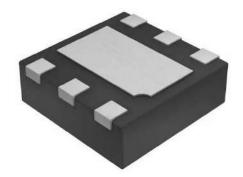
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### AB-EZPC (AC IC series) datasheet

Current regulator with bias voltage rectification

#### **Features**

- Automotive applications
- DFN packages
- PWM dimmable
- Built-in rectification circuit
- Accurate constant current (Is±3%)
- Over Current Protection (OCP)
- Over temperature protection (OTP)



### **Description**

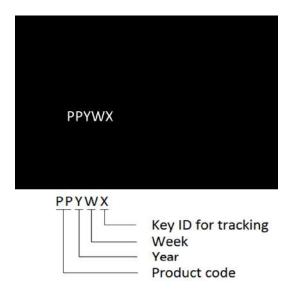
AB-EZPC is a constant current regulator with built-in bias voltage rectification circuit. It is designed to maintain constant current and hence constant luminance for DC powered LED lighting applications. AB-EZPC rectifies power input for the LED string to operate regardless of the polarity of the bias voltage. Additionally, to ensure system reliability, it is built with thermal protection function (OTP).

<sup>\*</sup>The information in this document is subject to change without American Bright Optoelectronics Crop. notice.

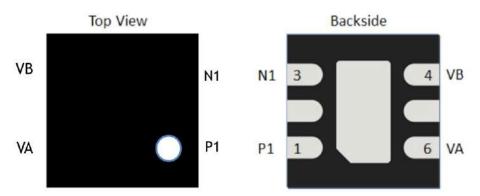


## **Marking Information**

#### **DFN Package**



## Pin Configuration (Top View & Backside)



## **Pin Description**

Pin No.	Name	unction	
1	N1	Output pin to connect external LED negative (-)	
2	NC	No connection	
3	P1	Output pin to connect external LED positive (+)	
4	VA	Power input pin A	
5	NC	No connection	
6	VB	Power input pin B	

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# **Ordering Information**

Part number	Power (W)	Output Current (mA)	Applied Voltage (V)		
AB-EZPC-05	0.5W	25mA	0.5-40V		
AB-EZPC-10	1.0W	50mA	0.5-40V		
AB-EZPC-20	2.0W	100mA	0.5-40V		

## **Absolute Maximum Ratings**

Parameter	Value
Supply Voltage  VA-VB	38V
Junction Temperature	150°C
Operating ambient temperature TA	-20°C-85°C
Storage temperature range	-40°C-150°C
DFN Package thermal resistance (junction to ambience)	50°C/W
Lead temperature (All Pb free packages, soldering, 10s)	260°C
ESD voltage protection, human body model	4KV

## **Recommended Operating Conditions**

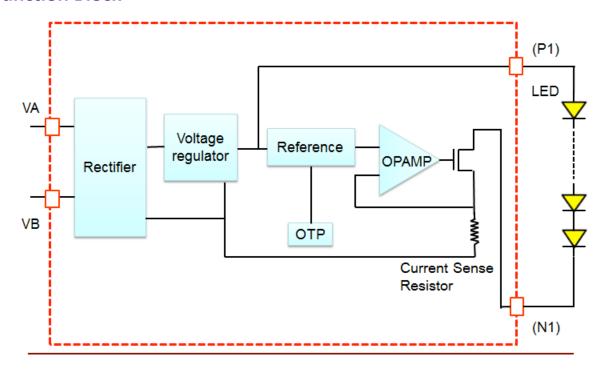
Symbol	Parameter	Min/Max	Unit
VA-VB	Supply Voltage	1.8 / 40	V
TA	Operating ambient temperature	-20 / 85	°C

## **Electrical Characteristics (TA=+25°C, unless otherwise specified)**

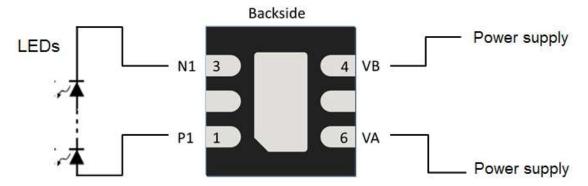
Characteristic	Symbol	Condition	Min.	Тур.	Max.	Unit
Output current	ls	VA-VB   > 1.8	25		200	mA
Output ramp down temperature	T1A	Start point (100% current)		120		°C
Shutdown temperature	T2	IP = 0mA (0 current)		160		°C



#### **Function Block**



## **Application Note**



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## **Package Information**

Dual Flat No-Lead (DFN) packages is lead-less, near Chip Scale Packages (CSP) with a low profile, moderate thermal dissipation for high power application, and good electrical performance. DFN is a surface mount plastic package with leads located at the bottom of the package, with the DFN having leads on two sides of the package versus on four sides for the QFN.

The dimension of currently available package is  $2.0 \times 2.0 \times 0.75$  mm. The electrical lead pitch is 0.65mm; six electrical pads exposed area are all  $0.3 \times 0.35$  mm; central thermal pad exposed is  $1.0 \times 1.6$  mm. (For AB-EZPC series only)

