

SPECIFICATION FOR APPROVAL**Customer:** _____**Product Material No. :** _____**Model No.** _____ **LF-GMR023YS** _____**Version :** _____ **V3.0** _____**Manufacturer:** _____ **Sichuan Ledfriend Technology Co., Ltd** _____**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 change	Wang Min	2015-10-27

Shenzhen Ledfriend Optoelectronics Co., Ltd.
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Model	LF-GMR023YS	Series	AC100-277V, linear metal case, flicker-free version
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1. Product description



Isolated LED driver designed for class I LED luminaires.

Category: AC100-277V linear metal case, flicker-free version.

Product properties: active PFC, high PF, high efficiency, low THD, flicker-free.

Application: tri-proof lights, grid lights and other linear shape lights.

Warranty: 3 years (please refer to the warranty condition).

Certifications:



2. Technical data (1)

	Full model number	LF-GMR023YS 0350U	LF-GMR023YS 0400U	LF-GMR023YS 0450U	LF-GMR023YS 0500U	LF-GMR023YS 0550U
Output	Output voltage	27-40 VDC				
	Output current	350mA	400mA	450mA	500mA	550mA
	Ripple voltage	< 1V				
	Current tolerance	±5%				
	Time to light	100Vac<1S 230Vac <0.5S 277Vac <0.5S				
	Temperature drift	±10%				
	Output Line regulation	±5%				
Input	Input Line regulation	±5%				
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)				
	Frequency	47Hz-63Hz				
	Input current	0.4A Max				
	Power factor	≥0.96/100Vac	≥0.96/100Vac	≥0.96/100Vac	≥0.96/100Vac	≥0.96/100Vac
		≥0.95/230Vac	≥0.95/230Vac	≥0.95/230Vac	≥0.95/230Vac	≥0.95/230Vac
		≥0.90/277Vac	≥0.90/277Vac	≥0.90/277Vac	≥0.90/277Vac	≥0.90/277Vac
	THD	≤20% at AC230V				
	Efficiency	≥86%/100Vac	≥86%/100Vac	≥86%/100Vac	≥86%/100Vac	≥86%/100Vac
		≥86%/230Vac	≥86%/230Vac	≥87%/230Vac	≥87%/230Vac	≥88%/230Vac
≥84%/277Vac		≥85%/277Vac	≥86%/277Vac	≥86%/277Vac	≥86%/277Vac	
In-rush current (peak /duration)	I<60A/200uS@230Vac					
Typ. power input on stand-by	Pin<1W					
Protective features	No-load	Max. output voltage (no-load voltage) 55VDC				
	Short-circuit	Hiccup mode (auto-recovery)				
Environment condition	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)				
	Atmospheric pressure	86-106KPa				
Safety and norms	Certifications	CB, TUV, CE, RCM, UL, FCC				
	Hi-pot test	I/P-O/P:4KVac, <5mA, 60S I/P-PG:1.6KVac, <5mA,60S				
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ				
	Surge level	Comply with IEC61000-4-5(L/N:2KV,L/PG:4KV,N/PG:4KV)				
	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: 140g±5%/pc; 48pcs/carton; 7.7KG±5%/carton. Carton size: 39 x 29 x 21 cm (L xWxH).				
	IP level	/				
	Warranty condition	3 years (Max. case temperature must not exceed 80°C).				
Testing equipment	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°C and humidity 50%, AC input 230V and 90% output load.					
Additional	1. In the power supply circuit, it is recommended that the customer should install an over-under-voltage protection and surge					

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Remark	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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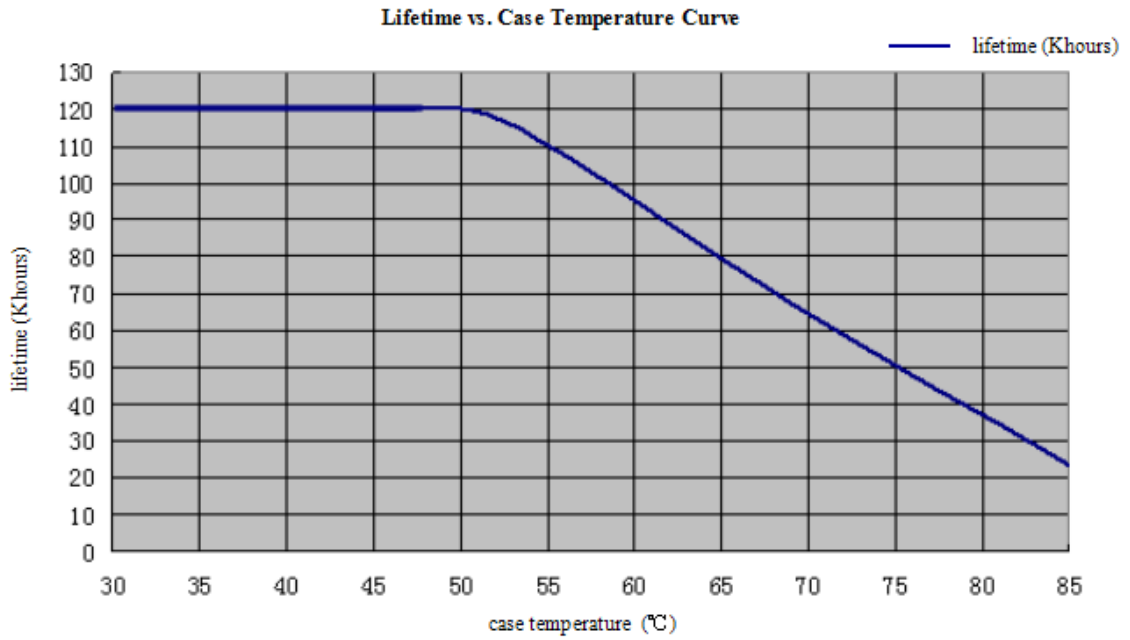
Technical data (2)

	Full model number	LF-GMR023YS0300V	LF-GMR023YS0350V	LF-GMR023YS0400V
Output	Output voltage	35-55 VDC		
	Output current	300mA	350mA	400mA
	Ripple voltage	< 1V		
	Current tolerance	±5%		
	Time to light	100Vac<1S 230Vac <0.5S 277Vac <0.5S		
	Temperature drift	±10%		
	Output Line regulation	±5%		
Input	Input Line regulation	±5%		
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.4A Max		
	Power factor	≥0.96/100Vac	≥0.96/100Vac	≥0.96/100Vac
		≥0.95/230Vac	≥0.95/230Vac	≥0.95/230Vac
		≥0.90/277Vac	≥0.90/277Vac	≥0.90/277Vac
	THD	≤20% at AC230V		
	Efficiency	≥86%/100Vac	≥86%/100Vac	≥86%/100Vac
		≥86%/230Vac	≥86%/230Vac	≥87%/230Vac
≥84%/277Vac		≥85%/277Vac	≥86%/277Vac	
In-rush current (peak /duration)	I<60A/200uS@230Vac			
Typ. power input on stand-by	Pin<1W			
Protective features	No-load	Max. output voltage (no-load voltage) 70V		
	Short-circuit	Hiccup mode (auto-recovery)		
Environment condition	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)		
	Atmospheric pressure	86-106KPa		
Safety and norms	Certifications	CB, TUV, CE, RCM		
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S I/P-PG:1.6KVac, <5mA,60S		
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ		
	Surge level	Comply with IEC61000-4-5(L/N:2KV,L/PG:4KV,N/PG:4KV)		
	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: 140g±5%/pc; 48pcs/carton; 10.3KG±5%/carton. Carton size: 39 x 29 x 21 cm (L xWxH).		
	IP level	/		
	Warranty condition	3 years (Max. case temperature must not exceed 80°C).		
Testing equipment	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°C and humidity 50%, AC input 230V and 90% output load.			
Additional Remark	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.			

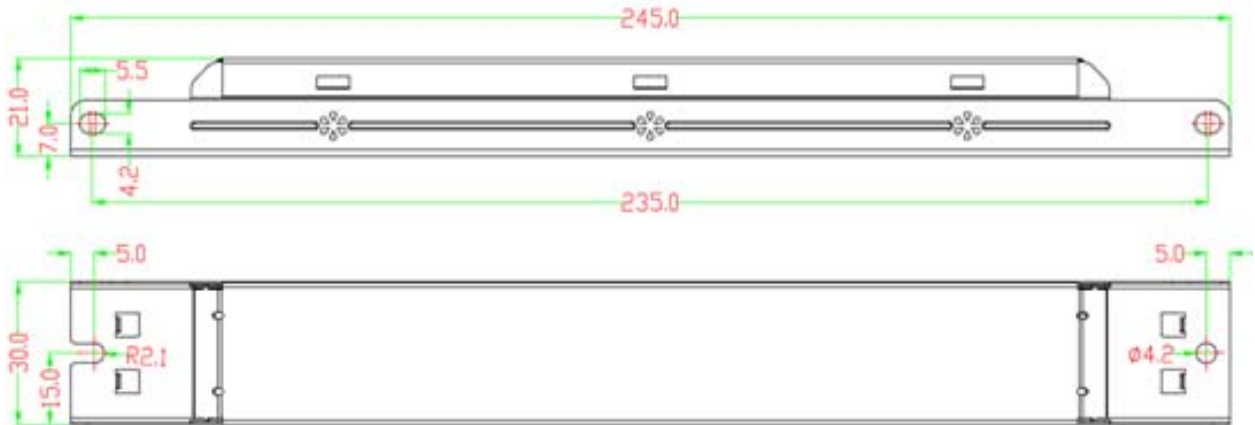
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3. Product Referenced Lifetime Curve

The curve below illustrates the driver's lifetime data when the LED driver's Max. case temperature reaches 40°C, 45°C, 50°C, 55°C, 60°C, 70°C and 80°C.



4. Dimensional Drawing (unit: mm)



5. Wire Connection Diagram:



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