



PLT-13233

SPECIFICATION FOR APPROVAL

Customer Name:	
Customer Code:	B347
Customer Model:	BW23-01-327-00
Products Name:	Constant Current LED Driver
Product Characteristics:	<input type="checkbox"/> Non-Dimming <input type="checkbox"/> Traic Dimming <input checked="" type="checkbox"/> 0-10V Dimming <input checked="" type="checkbox"/> Non-Isolated <input checked="" type="checkbox"/> Title 24 <input type="checkbox"/> No Stroboscopic <input type="checkbox"/> Bipolar No Strobe
Products Color:	Iron shell white
Product Specification:	Input: 120~277 VAC 50/60 Hz Output: 90 ~ 112 V 695 mA
Finished Product No.:	S78N112070DAAVS-FG
Model NO.:	BQE78-0695-112-PVF-PSA
Samples No.:	B2101008R2
Recognized Standards:	UL8750

CUSTOMER APPROVE

PURCHING	R/D	QUALITY



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四. Product standard

4.1 Overview

This document describes in detail the electronic, mechanical and environmental specifications for the LED drive power product;The product USES high PF technology, which has the characteristics of low noise, energy saving and environmental protection, long life and so on.Suitable for indoor and semi-outdoor environment, it is a small electrical product box for easy installation and use.

4.2 Electrical parameters

(Light control head with sample number B2011039R2 to test the power adjustment and color adjustment temperature)

4.2.1 Input characteristics

Testing project	standard	unit	Testing Conditions	Remark	
1.Input voltage range	108-305	VAC			
2.Rated input voltage	120~277	VAC			
3. Input frequency	50/60	Hz	60Hz Test		
4. Input current	≤800	mA	120-277VAC		
5. Start time	≤750	mS	120-277VAC		
6. Power factor	≥0.9	/	120-277VAC		
7.No-load power	≤1	W	120VAC		
8. Short circuit power	≤5	W	120-277VAC		
9. THD	≤20	%	120-277VAC		
10. Flicker percentage	≤30	%	120-277VAC		
11. Ringing wave	2.5	KV	L-N L-PE N-PE	Accord with ENERGY STAR	
12. Surge test	4	KV	L-N	only for LED driver. The withstand volatege of aluminum PCB must be enough	
	6	KV	L-PE N-PE PE: During the test, two ground wires short-circuited		
13. Dielectric Strength	5mA/60s (UL 8750-8.6 CSA 250.13-9.4 2U+1000V)	VAC	NA	NA	
			AC-PE	1600VAC	PE: Green line, no heat shrinkable sleeve at the end
			DC-DIM	500VAC	

4.2.2 Output characteristics Constant Current Mode:CC Mode

Rated input condition 120~277VAC

Testing project	standard	unit	Testing Conditions	Remark
1. Output voltage range	90 ~ 112	VDC		
2. Output current (I)	695	mA		± 5%
3. Output current range	660.25 ~ 729.75	mA		
4. Output power	77.84	W		
5. No-load voltage	≤ 160	VDC		
6. Output Ripple	≤ 8000	mV		
7. Efficiency (%)	≥ 90	%		
8. Output voltage range	10-14	VDC		The 12V auxiliary
9. Output current	50	mA.		White+ Pink

Remark:

* Ripple test matters needing attention:

1) Measurements shall be made with an oscilloscope with 20MHz bandwidth.

2) Outputs shall be bypassed at the connector with a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor to simulate system loading.

BECKY INDUSTRIAL (HK) CO LIMITED

MODEL NO. :

BQE78-0695-112-PVF-PSA

Sample No. :	REV. :	Date:	Drawing	Check	Approve
B2101008R2	R2.2	2022/9/22	Yue Li	LiJin Xie	AnHui Zhang



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4.2.3 Test instrument

Name	Model	Name	Model
Led Integrated Tester	LED Power Driver Tester (WT2080)	Lightning surge generator	Ringing wave Meter (LSG-6K10D-J)
Oscilloscope	GDS-2204A	Electronic load	M9711
Dynamometer	GPM-8213\IV-1001B	Withstand Voltage Tester	Hipot tester 19073
Flicker photometer	Flicker Puotometer (FP2000)		

4.3 Protective value

4.3.1、Open protection: when the output when open, input normal input, the product will not damage, and open voltage can't more than ratings.

4.3.2、Short circuit protection: if the output appears unusual, causes the product of anode and short sub, this product will start short circuit protection function, and not because this abnormality in product permanent damage.

4.3.3、Overload protection: this product is the constant flow design, the LED lights in the design of the product value VF voltage range, the product output current will be constant; When LED lamp of the design of value over VF voltage range, the product will enter overload protection status.

4.3.3.1、Output voltage is too low, the power supply will enter frequent start and shut off, at this time will frequently LED twinkle.

4.3.3.2、The output terminal voltage is too high, the product enters the over-voltage protection state, at this time the LED lamp's luminous intensity is obviously weaker, the current cannot reach the rated value.

4.3.3.3 Light Control Protection: Lux Parameter

light leve to turn ON (CDS 90°C)	MAX:30 LUX
light leve to turn OFF (CDS 90°C)	Min:60 LUX



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4.4、Dimming Control

4.4.1 Dimming Control: the current will adjust from 10% Load~100% Load by 0-10V dimmer

Brand	Model	Applicable voltage	Rating power	Brand	Model	Applicable voltage	Rating power
Leviton	IP710-LFZ	120--277VAC 60HZ	1200VA/1500VA	Lutron	DVSTV	120-277VAC 50/60HZ	8A
Lutron	NTSTV	120-277VAC 50/60HZ	8A				

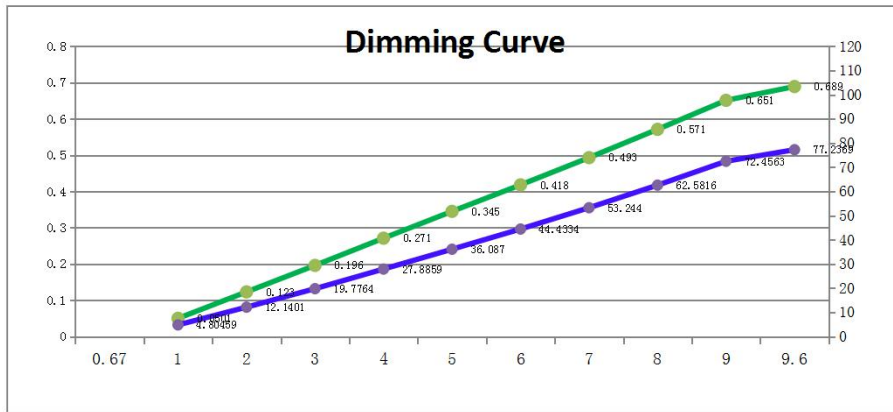
Remark:
When the dimmer is 0-10V, the lamp is off when the dimmer is 0.6-0.8V

4.4.2、Inductor Blocks

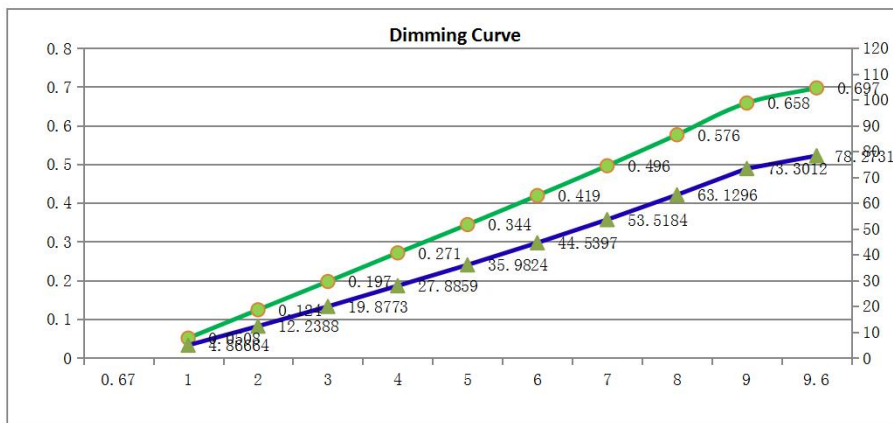
Inductor Blocks	Model	MC090D

Remark: The sensor needs to be turned off

4.4.3 Dimming curve (120VAC)



4.4.4 Dimming curve (277VAC)





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五、 Certification standard

5.1、 Safety

The power supply shall compliance with the following Criterion:

- 1) * UL8750

5.2、 EMC

5.2.1 EMI

The power supply shall compliance with the following Criterion:

5.2.1.1 Conduction Emission :

- 1) * FCC PART15 , CLASS B

5.2.1.2 Radiated Emission :

- 2) * FCC PART15 , CLASS B

六、 Environmental Requirement

This part describes the constant current drive power LED to use and storage environment.

6.1、 Storage temperature and humidity

6.1.1、 Storage temperature range: from -40°C to $+85^{\circ}\text{C}$

6.1.2、 Storage humidity range: from 5 %RH to 95 %RH

6.2、 Using temperature and humidity

6.2.1、 Using temperature range: from -40°C to $+50^{\circ}\text{C}$ (Max), $T_c=90^{\circ}\text{C}$ (Max)

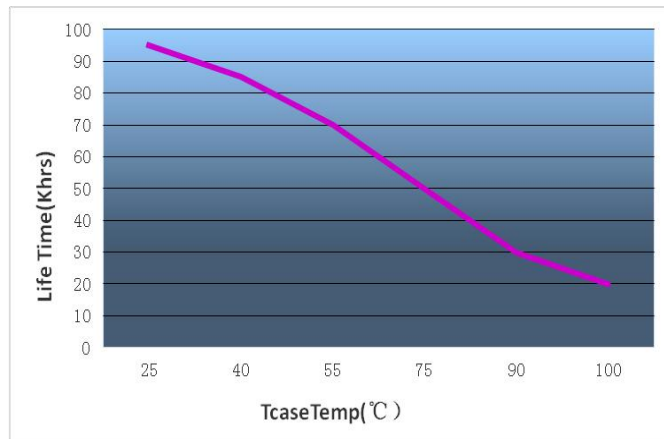
6.2.2、 Case T_c Temperature: T_c : 90°C @ T_a : 50°C

6.2.3、 Use humidity range: from 5 %RH to 95 %RH ,

6.2.4、 MTBF @ 25°C (t_a): 500000 hours

6.2.5、 LIFE @ 75°C (t_c): 50000 hours @ full load

6.2.6、 Warranty:5 years





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七、Product Mix

7.1 Product Appearance Figure :

7.1.1 Dimensions of the outline

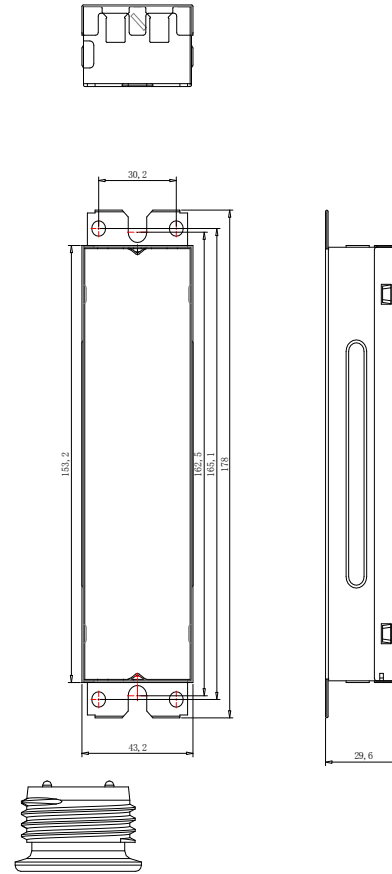
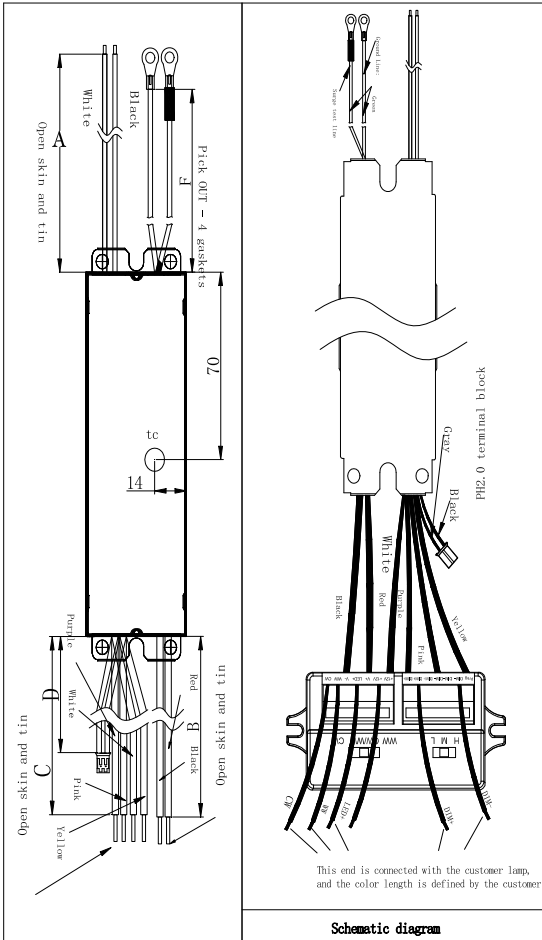
Remark:

Unit:mm, Tolerance: ± 1.5 mm

7.1.2 Shell dimension positioning drawing:

Remark:

Unit:mm, Dimensional tolerances are shown in the table below



12V cable. Black protective casing for Preg cable and light adjusting sleeve as shown

With light control box BQE-PS2+ light control head (light sensing)BQE-PS1 test

7.2 Shell Color:

Iron shell white

7.3 Input output specification:

Input:	UL1015 AWG18 A=400 \pm 10mm White color Pick up N Black color Pick up L, Open skin and tin 10 \pm 1mm
Output:	UL1569 AWG22 B=200 \pm 10mm Red color Pick up +, Black color Pick up -, Open skin and tin 10 \pm 1mm
Dimming:	UL1569 AWG22 C=200 \pm 10mm Purple color Pick up DIM+, Pink color Pick up DIM-, Open skin and tin 10 \pm 1mm (Tail sleeve black sleeve)
Optical control:	UL1569 AWG22 D=200 \pm 10mm Gray color Pick up VD+, Black color Pick up VD-, PH2.0 terminal block
12V+:	UL1569 AWG22 C=200 \pm 10mm White color Pick up 12V+, Open skin and tin 10 \pm 1mm (Very common Pink) (Tail sleeve black sleeve)
Surge test line	UL1569 AWG18 E=200 \pm 10mm Green color Pick up GND Pick OUT - 4 gaskets (Heat shrinkable sleeve)
Ground Line: (Pressure line)	UL1569 AWG18 E=200 \pm 10mm Green color Pick up GND Pick OUT - 4 gaskets
Preg	UL1569 AWG22 C=200 \pm 10mm Yellow color Pick up Preg Open skin and tin 10 \pm 1mm (Tail sleeve black sleeve)



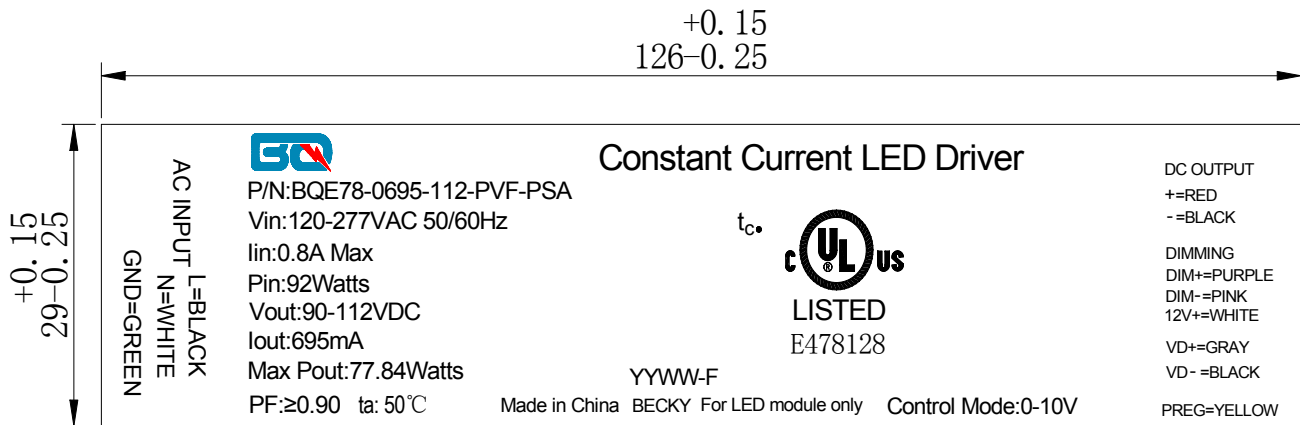
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7.4 Picture of real products:



The pictures are for reference only

7.5 Nameplate figure:



Remarks:	YYWW means:	year week;				
	H means:	NA				
	F means:	When the dimmer is 0-10V, the lamp is off when the dimmer is 0.6-0.8V				
Material:	Colour :	Surface treatment:	Thickness:	Unit:	else:	Customer confirmation signature:
Coated paper	black character on a white background	Polishing	0.12±0.03	mm		

八、Packaging Technology

Glue process



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九、 Related test data

9. ILED electrical performance test report

Model NO. :		BQE78-0695-112-PVF-PSA											Output voltage:		90 ~ 112 VDC			
Input voltage:		120~277 VAC											Output current:		695 mA			
test item	Serial	1				2				3				Decide				
	电压 Voltage	108 VAC	120 VAC	277 VAC	305 VAC	108 VAC	120 VAC	277 VAC	305 VAC	108 VAC	120 VAC	277 VAC	305 VAC	Condition	Standard	Pass Fail		
Vout	No load	149	149	149	149	149	149	149	150	150	150	150	150	120-277Vac	≤ 160 V	Pass		
Input Power	No load	0.18	0.21	0.84	1.01	0.18	0.21	0.84	0.96	0.19	0.21	0.83	0.97	120Vac	≤ 1 W	Pass		
	112 V	83.1	82.9	81.8	84.9	84.4	84.2	83.6	83.9	84.3	83.8	83	83.1	120-277Vac	≤ 92 W	Pass		
Input current	112 V	712	639	286	266	713	640	286	266	708	635	284	364	120-277Vac	≤ 800 mA	Pass		
THD	90 V	11.7	12.8	11.6	13.2	12	13.1	11.7	13.3	11.9	13	11.5	13	120-277Vac	≤ 20%	Pass		
	112 V	10	11	9.2	10.7	10	11.1	8.8	10.5	10.2	11.2	9	10.5			Pass		
Power factor	90 V	0.99	0.98	0.94	0.927	0.99	0.98	0.94	0.924	0.99	0.98	0.94	0.928	120-277Vac	> 0.9	Pass		
	112 V	0.99	0.99	0.96	0.95	0.99	0.99	0.96	0.94	0.99	0.99	0.96	0.95			Pass		
Outputcurrent	90 V	692	694	702	703	700	701	709	709	698	700	707	708	120-277Vac	660.25 ~ 729.75 mA	Pass		
	112 V	688	690	696	697	690	693	700	701	694	697	702	702			Pass		
12V+TEST	50 mA	13.2	13.2	13.2	13.2	13.1	13.1	13.1	13.1	13.3	13.3	13.3	13.3	120-277Vac	10 ~ 14 V	Pass		
Shut off the voltage	112 V	0.67	0.67	0.67	0.67	0.64	0.64	0.64	0.64	0.68	0.68	0.68	0.68	120-277Vac	0.6 ~ 0.8 V	Pass		
Start time	112 V	498	442	248	234	496	464	240	220	522	440	252	236	120-277Vac	≤ 750 mS	Pass		
Flicker percentage	90 V	15.7				15.4				15.3				120-277Vac	≤ 30%	Pass		
	112 V	13.1				12.9				12.9						120-277Vac	Pass	
Ripple	112 V	4240	4200	4560	4680	4240	4200	4520	4640	4200	4520	4600	5680	120-277Vac	≤ 8000 mV	Pass		
Efficiency	90 V	92.4	93.1	94.4	94.2	92.6	93.2	94.2	92.4	93.2	94.4	94.2	92.4	120-277Vac	≥ 90%	Pass		
	112 V	92.2	92.9	94.8	94.6	92.4	93.1	94.8	94.7	92.3	93.1	94.7	94.6			120-277Vac	Pass	
High-voltage insulation test	OK				OK				OK				AC-PE 1600VAC 5mA/60s			Pass		
Test engineer:		XueQin Yin				Inputter:				Yue Li				Auditor:		YuTing Shu		
Date:		2021/8/13				ate:				2021/8/13				Date:		2021/8/13		



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十、Packaging figure

PACKING DRAWING



Qty :	_____	PCS
G.W :	_____	Kgs
N.W :	_____	Kgs
SIZE :	X X	cm
Made In china		

Side marking

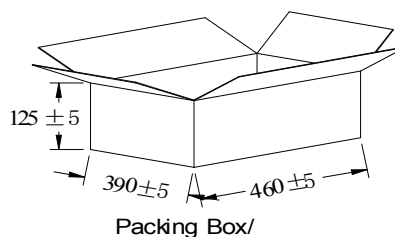
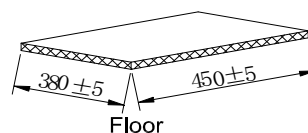
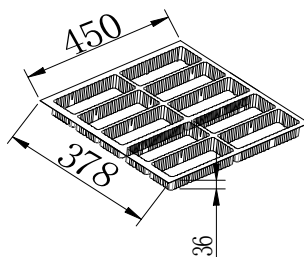
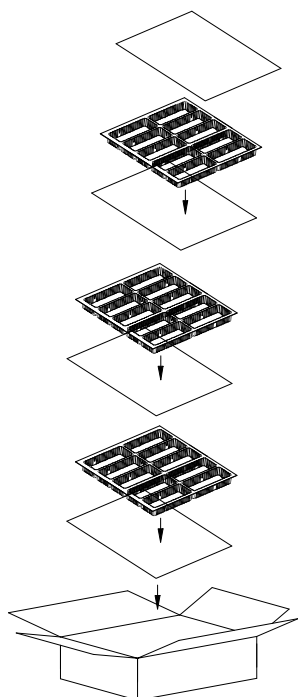


The Leader of Non-Isolated LED Driver

Professional Manufacturer of Outdoor LED Driver

Web: <http://www.becky-dg.com> <http://www.becky-usa.com>

Address: Yinyong Industrial zone Jinma Road
Hengli Town Dongguan City



108 78 58 85W

Not in Scale
For reference only
Unit: mm
± 2mm

Material	Material part list	Size	(PCS)		
Floor	JD450380B3320000	450 x 380mm(B33)	4/BOX	Total amount:	30Pcs
Blister Box	UT4538036W020000	450x 378x36mm	3/BOX		
Packing Box	JC463913A2A20000	460 x 390x125mm(A=A) (A636A)	1/BOX		