Product Characteristics

- Efficiency up to 96%
- Isolated dimming:0/1-10V, Dim-to-Off
- Functional: Dim/The output current is adjustable (External Adj power) . meet different customer requirement is optional.
- IP Rating：IP54
- Surge：DM(L/N):6KV,CM (L/N-PE) :6KV
- Warranty：5Years

c UL us E478128 FC 5YEAR WARRANTY RoHS

Product Description

K2 Series is a long bipolar stroboscopic No strobe non-isolated constant current drive power supply, this series is specially designed and developed for shoebox lights, wall lights, flood lights, industrial and mining lights, beautiful appearance design, The overall appearance design is aesthetically pleasing, and the multifunctional configuration of the product meets the different functional design needs of customers. With ultra-high efficiency and good heat dissipation, it greatly improves the reliability of the product and ensures its lifespan. At the same time, comprehensive protection functions ensure that the product operates without obstacles.

Model List

Model List	Pout	Vin	Output Range Vdc	Recommended Output Vdc	Iout	Default <mA>	Eff. %
BQ-320K2-360-D	320	277-480	210-360	240-350	880-1400	1170	96%
“Z” Suffix	-D						
Function Description	0-10V+External Adj.						

* Warning*
The output voltage * output current must not exceed the maximum output power when using the current adjustable function

Input Characteristics

Parameters	Min.	Typical	Max.	Unit	Testing Conditions/Remark
Rated Input Voltage Range	277	/	480	Vac	/
Input voltage range	249	/	528	Vac	/
Input frequency	47	50/60	63	Hz	/
Input current	/	/	1300	mA	@277Vac
Inrush Current	/	/	120	A	100%load at 480Vac input cold start
PF	0.9	/	/	N/A	@277-480Vac 80%full load
THD	/	/	20	%	@277-480Vac 80%full load
Flicker	/	/	5	%	@277-480Vac
Turn-on Delay Time	/	500	750	mS	@277Vac
No Load Power	/	/	5	W	@277-480Vac
Short circuit power	/	/	15	W	@277-480Vac

Output Characteristics

Parameters	Min.	Typical	Max.	Unit	Testing Conditions/Remark	
Rated Output Voltage	210	/	360	Vdc	/	
Rate Iout (adjustable)	880	/	1400	mA	±5%	Rated Vout*Rate Iout≤Rated Pout
Rated Pout	/	/	320	W	@100% Load at277-480Vac	
No-Load Voltage	/	/	420	Vdc	@277-480Vac	
Efficiency@277V ac	94	95	/	%	@Full Load Output: 350v/0.91 A	
Efficiency@347V ac	94	96	/	%	@Full Load Output:350v/0.91A	
Efficiency@480V ac	94	96	/	%	@Full Load Output: 350v/0.91A	
Line Regulation	-5%	/	+5%	%	@ Full Load	
Load Regulation	-5%	/	+5%	%		
Ripple Current	/	5%	10%	%		

Dimming Characteristics

Function	Parameters		Min.	Typical	Max.	Unit	Remark
0-10V Class 2	Applied maximum voltage		0	/	12	V	
	Dimming output current range		0	/	100	%	High compatibility
	Dimming Voltage		0	/	10	V	
	Dimming Current		90	100	110	uA	
Dim to Off (Optional)	0-10V	Turn-off voltage	0.6	0.8	1.0	V	Dim short circuit- Off
		Cut-in voltage	0.7	0.95	1.2	V	
	1-10V		/	/	/		Dim short circuit-Not Off
Noted	Please take isolation if the dimming cable is not in use						

Protection Function

Function	Parameters	Min.	Typical	Max.	Unit	Remark
OTP (TC)	Current drop mode	90	95	105	℃	Auto recovery
SCP	Not damaged with long time short circuit, hiccup mode					It Auto recovery
OVP	The output voltage will limit the scope					Auto recovery
Others						

Environmental Characteristics

Parameters	Min.	Typical	Max.	Unit	Remark
Operating Temp.	-40	/	90	℃	Tc
Storage Temp.	-40	/	90	℃	RH:5%~95%
Tc Temp.	/	/	90	℃	
Life Time 50000H/ @Tc80℃ at full load	/	80	/	℃	Refer to the life curves.
MTBF200000 H/@ 25℃	/	25	/	℃	80% MIL-HDBK-217F

Safety and EMI Standards

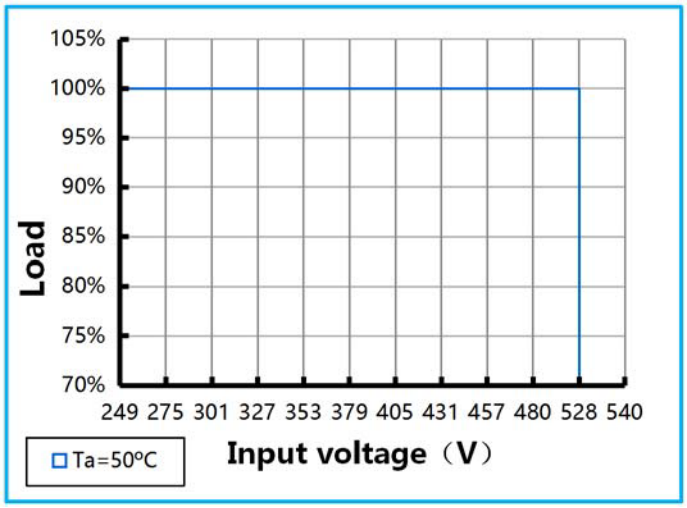
Status	Certification	Country	Safety Standard	Remark
☑	UL/Cul	USA/Canada	UL 8750	
☐	CCC	China	GB19510.1;GB19510.14 GB17625.1;GB/T17743	
☐	CE-LVD ENEC	European	EN61347-2-13; EN61347-1 EN62384	
☐	CB	Member states	IEC61347-2-13 IEC61347-1	
☐	SAA	Australia	AS/NZS61347.1+AS/NZS61347.2.13	

EMI/EMS	Area	Standard	Requirement
FCC	USA	Part 15, ANSI C63.4	Class A
Harmonic Current Emissions	European	EN/IEC55015; EN61547 EN/IEC61000-3-2 EN61000-3-3	Class C
Surge	European	IEC/EN61000-4-5	DM:6KV CM:6KV
Ring wave	USA	IEC/EN 61000-4-12; ANSI/C82.77-5	2.5KV
ESD	European	EN 61000-4-2	8 KV air discharge; 4 KV contact discharge
Remark: The LED Driver itself complies with EMC standard. However, the LED Driver's EMC should be re-checked with lamp when integrated into lighting systems.			

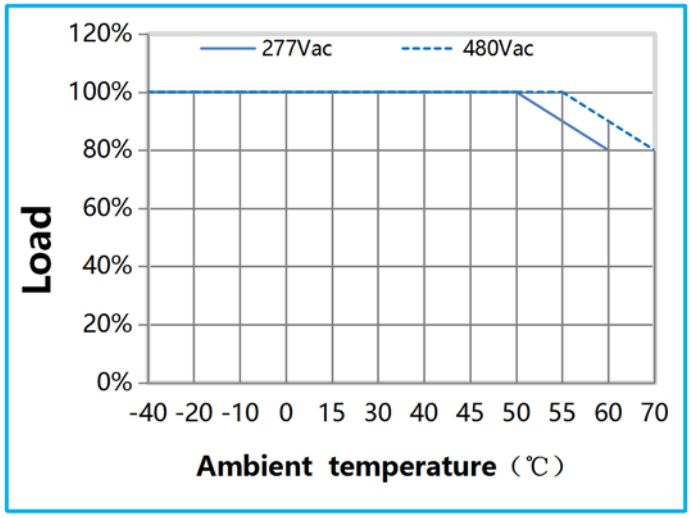
Insulation Requirements	UL	TUV	CCC	Unit	Remark
Input-Case	2U+1000	/	/	Vac	/
Input-Dim	2U+1000	/	/	Vac	Reinforced insulation 2U+1000V
Dim-Case	500	/	/	Vac	Basic insulation
Insulation Resistance	> 10	/	/	MΩ	Input-Dim@500Vdc/25℃
Ground Resistance	< 0.1	/	/	Ω	PE-Case,25A/1min
Leakage Current	≤0.75	/	/	mA	@480Vac
Warning	When you test Hi-pot, Please short circuit between L/N, short circuit between positive/negative output line, short circuit between positive/negative dimming and auxiliary power supply.				

Performance Curves

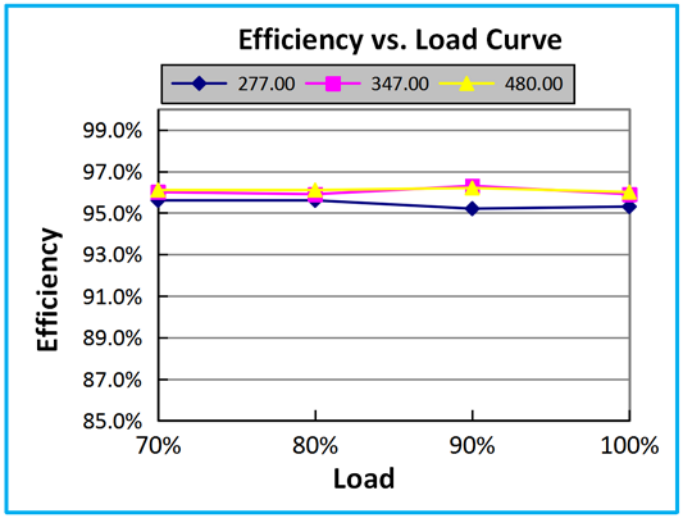
✧ Derating curve



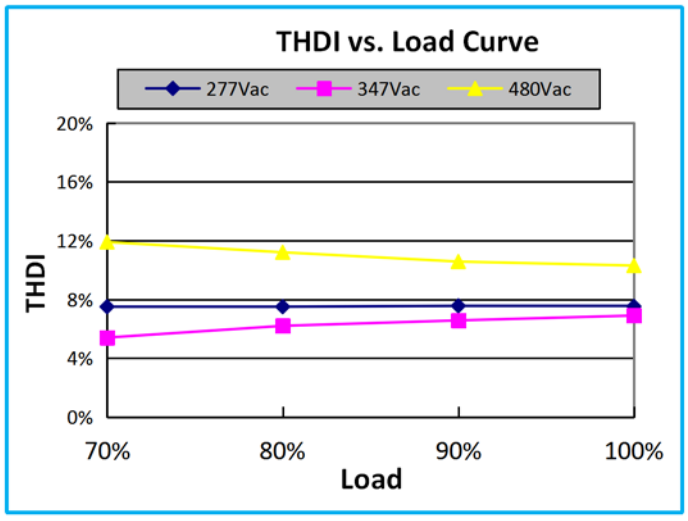
✧ Ta Vs. Load



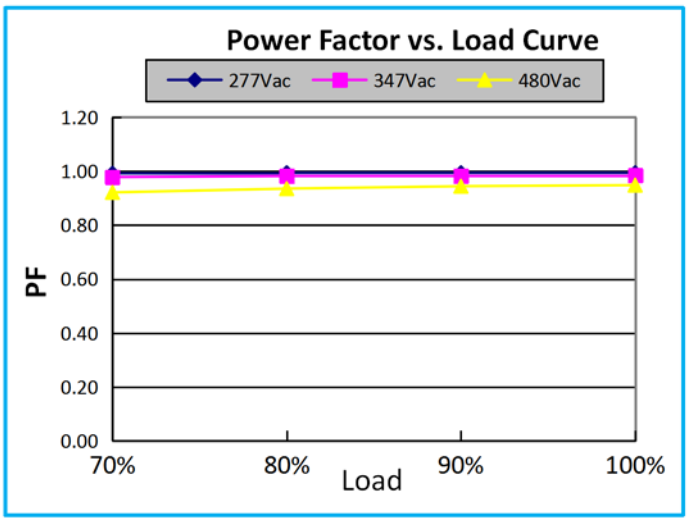
✧ Efficiency vs. Load Curve



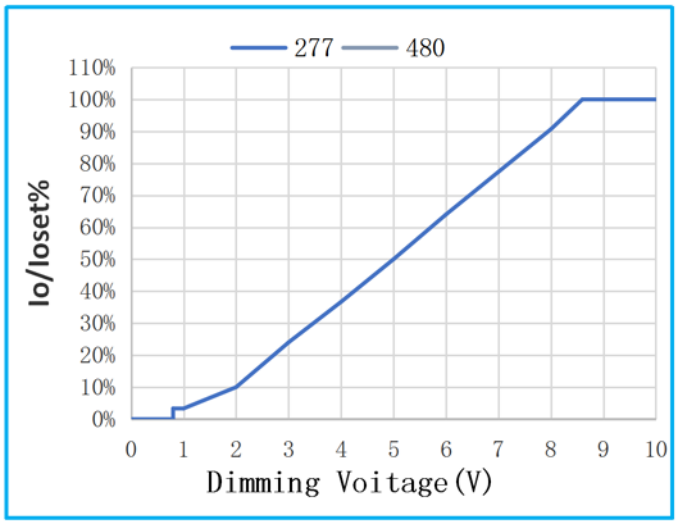
✧ THD vs. Load Curve

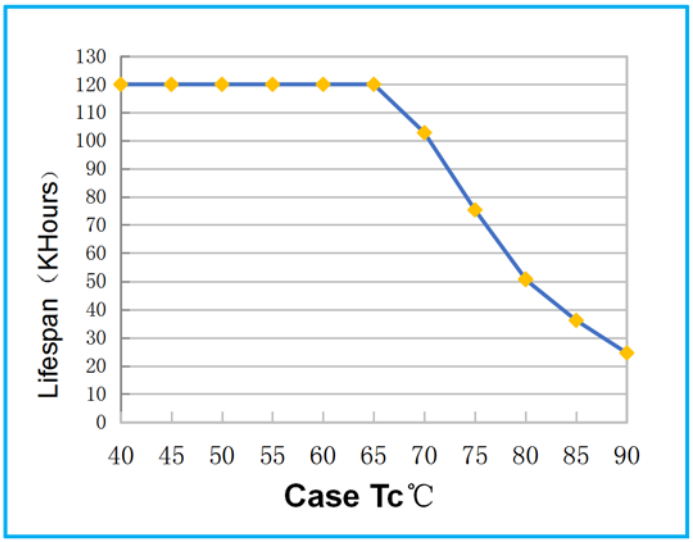
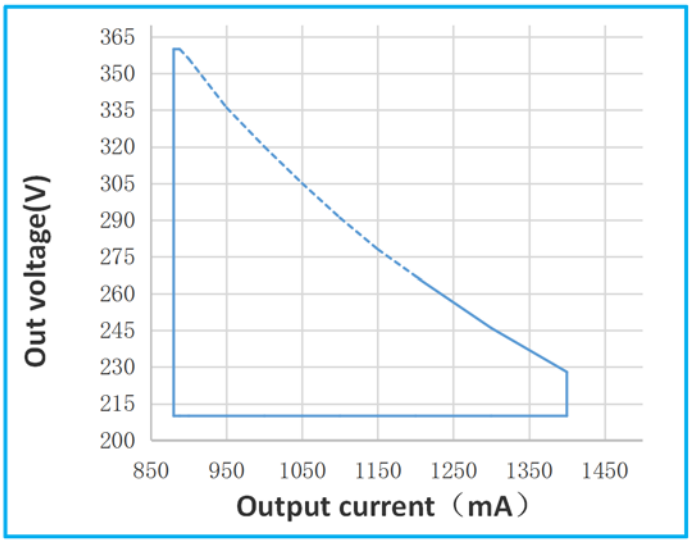


✧ PF Vs. Pout

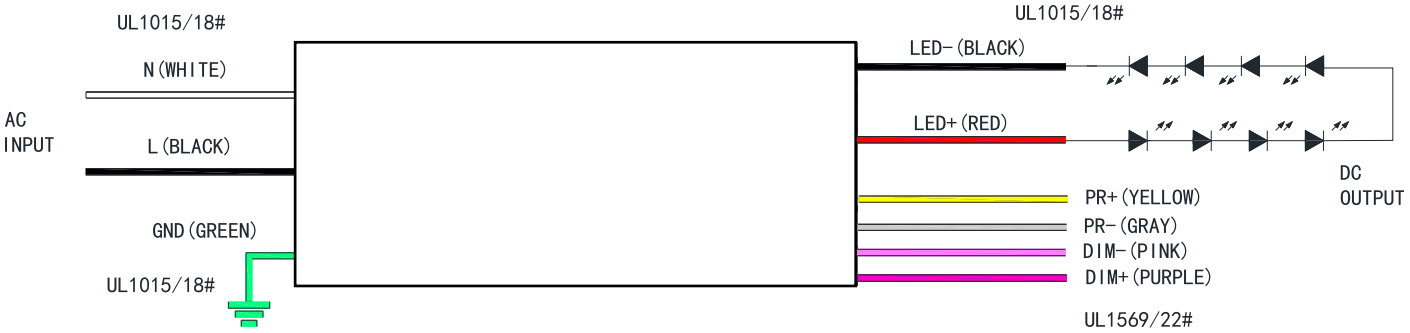


✧ Io/Ioset vs. Dimming Voltage



✧ Life-time VS Case Tc℃	✧ Output voltage vs. output current
	

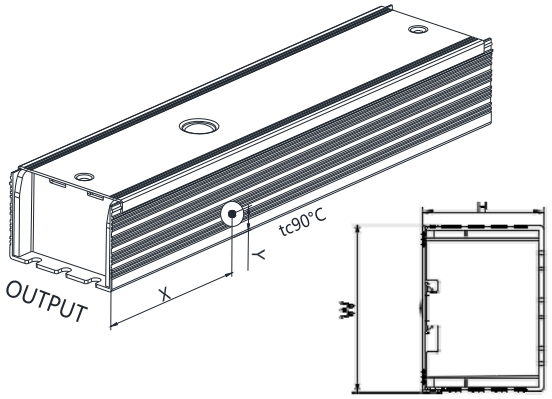
Wiring Diagram

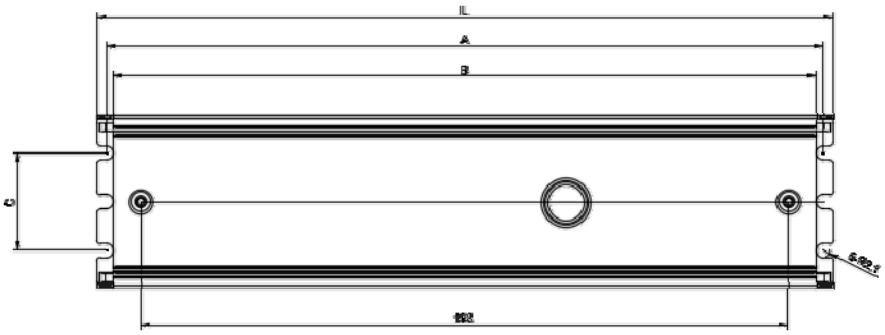


Warning:During the application operation, the isolated 0-10V dimming line/Preg+/Preg- should avoid contact with high voltage to prevent voltage backflow and damage to the power supply;

Mechanical Characteristics

Material of case	Dimension for case						Tc position		Tolerance	weight	Tolerance	Process
	A	B	C	L	W	H	X	Y				
Aluminum	219	214.5	30	225	52.5	33.3	68	9	±2mm	0.75kg	±50g	Glue





Item		Color	AWG	AWG	Exit method
Input line	ACL	Black	UL1015	AWG18 600V 105℃	Open skin and tin 10mm
	ACN	White			
	GND	Green			
Output line	LED+	Red			
	LED-	Black			
Dim line	Dim+	Purple	UL1015	AWG22 300V 105℃	
	Dim-	Pink			
Adj. line	PR+	Yellow			Z=D(Open skin and tin10mm)
	PR-	Gray			

1) The Products comply with RoHS Directive (2011/65/EU) and REACH(No.1907/2006).

2) Notes for design of non-isolated driver light board:

2.1 The arrangement of lamp beads is recommended to design parallel first then series; It's also recommended that installed a 1206 packace SID resistor(about 472) is reserved between each group of series connection light beads to the residual bright can be avoided.

2.2 Withstand voltage of dielectric layers between aluminum PCB and LED>3KV.

2.3 Safety space between aluminum base and LED coppers coil than 5.6mm

2.4 The creepage distance than 2.5mm between LED+ and LED- on the aluminum substrate

2.5 Aluminum substrate is not covered with excess heat dissipation copper foi

2.6 For outdoor lighting fixtures, it's recommended to add surge protectors on the VAC to enhance lightning protection and reduce the risk of surges(reference spec.:10KV lightning arrester/series connection)