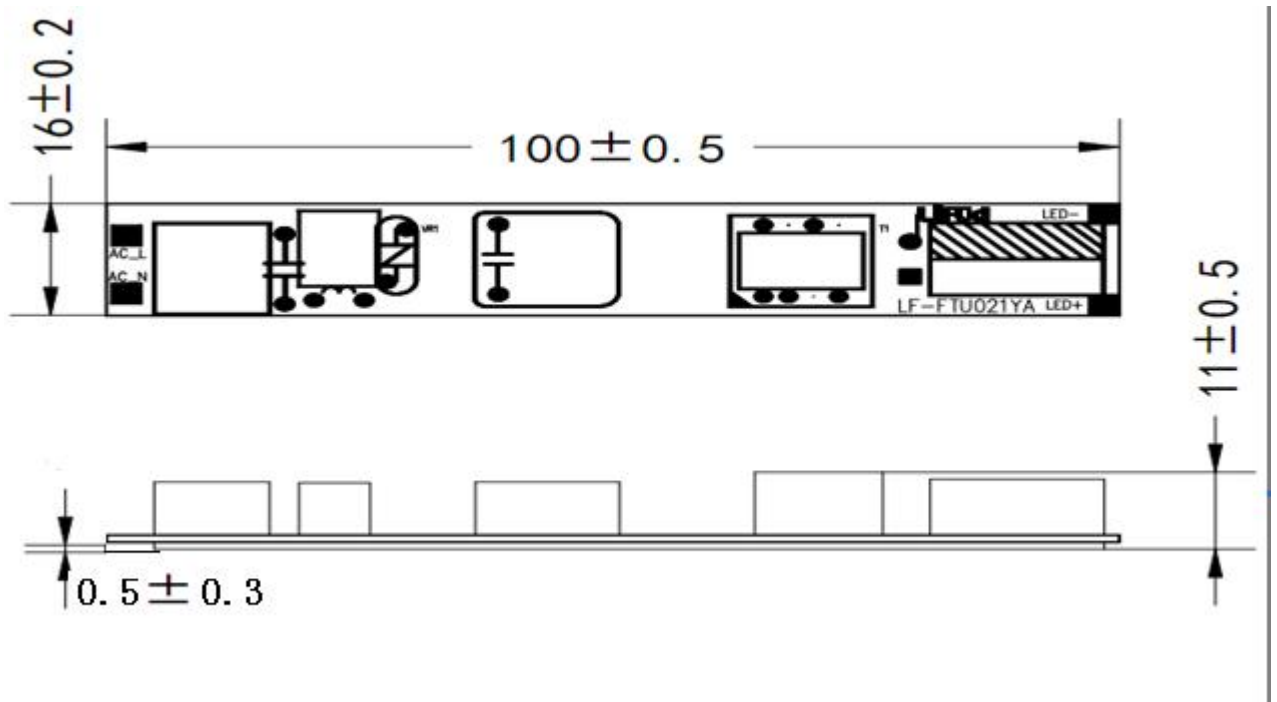
Non-isolated LED driver suitable for class II LED luminaires.  
 Category: AC220-240V linear shape open frame internal tube driver.  
 Product properties: active PFC, high performance, high efficiency, low THD.  
 Application: commercial, residential and decorative lighting.  
 Warranty: 3 years (please refer to the warranty condition).  
**Certifications:** meet CE standard, no certificate

## 2. Technical data

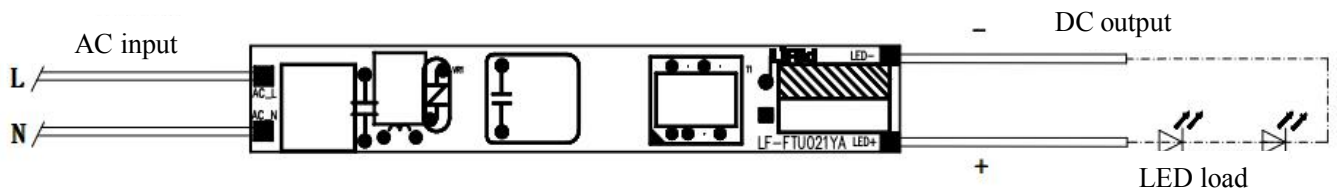
	Full model number	LF-FTU021YA 0150H	LF-FTU021YA 0200H	LF-FTU021YA 0240H	LF-FTU021YA 0250H	LF-FTU021YA 0270H
<b>Output</b>	Output voltage	60-77V	60-77V	60-77V	60-77V	60-77V
	Output current	150mA	200mA	240mA	250mA	270mA
	Ripple voltage	≤10V				
	Current tolerance	±5%				
	Time to light	230Vac <0.5S				
	Temperature drift	±10%				
	Output Line regulation	±5%				
<b>Input</b>	Input Line regulation	±5%				
	Input voltage	220-240 Vac (Max input voltage: 180-264Vac)				
	Frequency	47Hz-63Hz				
	Input current	0.15A Max				
	Power factor	≥0.91/230Vac	≥0.91/230Vac	≥0.94/230Vac	≥0.94/230Vac	≥0.94/230Vac
	THD	≤20%				
	Efficiency	≥88%/230Vac	≥88%/230Vac	≥89%/230Vac	≥89%/230Vac	≥89%/230Vac
	In-rush current (peak /duration)	I<60A/50uS@230Vac				
Typ. power input on stand-by	Pin<1.5W					
<b>Protective features</b>	No-load	Max. output voltage (no-load voltage) 110V				
	Short-circuit	Hiccup mode (auto-recovery)				
<b>Environment condition</b>	Working temperature	-30℃ ~ +65℃				
	Working humidity	20-90%RH (no condensation)				
	Storage temperature/humidity	-40℃ ~ +80℃ (6 months under the class I environment); 10-90%RH (no condensation)				
	Atmospheric pressure	86-106KPa				
<b>Safety and norms</b>	Certifications	Meet CE standard				
	Hi-pot test	/				
	Insulation resistance	/				
	Surge level	Comply with IEC61000-4-5(L/N: 1KV)				
	EMI	Comply with EN55015, EN61000-3-2.				
	EMS	Comply with EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547.				
<b>Others</b>	Packing (weight)	Net weight: 16.8g ± 5%/pc; Carton size: 39 x 29 x 21 cm (LxWxH).				
	IP level	/				
	Warranty condition	3 years (TA ≤ 65℃, TA is the environment temperature of the driver without case. If there is case outside the driver, the TA is the environment temperature inside the case.)				
<b>Testing equipment</b>	AC power source: CHROMA6530, digital power meter: CHROMA66202, Oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber, lightning surge generator: Everfine EMS61000-5B, rapid group pulse generator: Everfine EMS61000-4A, spectroanalyzer: KH3935, hi-pot tester: TH9201B, flicker-free tester (flicker-free coefficient tester) 60N-01, etc.					
<b>Test conditions</b>	The parameters above including the power factor, THD, efficiency are all tested under the ambient temperature 25℃ and humidity 50%, AC input 230V and 90% output load.					
<b>Additional Remark</b>	1. In the power supply circuit, it is recommended that the customer should install an over-under-voltage protection and surge protection device to ensure the safety of using electricity. 2. The PC cover, shell, end caps used together with the LED driver inside the LED lamp must meet the UL94V-0 fire rating level or above. 3. As a part of the LED lamp, the LED driver is not the only factor determining the EMC performance of the LED lamp. And the EMC performance is also related to the LED lamp's structure and the wire routing. Thus we strongly recommend the manufacturer of the finished LED lamp must re-confirm the EMC of the LED lamps.					

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3. Dimensional Drawing (unit: mm)



4. Wire Connection Diagram:



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