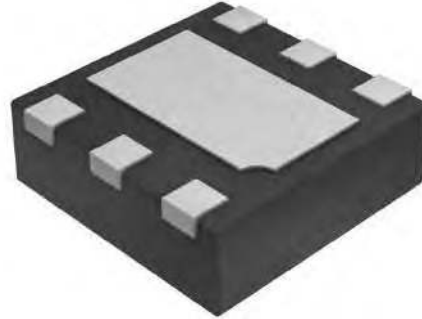


AB-EZPC (AC IC series) datasheet

Current regulator with bias voltage rectification

Features

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



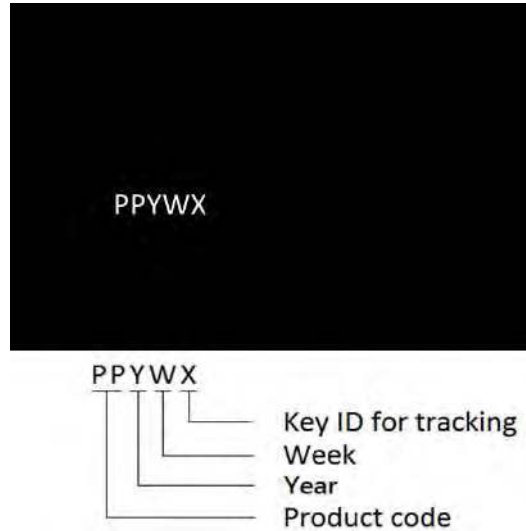
Description

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).

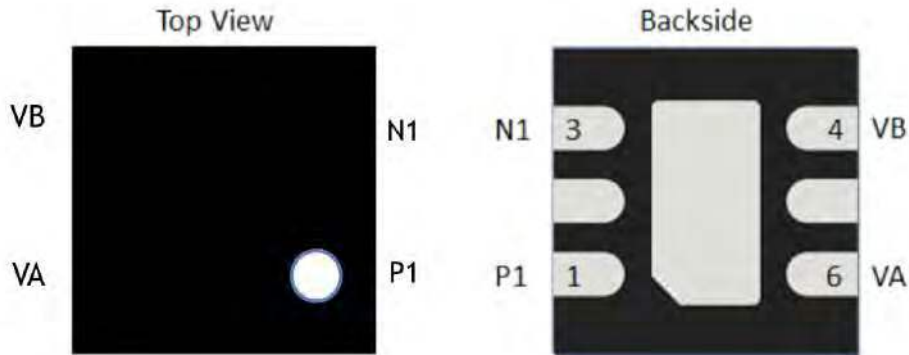
*The information in this document is subject to change without American Bright Optoelectronics Corp. notice.

Marking Information

DFN Package



Pin Configuration (Top View & Backside)



Pin Description

Pin No.	Name	Function
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

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

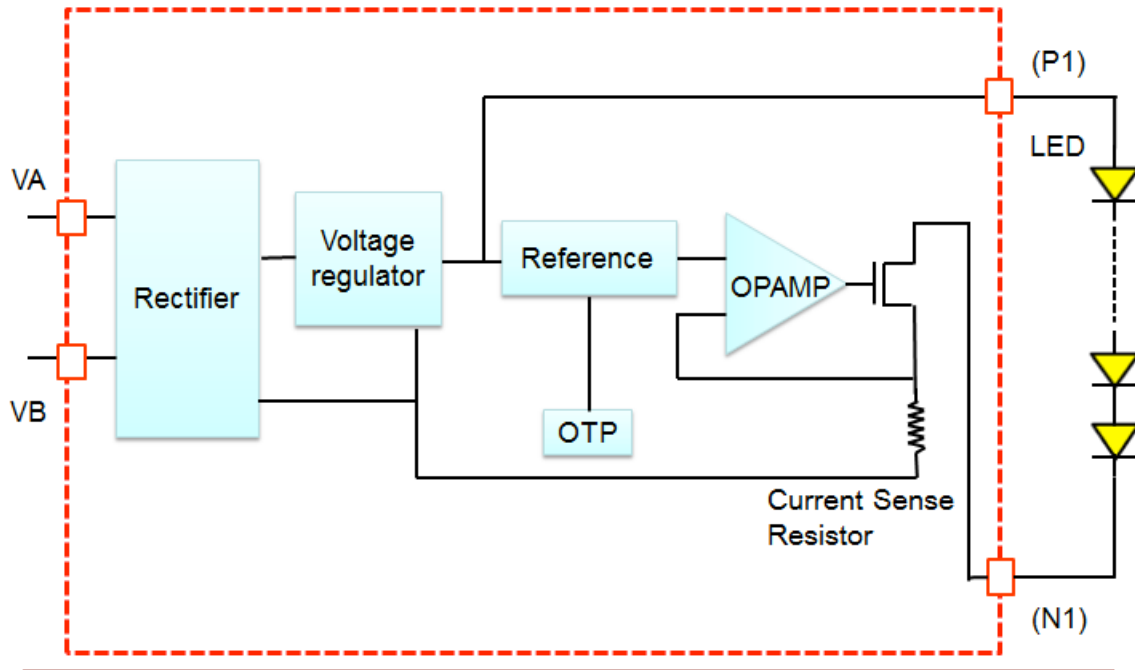
Recommended Operating Conditions

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

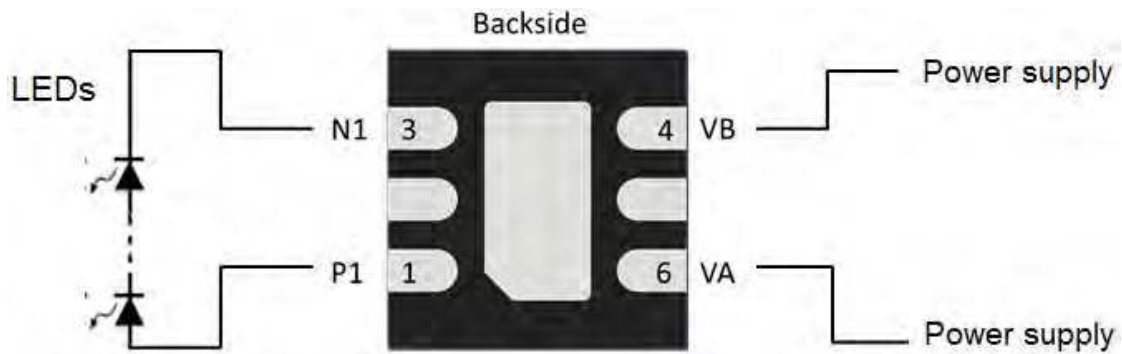
Electrical Characteristics (TA=+25°C, unless otherwise specified)

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Output current	Is	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



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 x 2.0 x 0.75 mm. The electrical lead pitch is 0.65mm; six electrical pads exposed area are all 0.3 x 0.35 mm; central thermal pad exposed is 1.0 x 1.6 mm. (For AB-EZPC series only)

