



19mA Constant Current Regulator

Features

- The most easy used linear constant current LED driver
- Do not need to take V_{DD} power
- 19mA constant current regulator
- 1.6V ~ 15V wide working voltage range
- 1uS current rising time, support power supply PWM dimming function
- Less than 1%/V line/load regulation
- 125°C ~ 160°C junction temperature current ramp down thermal protect
- -40°C ~ 85°C operating temperature
- Green package

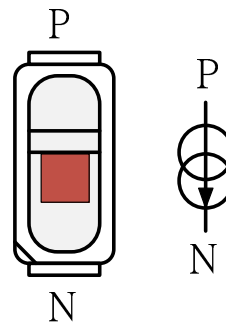
Applications

cheng xin lian 132-4982-7170

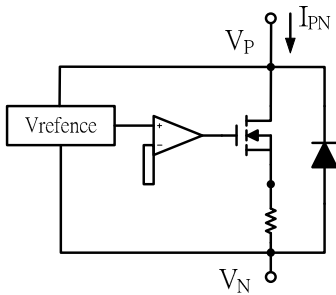
- LED strip
- General LED lighting
- LCD back lighting
- LED torch / flashlight

Package Type

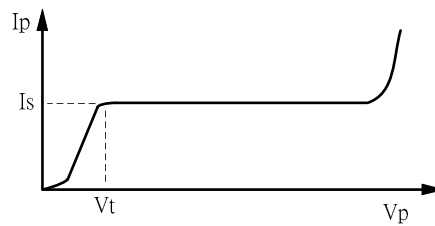
- PLCC 3014



Block Diagram and Ideal IV characteristic



IV curve



Maximum Ratings (T = 25°C)

Characteristic	Symbol	Rating	Unit
Supply voltage	V_{PN}	-0.2 ~ 16	V
Reverse voltage	V_R	0.5	V
Power Dissipation (Ta=25°C)	PD	0.3	W
Operating temperature	T_{OPR}	-40~+85	°C
Storage temperature	T_{STG}	-55~+85	°C

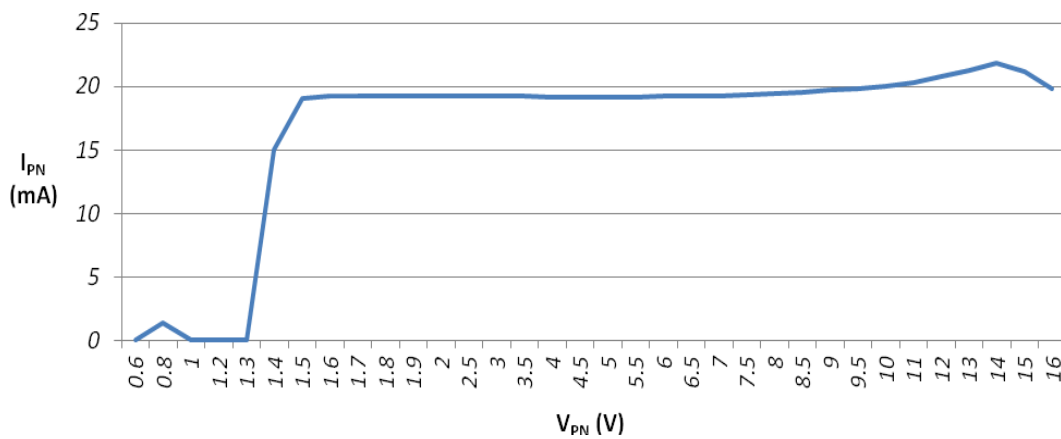
Electrical Characteristics and Recommended Operating Conditions

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Minimum dropout voltage	V_{PNmin}	$I_{PN} = I_S$	-	1.5	1.6	V
Maximum output voltage	V_{PNmax}	$I_{PN} = I_S$	-	-	15	V
Output current	I_S	Spec.	-	19	-	mA
Line/Load regulation	$\%/V_P$	$10V > V_{PN} > 1.6V$	-	-	± 1	$\%/V$

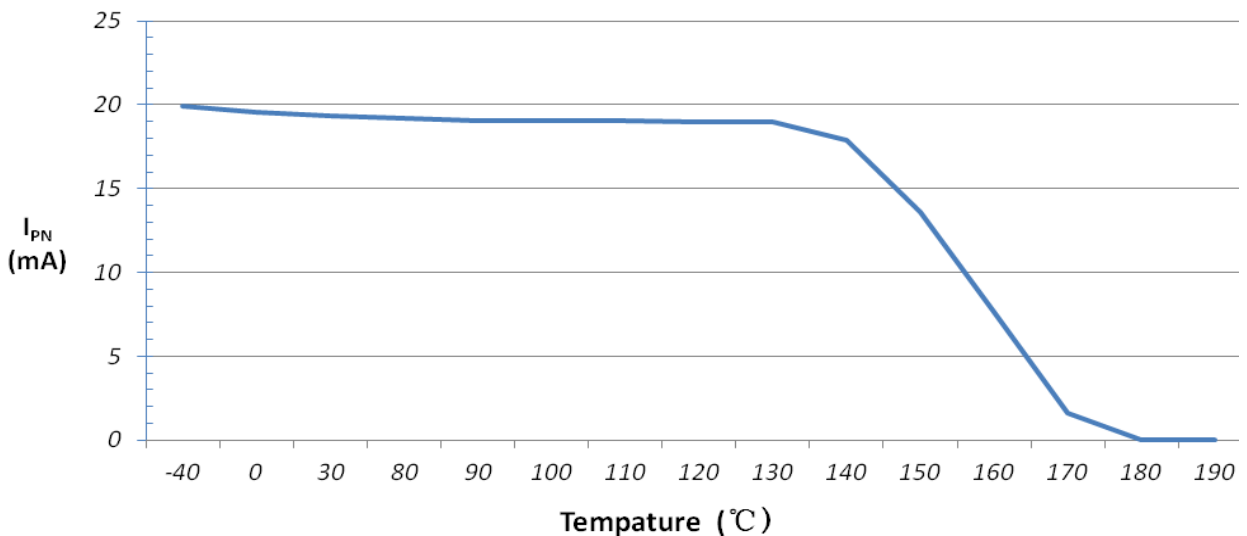
Switching Characteristics (T = 25°C)

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Output current rising time	t_{Rise}	$V_{PN} = 0V \rightarrow 3V$	-	0.25	1	μS
Output current falling time	t_{Fall}	$V_{PN} = 3V \rightarrow 0V$	-	0.1	0.5	μS

I/V curve

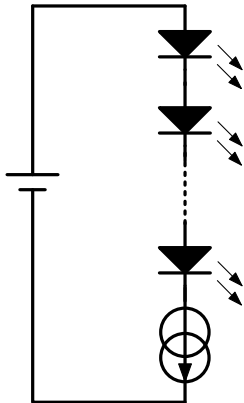


Thermal protection

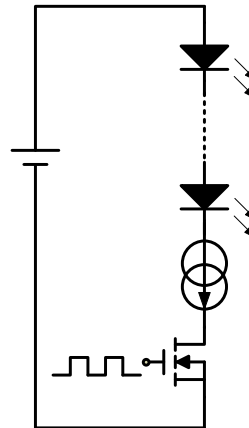


Application Circuits

● Lighting application



● LED dimming application



Bin code list

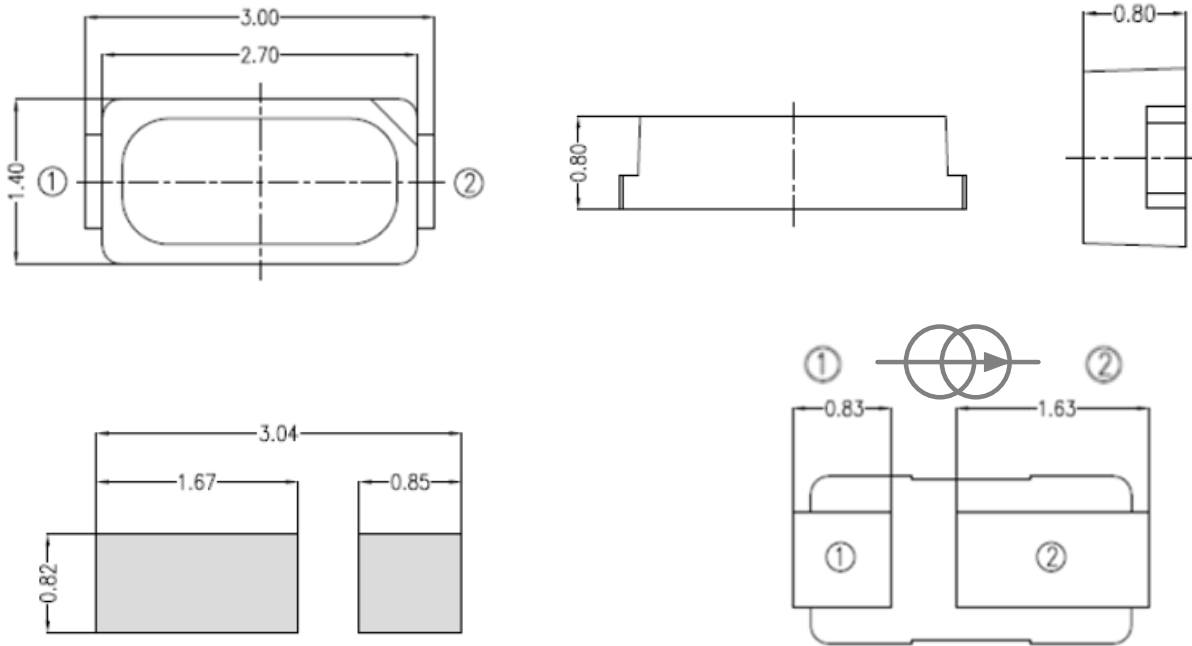
(N、P)Vf=3V					Type message
If bin		Min(mA)	Typ.(mA)	Max(mA)	
±8%	O	18	19.5	21	NT503S(O)
±4%	A	18	18.8	19.5	NT503S(A)
	B	19.5	20.2	21	NT503S(B)

Printing message

 <p>深圳市诚信联科技有限公司 Shenzhen chengxinlian technology Ltd.</p>		
DEVICE:	NT503S(O)	If=18-21MA
LOT NO:	133502-03	
QTY:	4000 EA	ROHS
DATE CODE:	2013-8-6	

Package Dimensions

- PLCC 3014



Soldering pattern

Bottom view

Packaging Dimensions of Reel

