

SPECIFICATION FOR APPROVAL

Customer: _____

Product Material No.: _____

Model No. _____ **LF-GIR009YS** _____

Version : _____ **V1.1** _____

Manufacturer: _____ **Sichuan Ledfriend Technology Co., Ltd** _____

Customer Approval

Tested by	Checked by	Approved by

Ledfriend Approval

Tested by	Checked by	Approved by
Huang Chao	Liao Xinggao	Zhou Xiaoliao

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
0.1	Original release	Huang Chao	2016-08-23
0.2	Added product picture and wire diagram	Liao Xinggao	2016-09-14
0.3	Revised warranty condition, no-load voltage and packing information	Liao Xinggao	2016-09-20
1.0	Official release	Liao Xinggao	2016-10-17
1.1	Modified PF, added specification	Liao Xinggao	2016-10-31

Shenzhen Ledfriend Optoelectronics Co., Ltd
4th&5th Floor, Building 14A, Taihua Wutong Island, Gushu Development Zone, Xixiang,
Bao'an District, Shenzhen www.lifud.com, China service hotline: 400-096-6815 (China
technical support: 13410244507)

Scan the code below and read the electronic brochure online.



Model	LF-GIR009YS	Series	flicker-free AC220-240V plastic case
--------------	-------------	---------------	--------------------------------------

1. Product description



Isolated LED driver suitable for class II LED luminaires.
Category: flicker-free AC220-240V plastic case series.
Product properties: sample structure, high price performance ratio.
Application: commercial, residential and decorative lighting.
Warranty: 3 years (please refer to the warranty condition).

Certifications:



2. Technical data (1)

	Full model number	LF-GIR009YS 0135H	LF-GIR009YS 0160H	LF-GIR009YS 0180H	LF-GIR010YS 0200H
Output	Output voltage	25-42VDC			
	Output current	135mA	160mA	180mA	200mA
	Ripple voltage	<1V			
	Current tolerance	±7%			
	Time to light	230Vac <0.5S			
	Temperature drift	±10%			
	Line regulation	±7%			
Input	Line regulation	±5%			
	Rated input voltage	220-240 Vac (Max input voltage: 180-264Vac)			
	Frequency	47Hz-63Hz			
	Input current	0.1A Max			
	Power factor	≥0.5/230Vac	≥0.5/230Vac	≥0.5/230Vac	≥0.5/230Vac
	THD	/			
	Efficiency	≥76%/230Vac	≥76%/230Vac	≥77%/230Vac	≥80%/230Vac
	In-rush current (peak /duration)	I<60A/350uS@230Vac			
Protective features	Typ. power input on stand-by	Pin<1W			
	No-load	Max. output voltage (no-load voltage) 80V			
Environment condition	Short-circuit	Hiccup mode (auto-recovery)			
	Working temperature	-30°C - +50°C			
	Working humidity	20-90%RH (no condensation)			
	Storage temperature/humidity	-40°C ~ +80°C (6 months under the class I environment); 10-90%RH (no condensation)			
Safety and norms	Atmospheric pressure	86-106KPa			
	Certifications	TUV, RCM, CE, CCC			
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S			
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ			
	Surge level	Comply with IEC61000-4-5(L/N: 1KV)			
	EMI	Comply with EN55015, EN61000-3-2.			
Others	EMS	Comply with EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547.			
	Packing (weight)	Net weight:50g±5%/pc;160pcs/carton; 8KG±5%/carton. Carton size:39x29 x21cm (LxWxH).			
	IP level	IP20			
Testing equipments	Warranty condition	3 years (Max. case temperature must not exceed 65°C).			
	Test conditions	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.			
Additional Remark	The parameters above including the power factor, THD, efficiency are all tested under the ambient temperature 25 °C and humidity 50%, AC input 230V and 90% DC load.				
	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				

Model	LF-GIR009YS	Series	flicker-free AC220-240V plastic case
--------------	-------------	---------------	--------------------------------------

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.

Technical data (2)

	Full model number	LF-GIR009YS 0300H	LF-GIR009YS 0350H
Output	Output voltage	14-24VDC	
	Output current	300mA	350mA
	Ripple voltage	<1V	
	Current tolerance	±5%	
	Time to light	230Vac <0.5S	
	Temperature drift	±10%	
	Line regulation	±5%	
Input	Line regulation	±5%	
	Rated input voltage	220-240 Vac (Max input voltage: 180-264Vac)	
	Frequency	47Hz-63Hz	
	Input current	0.1A Max	
	Power factor	≥0.5/230Vac	≥0.5/230Vac
	THD	/	/
	Efficiency	≥76%/230Vac	≥76%/230Vac
	In-rush current (peak /duration)	I<60A/350uS@230Vac	
Typ. power input on stand-by	Pin<1W		
Protective features	No-load	Max. output voltage (no-load voltage) 50V	
	Short-circuit	Hiccup mode (auto-recovery)	
Environment condition	Working temperature	-30℃ - +50℃	
	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	
Safety and norms	Certifications	TUV, RCM, CE, CCC	
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S	
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ	
	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.	
Others	Packing (weight)	Net weight:50g±5%/pc;160pcs/carton; 8KG±5%/carton. Carton size:39x29 x21cm (LxWxH).	
	IP level	IP20	
	Warranty condition	3 years (Max. case temperature must not exceed 65℃).	
Testing equipments	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.		
Test conditions	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% DC load.		
Additional Remark	<p>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.</p> <p>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.</p> <p>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.</p>		

Model	LF-GIR009YS	Series	flicker-free AC220-240V plastic case
--------------	-------------	---------------	--------------------------------------

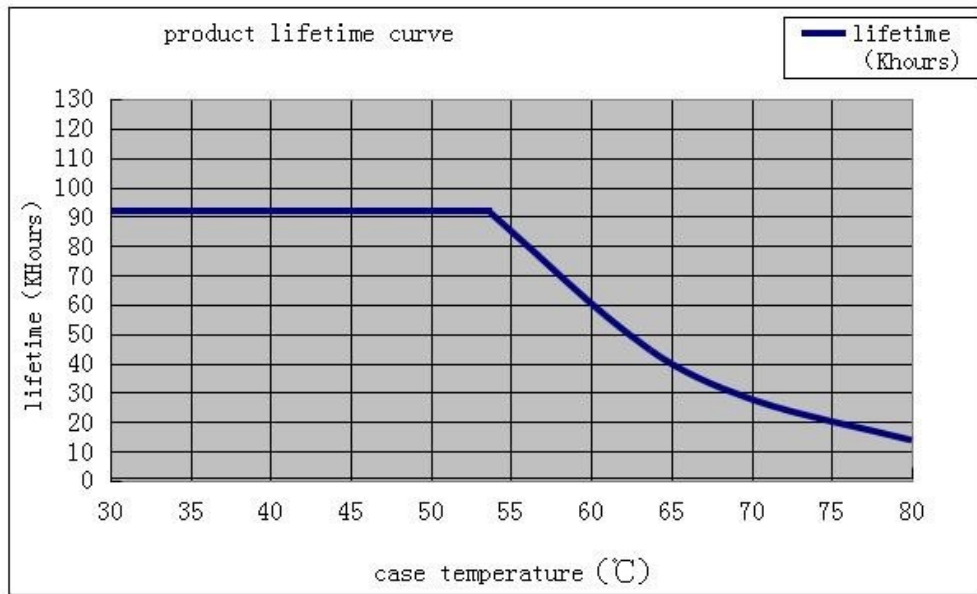
Technical data (3)

	Full model number	LF-GIR009YS0500H	LF-GIR009YS0600H	LF-GIR009YS0700H
Output	Output voltage	8-11VDC		
	Output current	500mA	600mA	700mA
	Ripple voltage	<1V		
	Current tolerance	±5%		
	Time to light	230Vac <0.5S		
	Temperature drift	±10%		
	Line regulation	±5%		
Input	Line regulation	±5%		
	Rated input voltage	220-240 Vac (Max input voltage: 180-264Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.1A Max		
	Power factor	≥0.5/230Vac	≥0.5/230Vac	≥0.5/230Vac
	THD	/	/	/
	Efficiency	≥76%/230Vac	≥76%/230Vac	≥76%/230Vac
	In-rush current (peak /duration)	I<60A/350uS@230Vac		
Typ. power input on stand-by	Pin<1W			
Protective features	No-load	Max. output voltage (no-load voltage) 35V		
	Short-circuit	Hiccup mode (auto-recovery)		
Environment condition	Working temperature	-30℃ - +50℃		
	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		
Safety and norms	Certifications	TUV, RCM, CE, CCC		
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S		
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ		
	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.		
Others	Packing (weight)	Net weight:50g±5%/pc;160pcs/carton; 8KG±5%/carton. Carton size:39x29 x21cm (LxWxH).		
	IP level	IP20		
	Warranty condition	3 years (Max. case temperature must not exceed 65℃).		
Testing equipments	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.			
Test conditions	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% DC load.			
Additional Remark	<p>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.</p> <p>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.</p> <p>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.</p>			

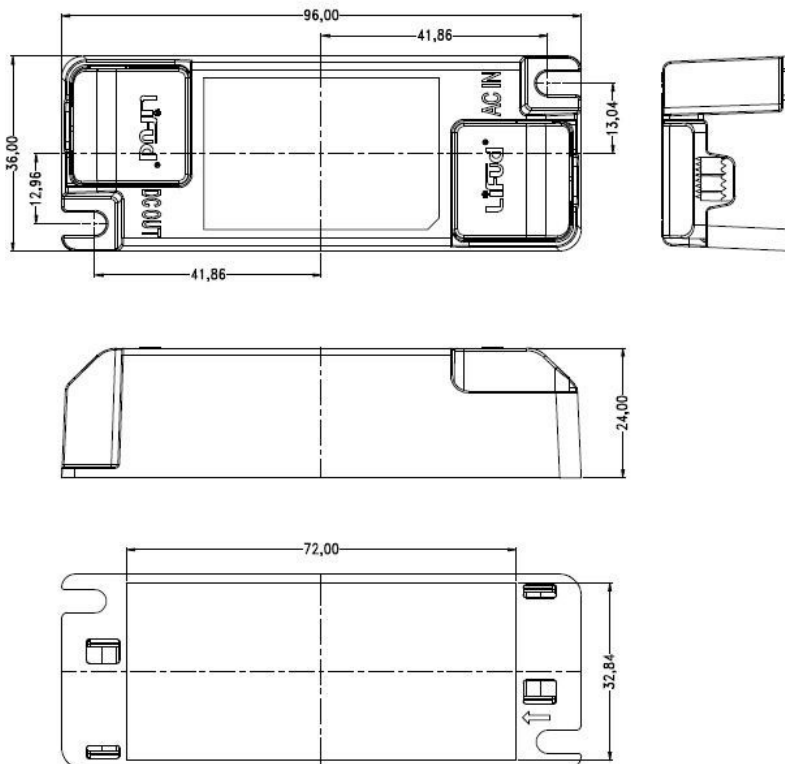
Model	LF-GIR009YS	Series	flicker-free AC220-240V plastic case
--------------	-------------	---------------	--------------------------------------

3. Product Referenced Lifetime Curve

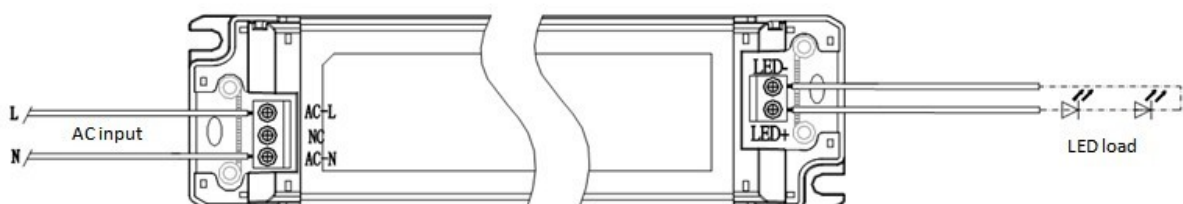
The curve below illustrates the driver's lifetime data when the LED driver's Max. case temperature reaches 40°C, 50°C, 60°C, 70°C and 80°C.



4. Dimensional Drawing (unit: mm)



5. Wire Connection Diagram:



Model	LF-GIR009YS	Series	flicker-free AC220-240V plastic case
--------------	-------------	---------------	--------------------------------------