

## Product Specification

<b>Title</b>	<b>0-10V Dimmable LED Driver</b>
<b>Model</b>	<b>BQ-020ANPC</b>
<b>Specification</b>	<b>Input: 100~265Vac 50/60Hz</b> <b>Output: 36-60V/300mA 24-42V/450mA</b>
<b>Power Range</b>	<b>12-18W</b>
<b>Author</b>	<b>R&amp;D</b>
<b>Document NO.</b>	<b>RDPS-2203</b>
<b>Date</b>	<b>2021-01-03</b>
<b>Revision</b>	<b>2.0</b>

## 1. Product Describes

1.1 This engineering report describes the design for a **0-10V dimmable Constant Current led driver** for LED applications.

### 1.2 Prototype Photo

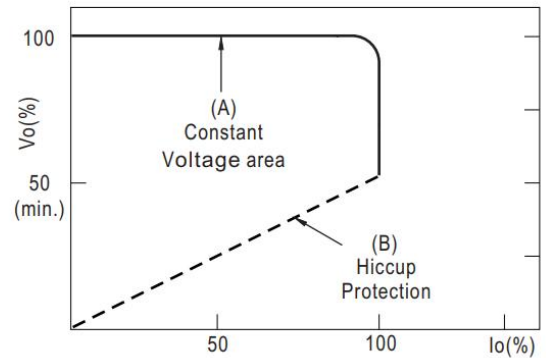


### 1.3 Physical size

L (mm)	W (mm)	H (mm)
100	43	21
±1	±1	±1

### 1.4 Working principle

BQ-020ANPC 0-10V Dimmable LED Driver is with the CC feature, the working condition is as the picture under.



Typical output current normalized by rated current (%)

### 1.5 Circuit Drawing



## 2. Electric Idiosyncrasy

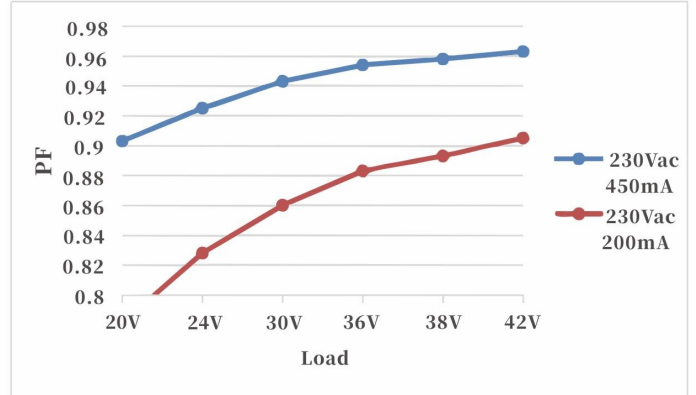
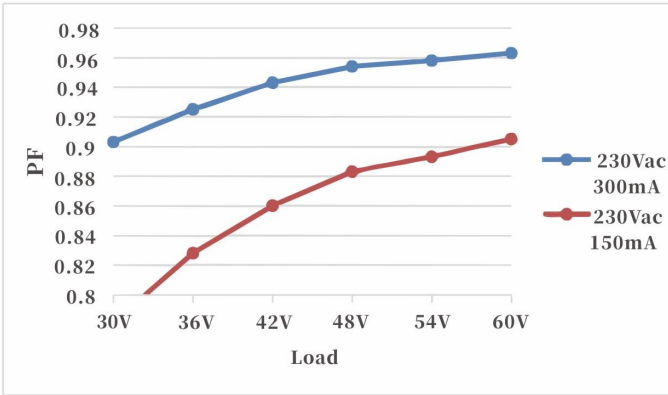


### 2.1 Specs.

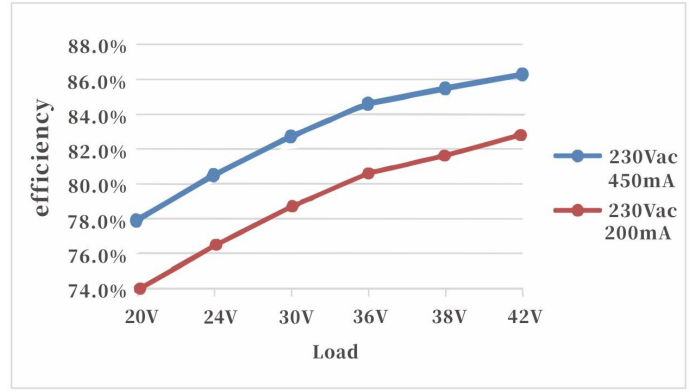
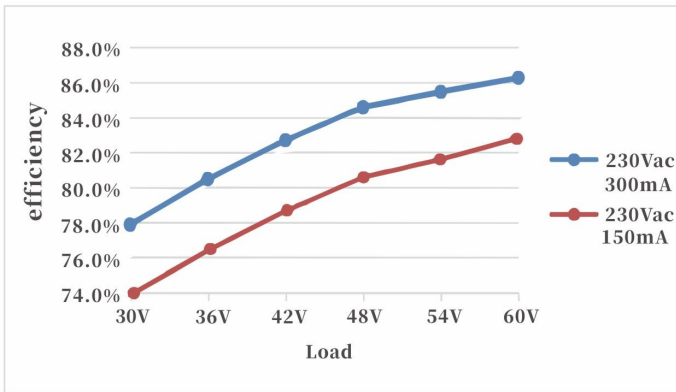
Model		BQ-020ANPC	
<b>Output</b>	DC Voltage	36-60V	24-42V
	Output Current	300mA	450mA
	Output Power	12-18W	
	Flicker Index	Modulation depth ≤1% Complies with the flicker-free standard (IEEE Std 1789-2015)	
	Ripple Current	<10%(rated current)	
	Current Tolerance	±5%	±5%
	Temperature Drift	±5%	
	Start-up Time	<1.5S@230Vac	
<b>Input</b>	Input Voltage	100-265VAC	
	Frequency Range	47-63Hz	
	Power Factor(Typ.)@ full load	0.97@115VAC 0.95@230VAC	
	THD(Typ.)@ full load	<20%@230Vac (DC42V full load)	
	Efficiency(Typ.)	86%@ full load	86%@ full load
	AC Current(Max.)	0.2A	
	Inrush Current (Typ.)	≤14A&74uS@230Vac	
	Leakage current	<0.7mA	
	Standby Power Consumption	≤0.5W (when 0-10V OFF signal is effective)	
<b>Protection</b>	Short Circuit	Hiccup mode (auto-recovery)	
	Over temperature	100°C±10°C shut down o/p voltage, automatically recover after cooling.	
<b>Environment</b>	Working TEMP.	-20°C - +45°C (see below derating curve)	
	Working Humidity	20~90%RH, non-condensing	
	Storage TEMP.Humidity	-30~+80°C, 10~90%RH	
	Atmospheric Pressure	86kPa~106kPa	
<b>Safety&amp; EMC</b>	Certifications	TUV-CE, CB, SAA, RoHS	
	Safety standards	EN61347	
	Withstand voltage	I/P-O/P: 3.75KVac 5mA 60S	
	Insulation Resistance	I/P-O/P:100MΩ/500VDC/25°C/70%RH	
	EMC EMISSION	EN55015; EN61000-3-2; EN61000-3-3;	
	EMC IMMUNITY	EN61547	
<b>Others</b>	Dimming Function	0-10V	
	Dimension	100*43*21 mm (L*W*H)	
	Warranty	5 Years (Tc≤77.5°C)	

## 2.2 Characteristic Curve

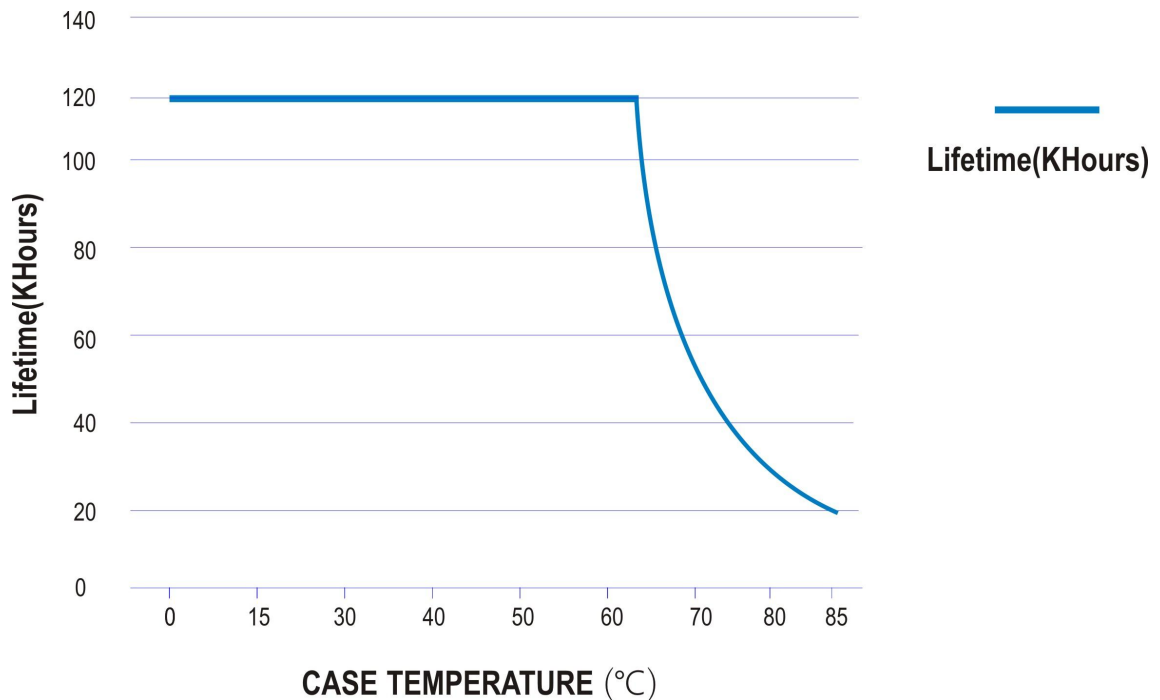
### 2.2.1 Power Factor Characteristic Curve



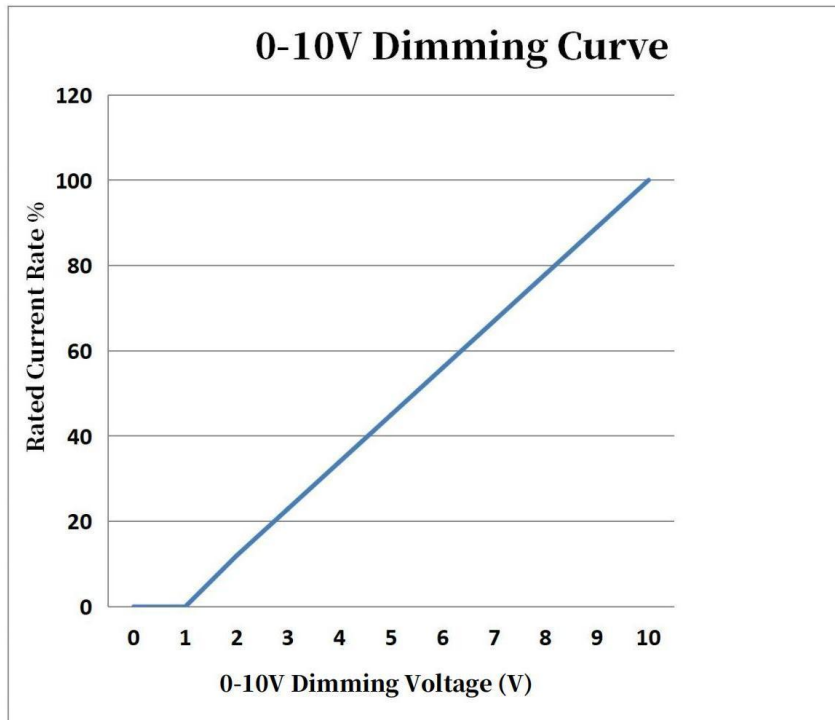
### 2.2.2 Power Efficiency Characteristic Curve



### 2.2.3 Lifetime Characteristic Curve



## 2.2.4 Dimming Curve



- Connect the 0-10V signals to the DIM terminal and the positive electrode connects to +, and the negative electrode connects to -.

- In 0-10V dimming mode, when the input voltage is less than 0.9V, the light will be turned off. When it's more than 0.9V, the light will be turned on. ( $\pm 0.2V$  tolerance is acceptable.)

- The minimum dimming depth of 0-10V dimming is 0.5%.

- The pins of the 0-10V DIM terminal without any signal connected: 100% rated output current

### 3. Real Photo

