■ 描述

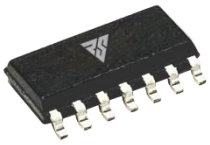
RSC61XXS 系列芯片是一款带有半桥驱动的 LED 恒流控制电路，可用于 LLC 谐振拓扑。电路工作频率可达 130KHz，输入电压范围高达 600V 以上。

RSC61XXS 内部集成了逻辑输入信号处理电路、欠压检测电路、过压保护电路、过温保护电路、CS 反馈信号整流电路、误差放大器电路、压控振荡电路、电流过零检测电路、电平位移电路、半桥驱动电路等模块。

RSC61XXS VCC 电源电压工作范围为 8V~20V，静态工作电流为 720uA。该芯片具有电流过零检测功能（ZCD），可自动设置死区时间，防止高端和低端输出功率管的同时导通。

■ 特点

- 无频闪恒流调节
- 集成半桥驱动的LLC拓扑
- 自动死区时间控制
- 集成2mA高压启动电路
- 极低输出电流纹波<2%
- 输出功率可达400W
- 短路保护
- 开路保护
- 过温保护
- SOP-14封装



SOP-14

■ 应用领域

- LED恒流驱动
- LLC谐振控制

■ 典型应用电路

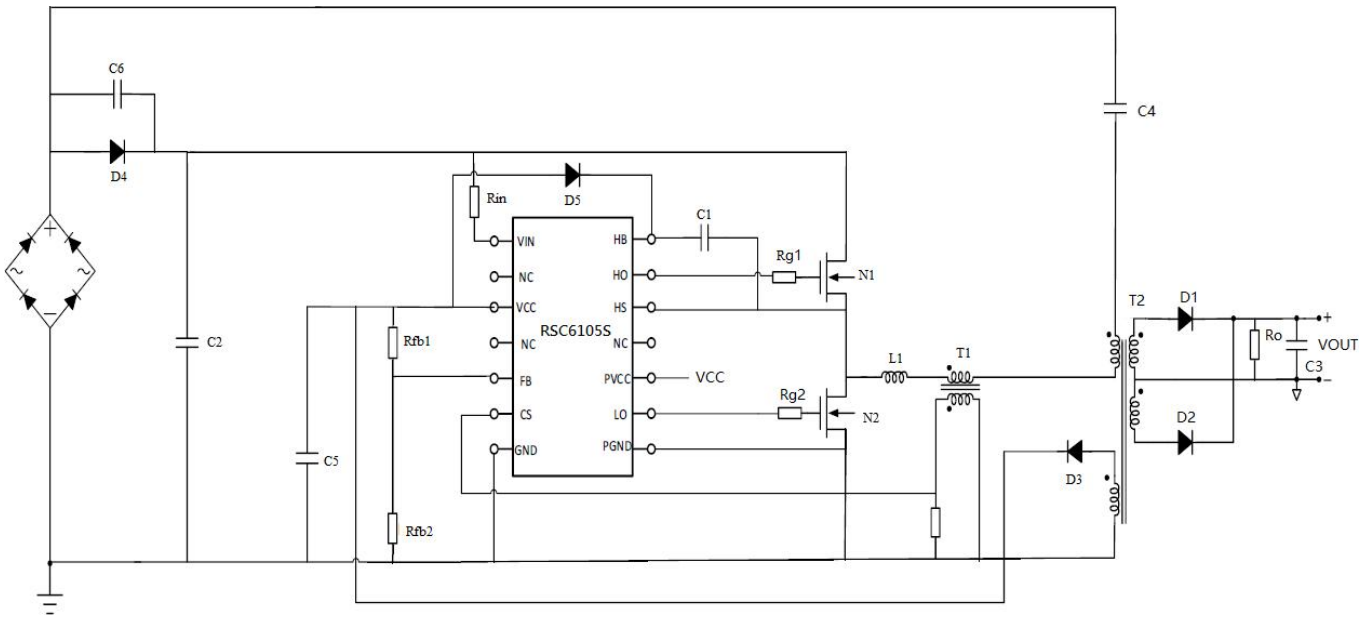
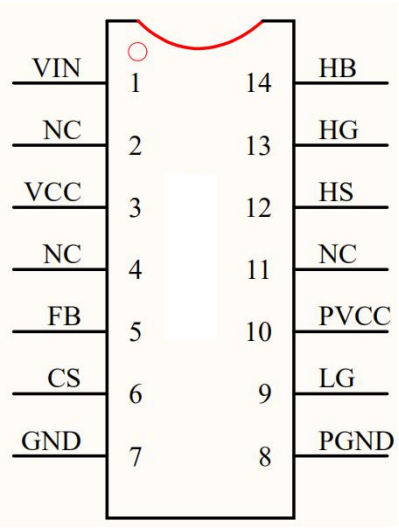


图 1：典型应用图

■ 封装形式及引脚定义



（SOP-14）

NO.	Name	Function
1	VIN	高压启动输入
2	NC	空脚
3	VCC	电源
4	NC	空脚
5	FB	电压反馈输入
6	CS	电流采样输入
7	GND	地
8	PGND	功率地
9	LO	半桥驱动低边栅极输出
10	PVCC	功率电源
11	NC	空脚
12	HS	半桥驱动高边地
13	HO	半桥驱动高边栅极输出
14	HB	半桥驱动高边电源

■ 功能框图

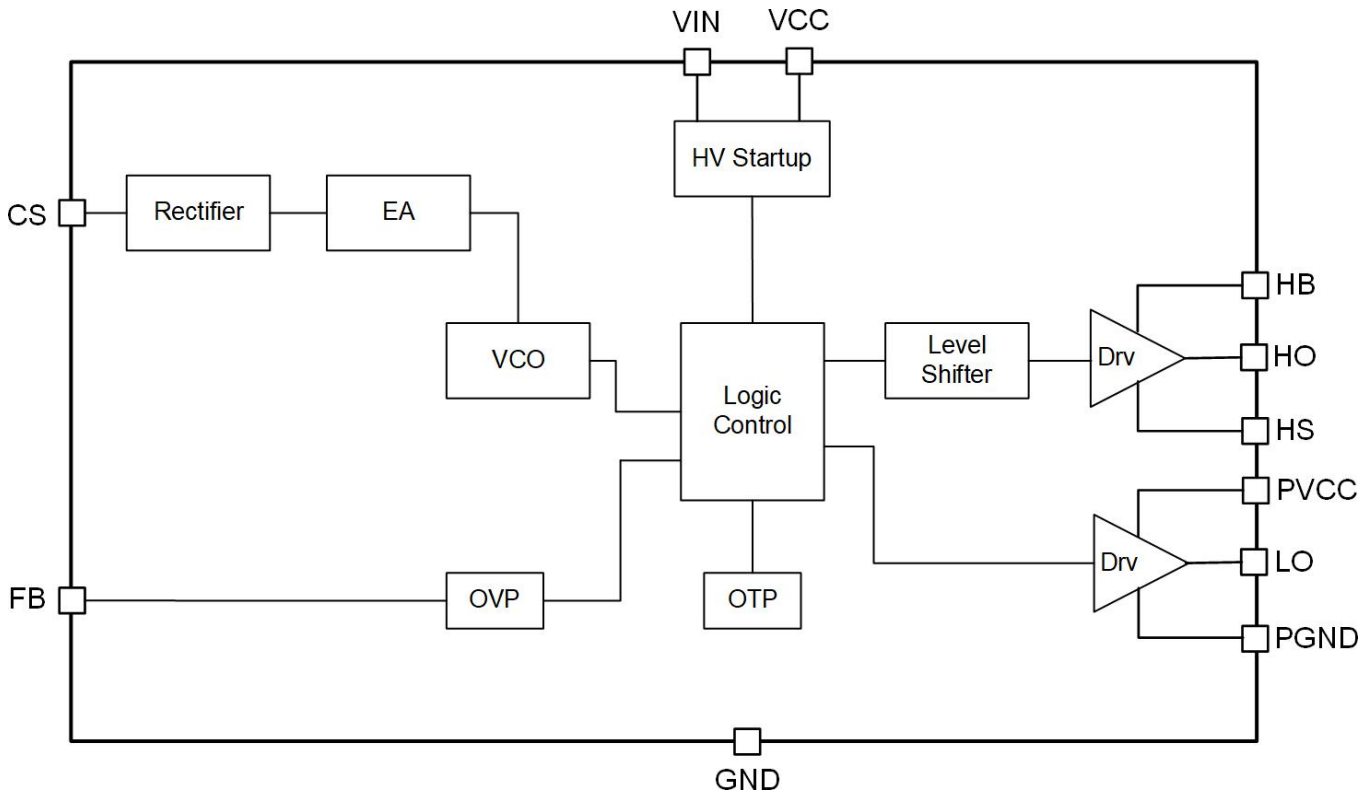


图 2 功能框图

■ 绝对最大额定参数

Symbol	Name	Value	Units
VIN	高压启动输入	150~600	V
VCC	信号电源	-0.3~20	V
FB	电压反馈输入	-0.3~5	V
CS	电流采样输入	-0.3~5	V
LO	半桥驱动低边栅极输出	-0.3~VCC+0.3	V
PVCC	功率电源	-0.3~20	V
HB	半桥驱动高边电源	-0.3~600	V
HS	半桥驱动高边地	HB-20~HB+0.3	V
HO	半桥驱动高边栅极输出	HS-0.3~HB+0.3	V
Tstg	存储温度	-55 to 150	℃
Tsolder	焊接温度	260℃, 10s	
ESD	人体模式	2000	V

注：超过额定参数所规定的范围将对芯片造成损害，无法预料芯片在额定参数范围外的工作状态，而且若长时间工作在额定参数范围外，可能影响芯片的可靠性。

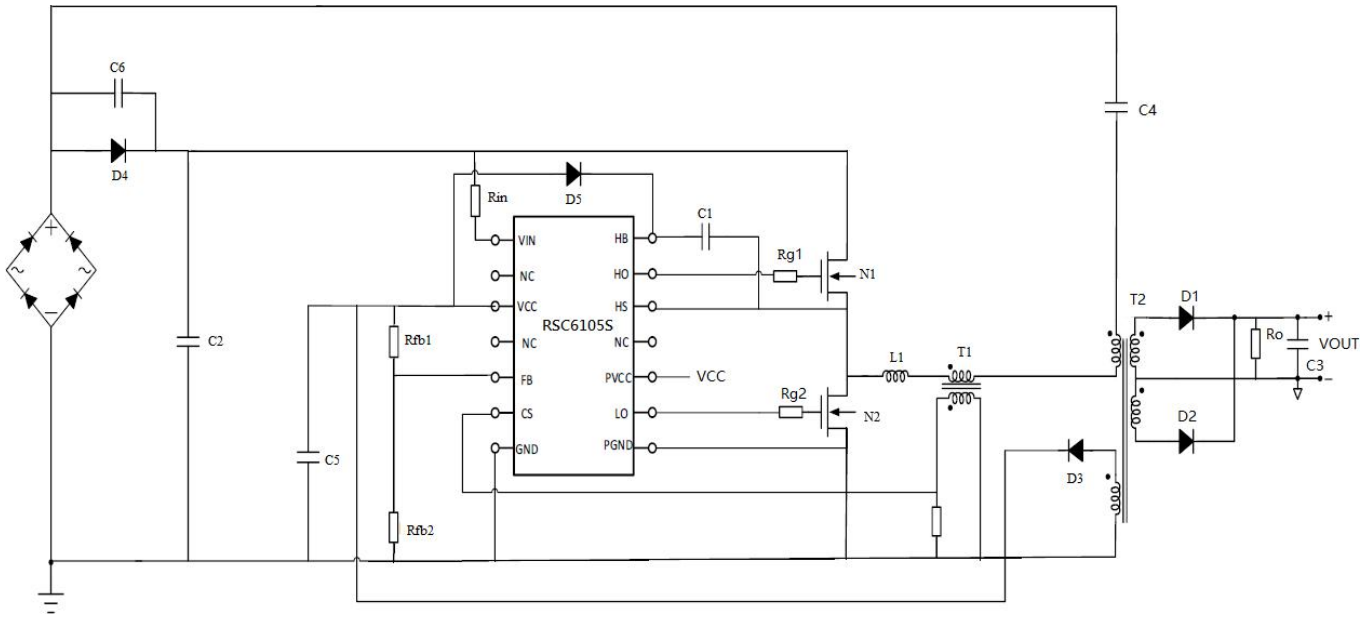
■ 产品系列型号

NO.	产品型号	功率范围
1	RSC6105S	单级适应于50W以下
2	RSC6107S	单级适用于 75W以下
3	RSC6112S	单级适用于120W以下
4	RSC6120S	单级适用于150W以上

■ 电气参数(若无其它说明, Vin=VCC=PVCC=12V,Cin=1uF Temp=25℃,VFB=0, Cload=1nF)

Parameter	Symbol	Conditions	Min.	Type.	Max.	Units
高压启动电流	IIN	VIN=100V VCC=14V	1	1.7	--	mA
电源电压	VCC_On	--	14.25	15	17.25	V
	VCC_Off	--	8	8.7	9.5	V
电源电流	ICC_UV	VCC:0V to 12V	--	90	--	uA
	ICC_ON	VCC 升到 16V 后再降到 12V VCS=300mV（AC）	--	0.8	1.5	mA
	IDD_error	VCC=0V->16V->12V VCS=0	--	720	--	uA
过压保护电压	V_FB	--	1.15	1.20	1.25	V
过压恢复电压	V_FBH	--	--	1.08	--	V
电流过零检测	V_ZCD	CS输入正弦波信号	--	154	--	mV
过流保护阈值	V_OCP	CS输入正弦波信号	480	500	520	mV
LO 上升沿时间	T_LR	Cload=1nF	--	60	--	nS
LO 下降沿时间	T_LF	Cload=1nF	--	35	--	nS
HO 上升沿时间	T_HR	Cload=1nF	--	30	--	nS
HO 下降沿时间	T_HF	Cload=1nF	--	35	--	nS
LO 峰值电流（source） HG 峰值电流（source）	I_LG_source I_HG_source	RSC6105S	--	300	--	mA
		RSC6107S	--	360	--	mA
		RSC6112S	--	450	--	mA
		RSC6120S		550	--	mA
LO 峰值电流（sink） HG 峰值电流（sink）	I_LG_sink I_HG_sink	RSC6105S	--	700	--	mA
		RSC6107S		800		mA
		RSC6112S	--	900	--	mA
		RSC6120S		1000		mA
起始脉冲宽度	T_Start	Cload=1nF	--	2	--	uS
过温保护阈值	OTP	--	--	130	--	℃
过温保护复位迟滞	OTP_HYS	--	--	15	--	℃

应用信息



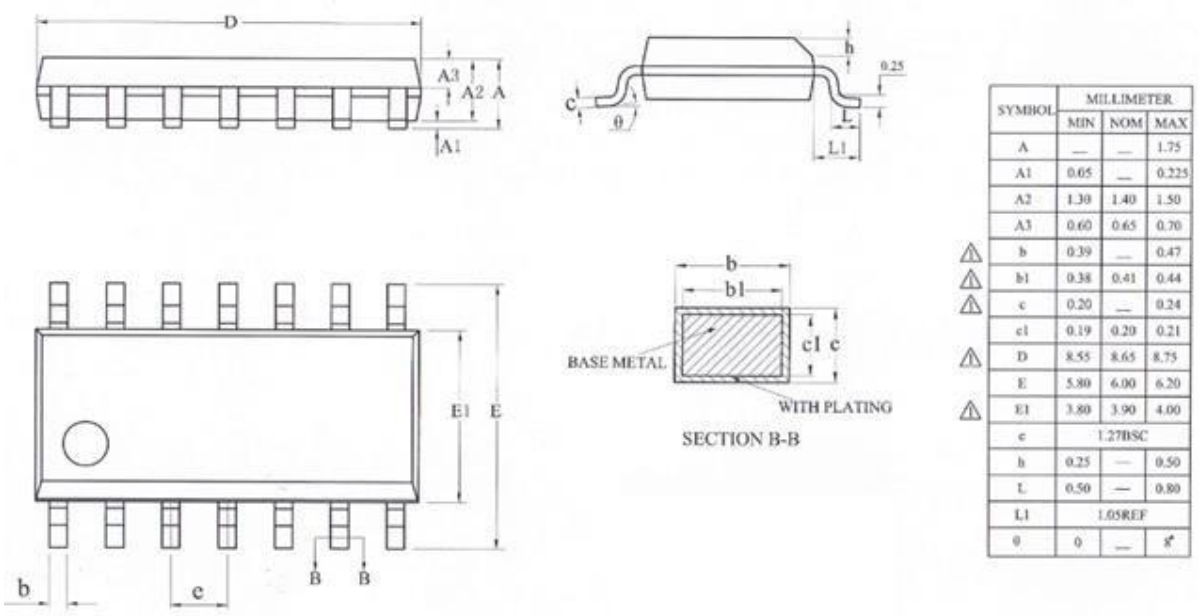
■ PCB 布板指南

1、滤波电容和自举电容尽可能靠近芯片对应管脚。

2、驱动端到 MOSFET 的距离尽可能小。

3、尽可能减短自举部分走线，可以使线路更稳定的工作。

■ 封装外形尺寸



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	—	—	1.75
A1	0.05	—	0.225
A2	1.30	1.40	1.50
A3	0.60	0.65	0.70
b	0.39	—	0.47
b1	0.38	0.41	0.44
c	0.20	—	0.24
c1	0.19	0.20	0.21
D	8.55	8.65	8.75
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
h	0.25	—	0.50
L	0.50	—	0.80
L1	1.05REF		
θ	0	—	8°

Disclaimers:

Reasunos Semiconductor Technology CO.,LTD(Reasunos)reserves the right to make changes without notice in order to improve reliability,function or design and to discontinue any product or service without notice .Customers should obtain the latest relevant information before orders and should verify that such information in current and complete.All products are sold subject to Reasunos's terms and conditions supplied at the time of order acknowledgement.

Reasunos Semiconductor Technology CO.,LTD warrants performance of its hardware products to the speciffications at the time of sale.Testing,reliability and quality control are used to the extene Reasunos deems necessary to support this warrantee. Except where agreed upon by contractual agreement,testing of all parameters of each product is not necessarily performed.

Reasunos Semiconductor Technology CO.,LTD does not assume any liability arising from the use of any product or circuit designs described herein.Customers are responsible for their products and applications using Reasunos's components.To minimize risk,customers must provide adequate design and operating safeguards.

Reasunos Semiconductor Technology CO.,LTD does not warrant or convey any license either expressed or implied under its patent rights,nor the rights of others.Reproduction of information in Reasunos's data sheeets or data books is permissible only if reproduction is without modification oralteration.Reproduction of this information with any alteration is an unfair and deceptive business practice. Reasunos Semiconductor Technology CO.,LTD is not responsible or liable for such altered documentation.

Resale of Reasunos's products with statements different from or beyond the parameters stated by Reasunos Semiconductor Technology CO.,LTD for that product or service voids all express or implied warrantees for the associated Reasunos's product or service and is unfair and deceptive business practice. Reasunos Semiconductor Technology CO.,LTD is not responsible or liable for such statements.

Life Support Policy:

Reasunos Semiconductor Technology CO.,LTD's Products are not authorized for use as critical components in life support devices or systems without the expressed written approval of Reasunos Semiconductor Technology CO.,LTD.

As used herein:

1. Life support devices or systems are devices or systems which:
   a.are intended for surgical implant into the human body,
   b.support or sustain life,
   c.whose failuer to when properly used in accordance with instructions for used provided in the laeling,can be reasonably expected to result in significant injury to the user.

system whose failure to perform can be reasonably expected to cause the failure of the life support device or system,or to affect its safety or effectiveness.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for LED Display Drivers ***category:***

Click to view products by REASUNOS ***manufacturer:***

Other Similar products are found below :

STP16DP05PTR MP3370GN-Z ISL97631IHTZ-T7A ISL97632IRT26Z-T LV5026MC-AH IK62083DWT OB3655TAP-H OB3399PAP AW36514FCR AW36428FCR KAQW214A TL TM1629(TA2009B) WS2814F XB402U-L27 HT16K33A-20SOP HT16D33A-28SSOP TM1628E TM512AE0 TM512AD TM0822B SY7310AADC SY58863FAC SY5863AJAC FM4115K. TM1638N-SOP28-TA1319B SPL5013CNI-TRG AW21024QNR AW36423FCR AW36515FCR AW99703CSR AW21036QNR AW21009QNR AW20108QNR AW2016AQNR AW9967DNR PT4115BE89E CC1108ST CC1109 SD6800BCTR SDH7612DH HT16D35A-48LQFP-EP HT1635C-64LQFP-7*7 HT1632D-52LQFP-2.0 HT16K33A-28SOP HT16D31A-16NSOP-EP TLD5099EP BCR 431U IS32FL3740-ZLA3-TR PAM2804AAB010(MS) OB3379ZCPA-D