XL8001 DEMO Board manual

Introduction

The document describes a high efficiency LED driver designed to drive an LED driver at a current of 300 mA from an input voltage range of 12 VDC to 80 VDC, output support 1~8 series 1W LED.

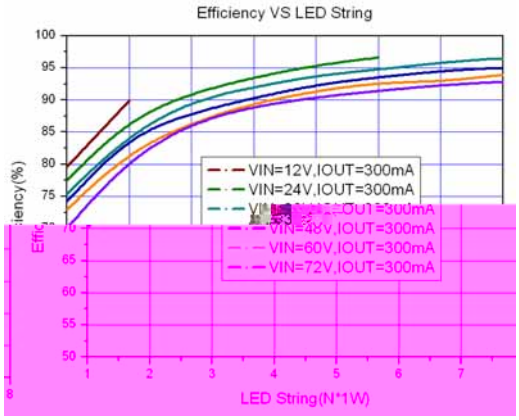
The XL8001 also provides a sophisticated range of protection features including auto-restart for control

Bill of Materials

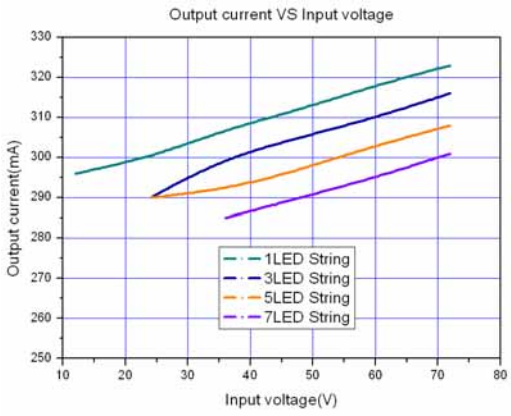
Item	Qty	Ref Des	Description	Mfg Part Number	Mfg
1	2	C1,C3	0.1uF,100V,Ceramic,X7R,0805	C2012X7R2A104K	TDK
2	1	C2	2.2uF,50V,Ceramic,X7R,0805	C2012X7R1H225K	TDK
3	1	Cin	33uF,100V,Electrolytic,(8x11.5)	YXA-100V-33uF	Rubycon
4	1	Cout	100uF,50V,Electrolytic,(8x11.5)	YXA-50V-100uF	Rubycon
5	1	D1	100V,2A,Schottky Rectifier,SMB	SS210	Fairchild
6	1	L1	1mH,0.6A	C12-K7.5L GA102	Mitsumi
7	1	Q1	NPN,160V,600mA,TO92	2N5551	Fairchild
8	1	R1	100KΩ,1%,1/4 W,Thick Film,1206	RC1206xR-071003L	Yageo
9	1	R2	500Ω,1%,1/4 W,Thick Film,1206	RC1206xR-075100L	Yageo
10	1	RCS	0.33Ω,1%,1/4 W,Thick Film,1206	RL1206xR-07R330L	Yageo
11	1	U1	Xlsemi,XL8001,SOP-8L	XL8001	XLSEMI

Performance Data

Efficiency VS Load current

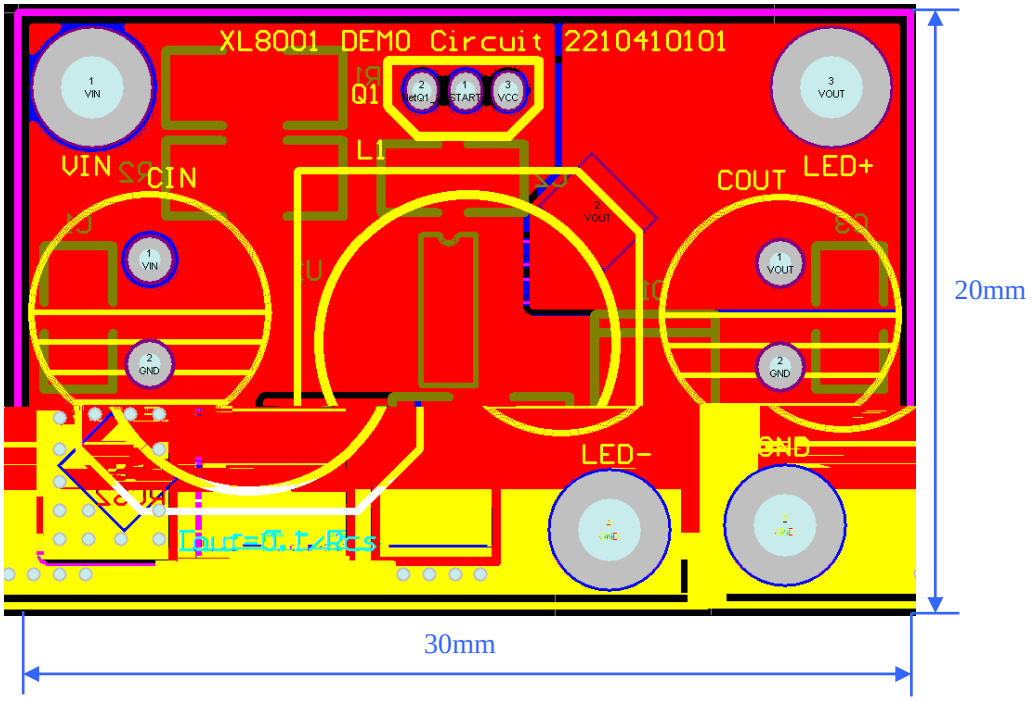


Line and Load Regulation

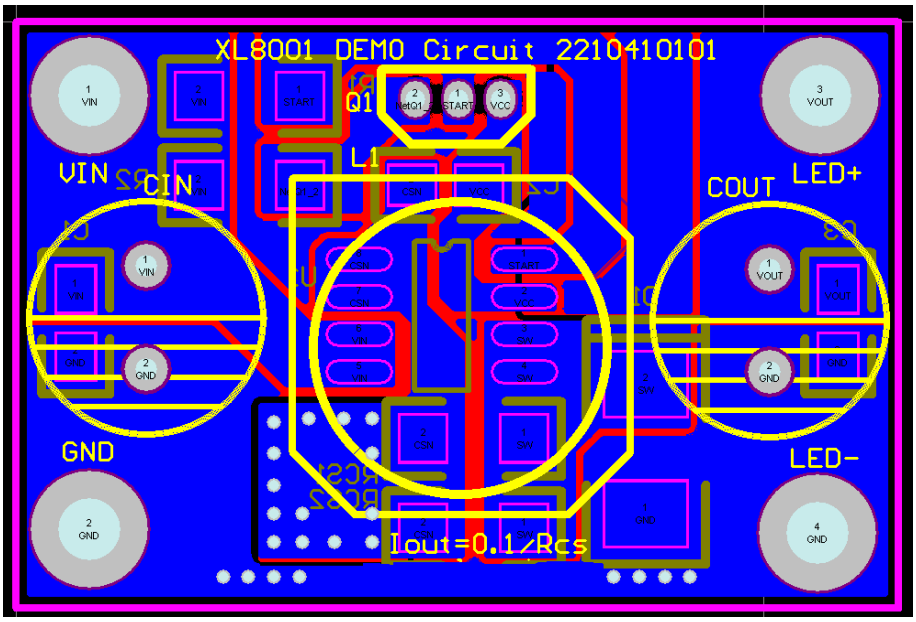


Populated Circuit Board Phtograph

PCBLayout



Top side



Bottom side

Note：

1. Keep feedback wiring away from inductor and schottky.
2. VIN,CSP lines must be short and ground plane construction for best results.
3. CSN lines as close as possible to Rcs.