



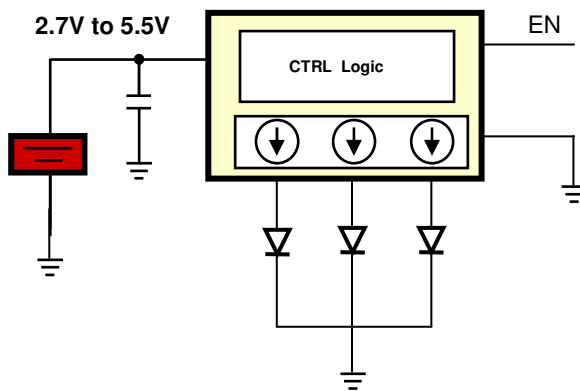
Product Brief

SP7120 / SP7122

Common Cathode Linear LED Driver

Highlights

- LED Driver for common cathode parallel connected LEDs
- Ultra Low Dropout Voltage of 150mV
- No EMI, no switching noise
- Integrated current matching
- PWM and Analog brightness control
- Enable/Shutdown control
- Shutdown current < 1 μ A
- Small footprint SOT23-6 Package



Features & Benefits

- Drive LEDs directly from battery, without any switching regulator; no pump, no boost.
- Total solution in SOT-23 with NO external component
- Drive LEDs with 95% possible efficiency and average in 80% for the entire battery life
- Drive LEDs with the lowest cost possible compare to any industry standard solution.
- Drive LEDs with flexible dimming control and no additional components

Typical Applications

- Cellphone
- Skype Phone
- VoIP phone
- Homebase Cordless phone

Value Proposition

- **Smaller solution size**
 - SOT23-6, 3x3 total solution area without any external component (Optional Cin for additional noise control)
- **Lower solution cost**
 - No inductor needed when competing with a boost
 - No flying cap needed when competing with Charge pump
- **Higher efficiency**
 - Vin 3.7V, Vf 3.2V efficiency near 86%
 - Vin 3.5V, Vf 3.3V efficiency close to 95%

Ordering Information

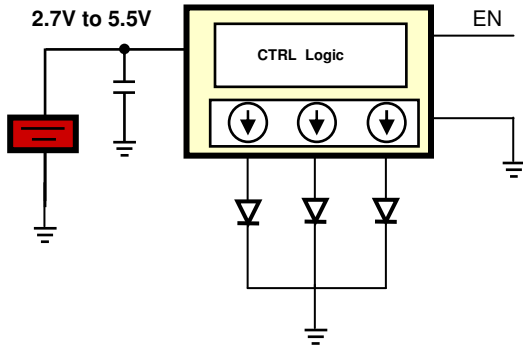
Lead-Free sample

- SP7120AEK-L (2Ch - 15mA)
- SP7120BEK-L (2Ch - 20mA)
- SP7120CEK-L (2Ch - 25mA)
- SP7122AEK-L (3Ch - 15mA)
- SP7122BEK-L (3Ch - 20mA)
- SP7122CEK-L (3Ch - 25mA)

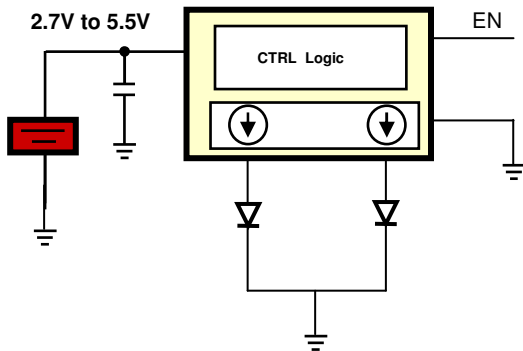
Evaluation Board

- SP7120AEB / SP7122AEB
- SP7120BEB / SP7122BEB
- SP7120CEB / SP7122CEB

SP7122 in SOT23-6



SP7120 in SOT23-5



Family Options

- SP7120A – 2CH 15mA/CH
- SP7120B – 2CH 20mA/CH
- SP7120C – 2CH 25mA/CH
- SP7122A – 3CH 15mA/CH
- SP7122B – 3CH 20mA/CH
- SP7122C – 3CH 25mA/CH

Competitive Analysis

	TI	ADDTek	EUTech	Sipex
	TPS75103	AMC7110	EUP3595	SP7122B
LED Channel	4	3	4	3
Vin Range	2.7V – 5.5V	2.7V – 6V	3.0V – 5.5V	2.7V – 5.5V
Channel Matching (typ)	2%	3% (max)	0.30%	0.80%
Dropout (typ)	70mV @ 15mA	75mV	320mV	150mV
Iq (typ)	170uA	400uA	325uA	750uA
SHDN Current	1uA	NA	1uA	1uA
ILED accuracy	±7%	±15%	±10%	±3%
Max ILED	25mA	25mA	25mA	25mA
Led Configuration	Common Cathode	Common Anode	Common Cathode	Common Cathode
Package	9Ball CSP	SOT23-6	3x3 DFN8	SOT23-6