



Description

The HY2821 is a Power LED Current Detector. It can let a normal PWMIC transfer to be a LED Driver, and adjust constant current level more easy. It can let your constant current tolerance reduce less than 1%. And it can be fixed the Rsen at 0.1 ohm. When you want adjust current leave, you just change a X K ohm resistance. HY2821 have patent to approve by China & Taiwan & Japan & America.

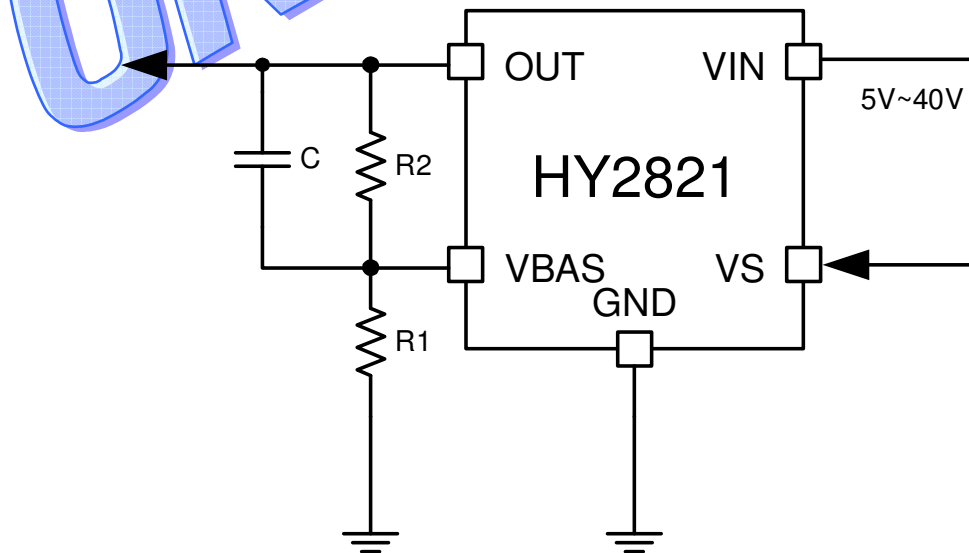
Features

- Operation from 5V to 40V.
- Minimum sense current 200nA
- Minimum sense voltage 10mV.
- SOT23 5-pin small package.

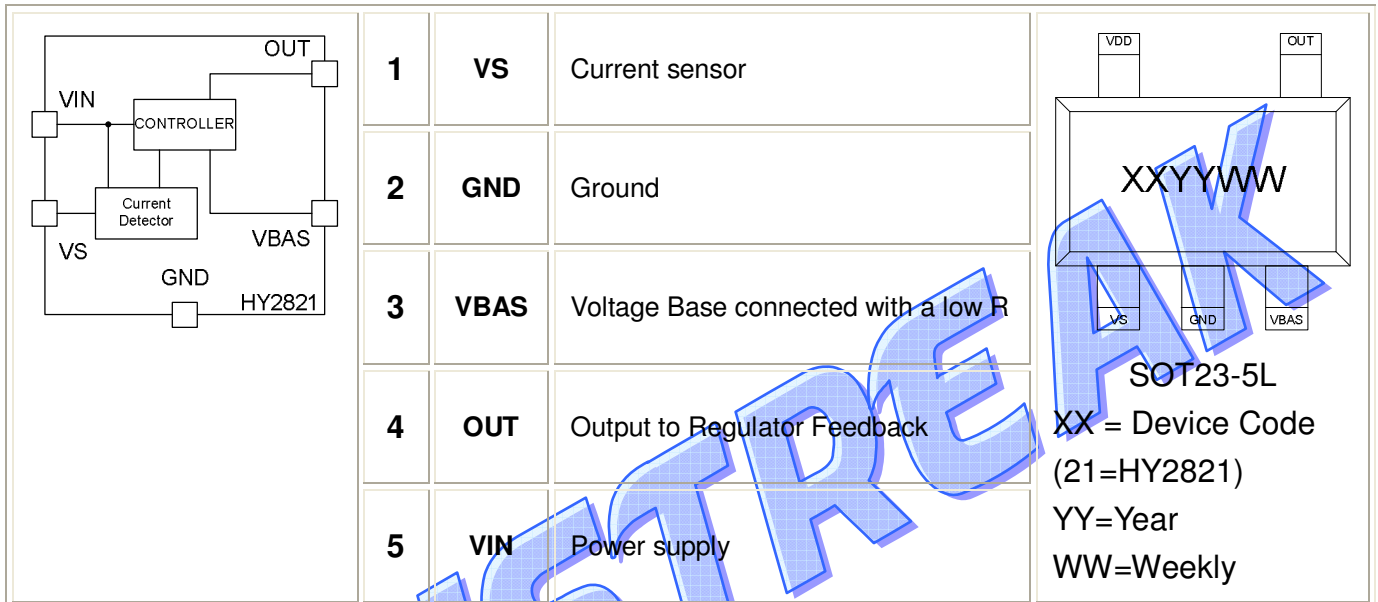
Applications

- LED Lighting Applications.

Typical Applications Circuit



SCHEMATIC DIAGRAM AND PIN DESCRIPTION



ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER	VALUE	UNIT
V _{IN}	Supply Voltage	5 to 40	V
I _{OUT}	Output Current	5	mA
I _{IN MIN}	Minimum Input Current	200	nA
V _{IN MIN}	Minimum Input Voltage	10	mV
T _S	Storage Temperature	-55 to 150	°C
P _D	Power Dissipation	Internally limited	W
ESD	ESD Protection HBM	2000	V

**ELECTRICAL CHARACTERISTICS**

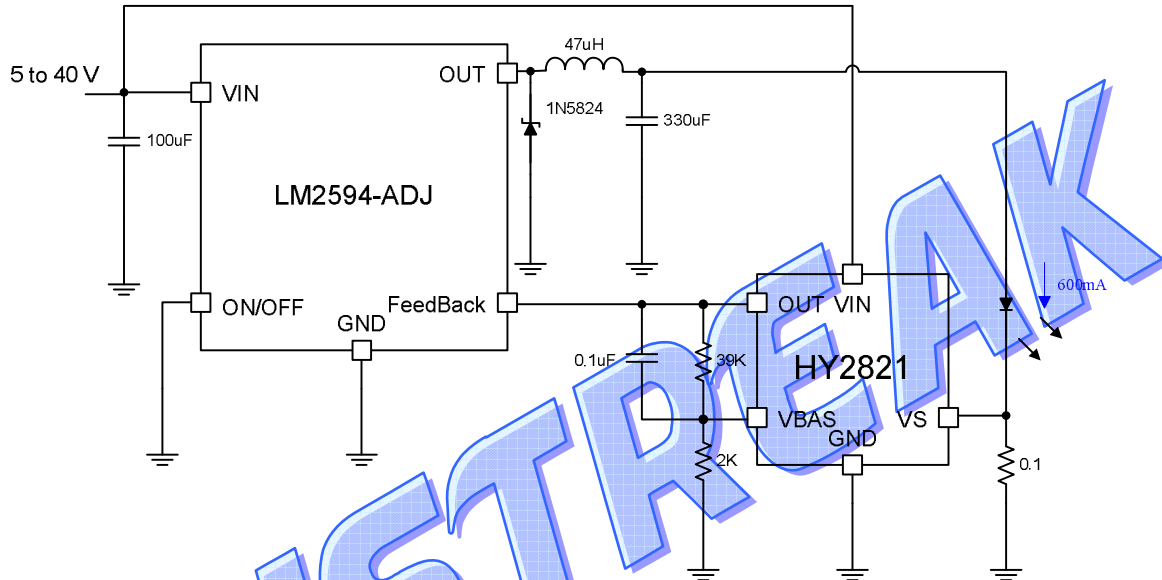
(VIN = 5V, TA = 25°C, UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Supply Current	I _{CC}	V _{IN} =5V~40V			2	mA
Maximum Input Current	I _{IO}	V _{IN} =5V			200	nA
Maximum Output Drop Voltage	V _{DP}	V _{IN} = 30V, R _L = 2KΩ V _{IN} = 30V, R _L = 10KΩ			4 3	V
Output Level Low Swing	V _S	V _{IN} = 5V, R _L = 10KΩ			20	mV
Minimum Input Voltage	V _{IN MIN}	V _{IN} = 5V	10			mV

ORISTREAK

APPLICATION CIRCUIT

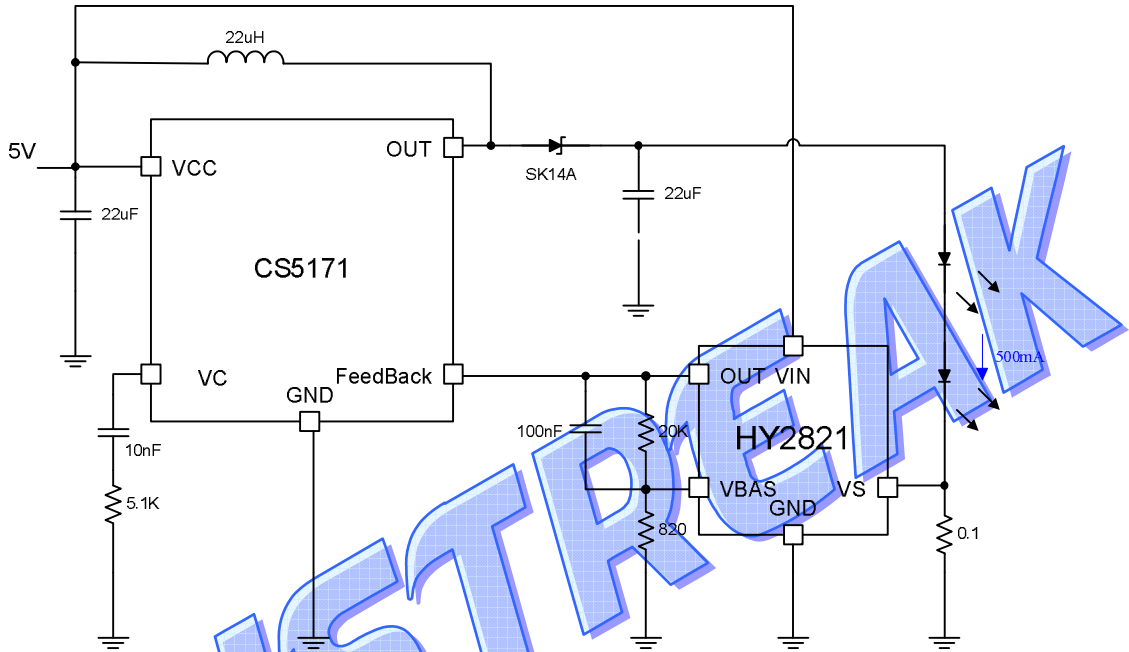
STEP DOWN (BUCK) Application



- **Normal Current Setting List.** (Fixed RSENSE = 0.1 Ω)

OUTPUT CURRENT (mA)	R2 (ohm)	R1 (Ohm)	C2 (uF)
330	36K	1K	0.1
350	51K	1.5K	0.1
500	47K	2K	0.1
600	39K	2K	0.1
750	51K	3.3K	0.1
1000	27K	2.4K	0.22

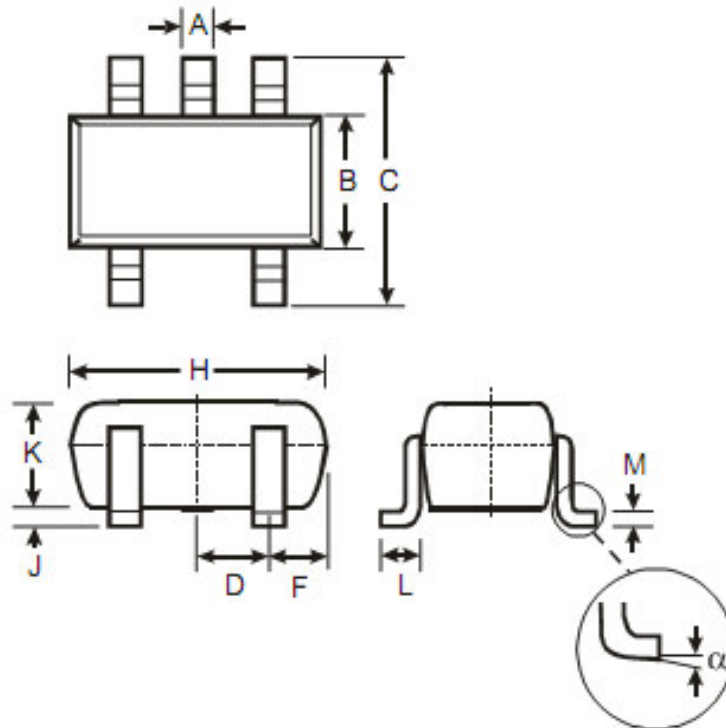
STEP UP (BOOST) Application



- **Normal Current Setting List.** (Fixed RSENSE = 0.1 Ω)

OUTPUT CURRENT (mA)	R2 (ohm)	R1 (Ohm)	C2 (uF)
330	75K	2K	0.1
350	36K	1K	0.1
500	20K	820	0.1
600	20K	1K	0.1

Package Outline Dimensions



SOT-25			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	—	—	0.95
F	—	—	—
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
α	0°	8°	—
All Dimensions in mm			



HY2821

Power LED Current Detector

ORDERING INFORMATION

HY2821 **ST25** **R**

Circuit Type

Package Type
SOT25 : SOT23-5L

Shipping
R: Tape & Reel

ORDER NUMBER	PACKAGE	SHIPPING
HY2821-ST25R	SOT23-5L	3,000 UNITS/ TAPE & REEL