

# Main Dimmable ICs

## Retrofit LED Lamps

- !! 6.5Wmax ▶ SSL2101: to 8W for GU10/E27;
- ▶ SSL2102: up to 20W for PAR38



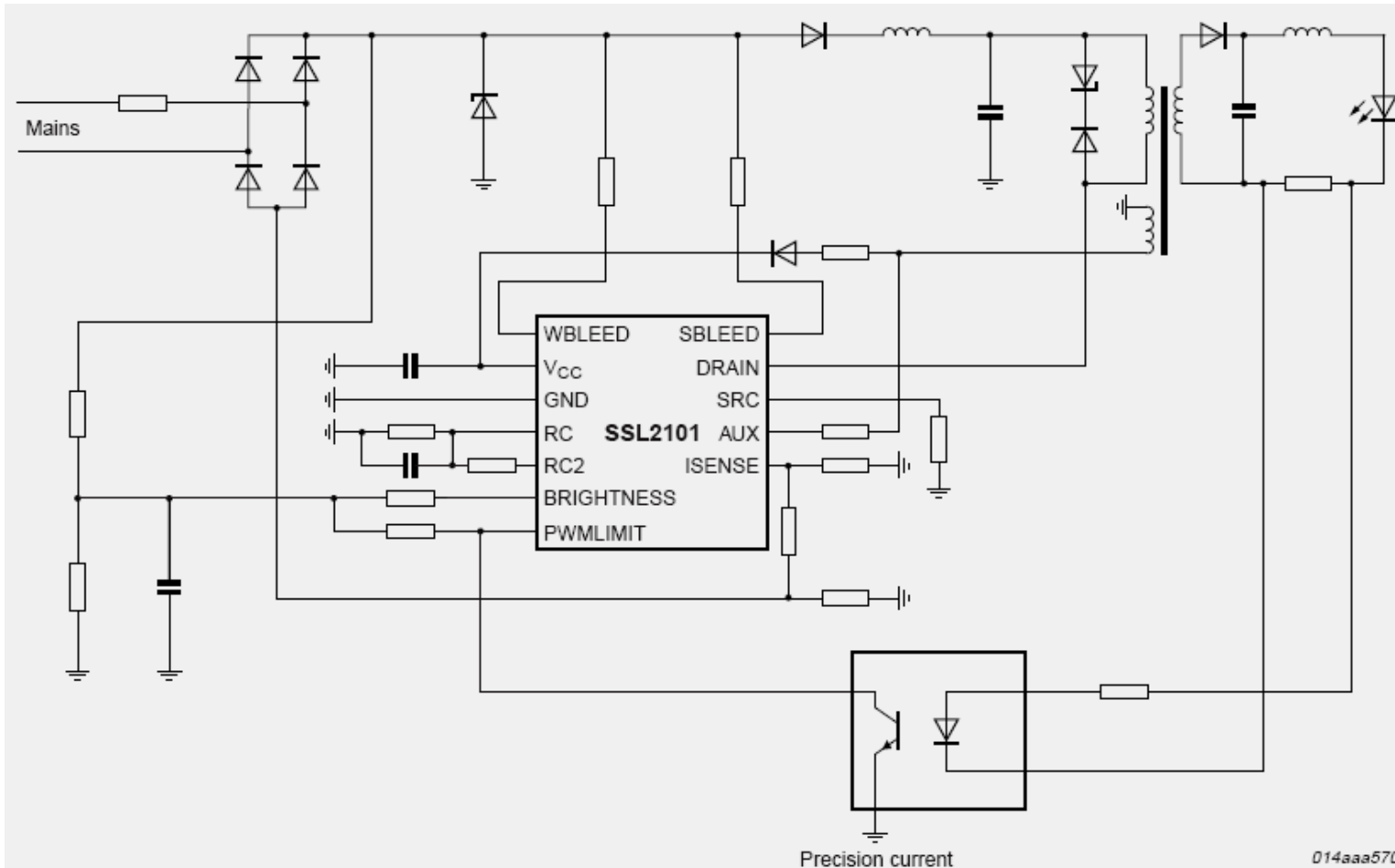
Lifetime of IC-SSL2101	IC Junction temperature
60,000 hours	105
35,000 hours	115
20,000 hours	125
6,000 hours	150

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# 1.NXP-SSL2101/2/3[O]

## Temperature protection

$T_{otp}$	overtemperature protection trip	junction temperature	150	160	170	°C
$T_{otp(hys)}$	overtemperature protection trip hysteresis	junction temperature	-	2	-	°C
$T_{stg}$	storage temperature		-55	+150		°C
$T_{amb}$	ambient temperature		-40	+100		°C
$T_j$	junction temperature		-40	+150		°C
$P_{tot}$	total power dissipation	$T_{amb} = 70\text{ °C}$	-	1	W	



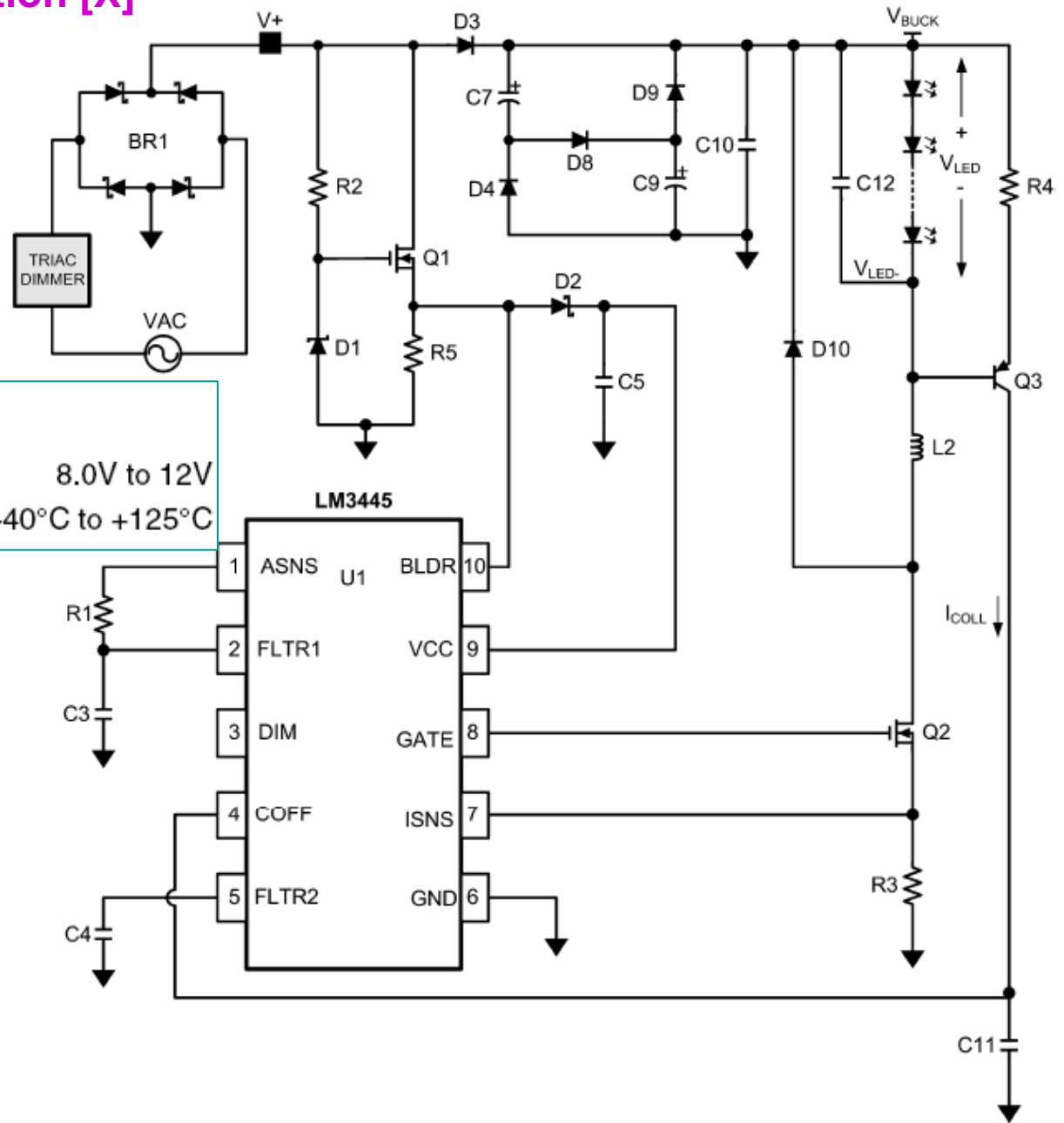
Precision current

## 2.NS-LM3445: non-isolation [X]

### Operating Conditions

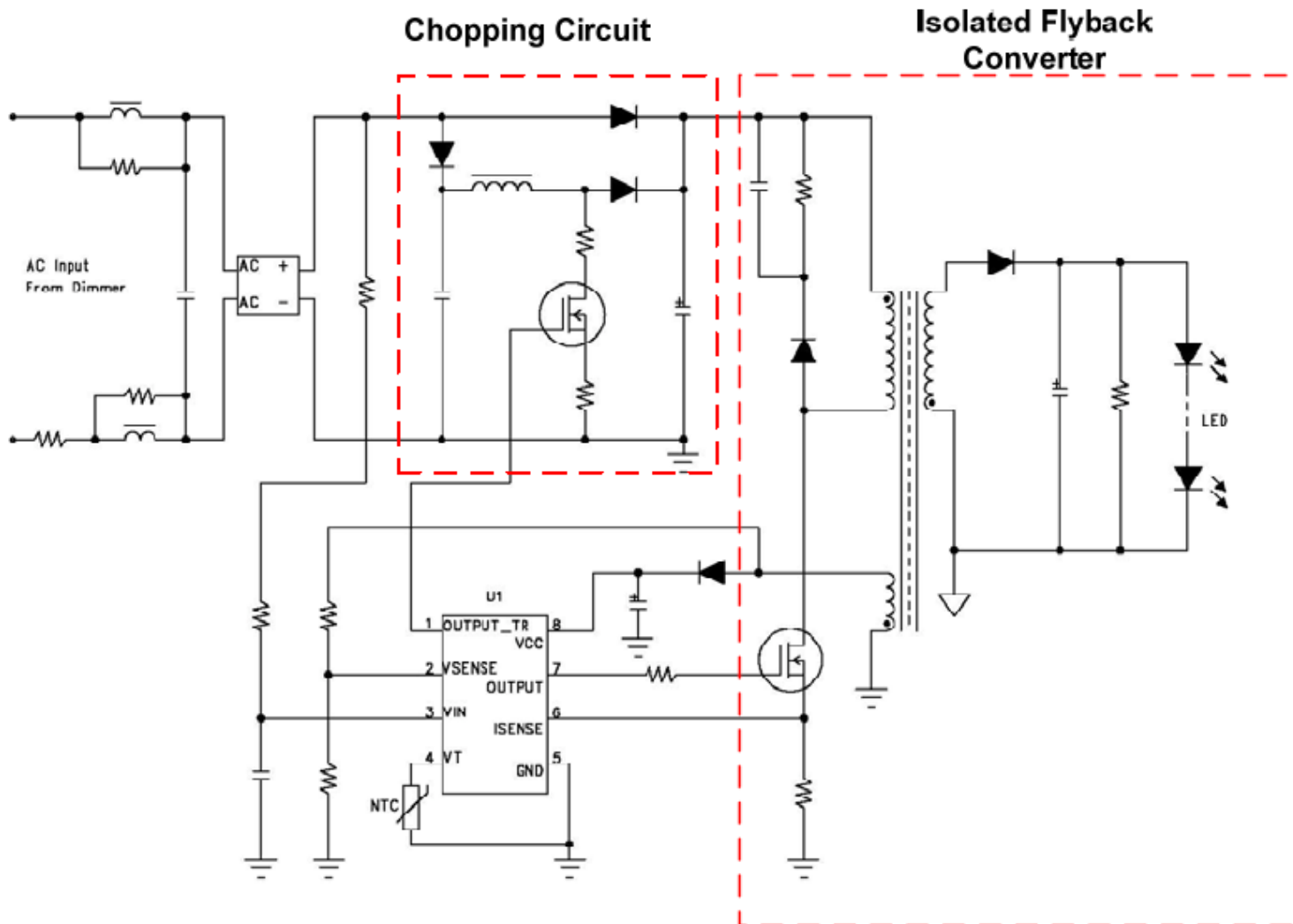
$V_{CC}$   
Junction Temperature

8.0V to 12V  
-40°C to +125°C



### 3.iWatt-iW3610: low Tj [X]

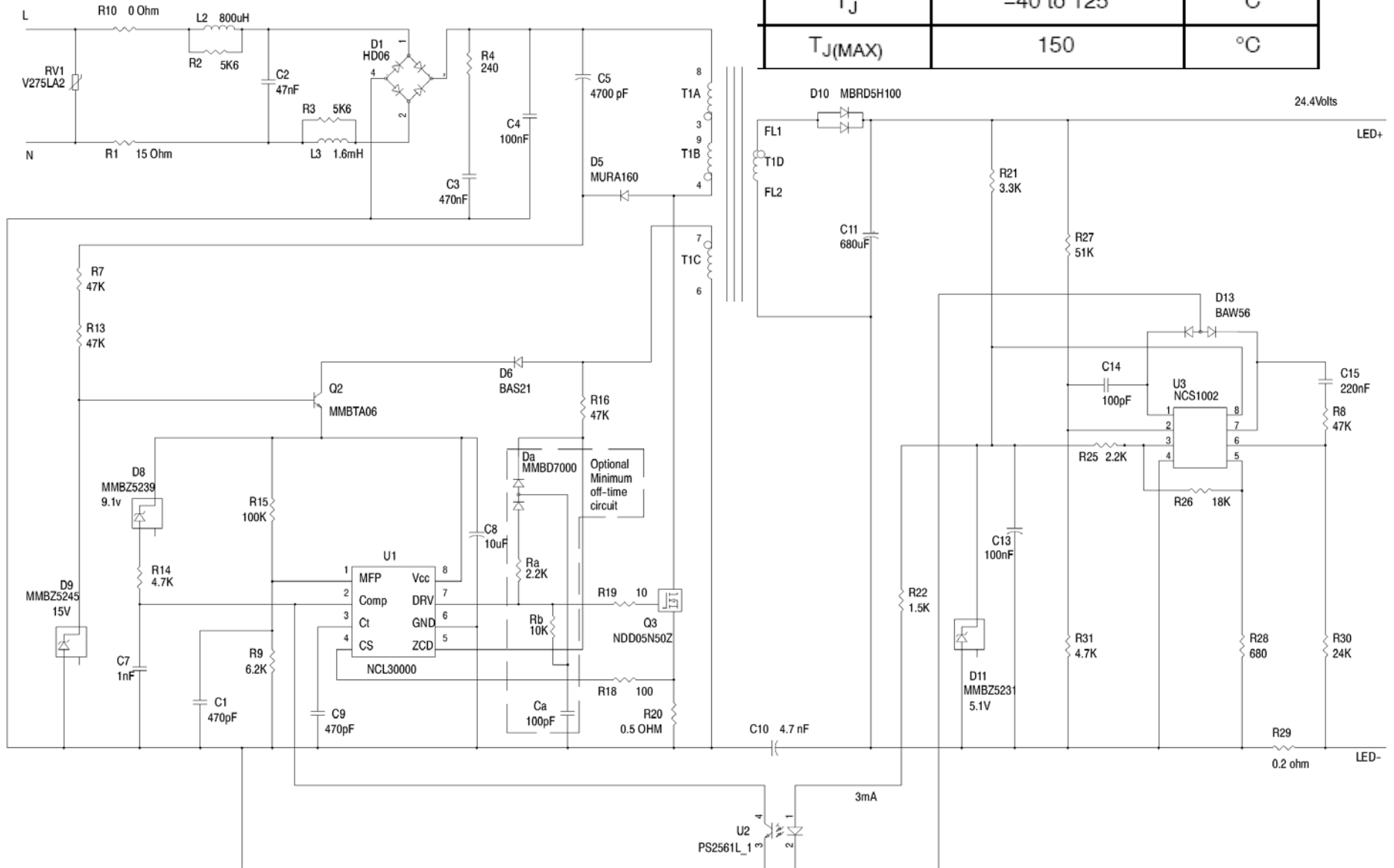
Power dissipation at $T_A \leq 25^\circ\text{C}$	$P_D$	526	mW
Maximum junction temperature	$T_{J\text{MAX}}$	125	$^\circ\text{C}$
Storage temperature	$T_{\text{STG}}$	-65 to 150	$^\circ\text{C}$



## 4.ONsemi-NCL3000: complex circuit, opto-coupler [??]

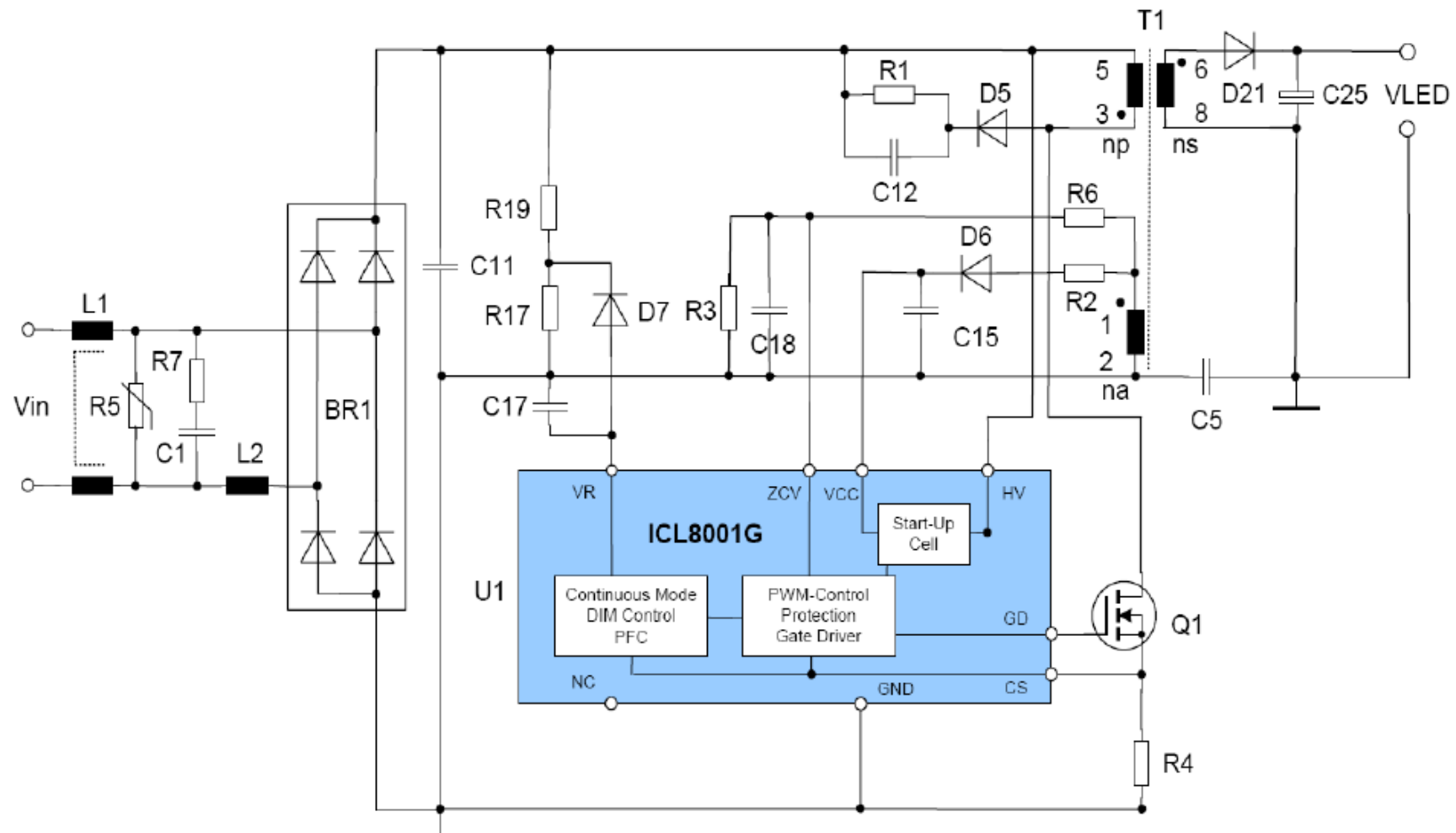
$P_D$	450	mW
$T_J$	-40 to 125	$^{\circ}C$
$T_{J(MAX)}$	150	$^{\circ}C$

Figure 5. 115V Lamp Schematic



## 5. Infineon-ICL8001: dimmer compatibility, dimming stability and no-flash[??]

Junction Temperature of Controller	$T_{jCon}$	-25	125	°C
Over temperature protection <sup>1)</sup>	$T_{jCon}$	-	140	°C



## 5. Infineon-ICL8001: dimmer compatibility, dimming stability and no-flash[??]

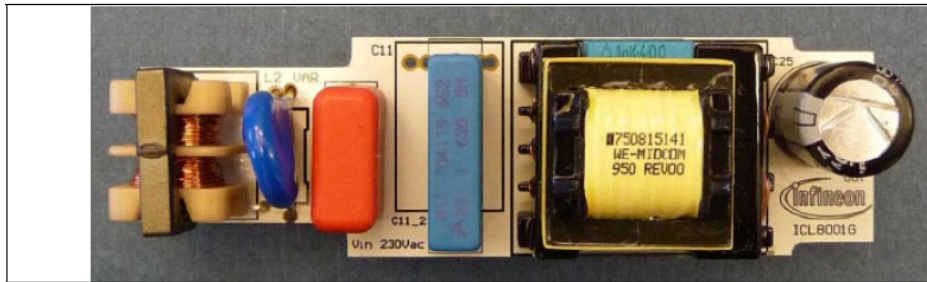


Figure 1 EVAL-LED-ICL8001G-Bulb02 Top Side

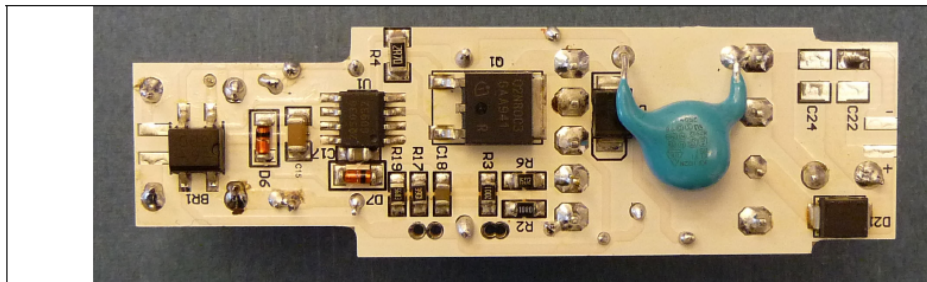



Figure 2 EVAL-LED-ICL8001G-Bulb02 Bottom Side

 <b>Dimmable QR LED Driver Board</b> <b>BOM for ICL8001G – Primary Control</b> <b>100V / 10W / high PF &amp; Efficiency</b>		
Component	Value	Package
U1	ICL8001G	P-DSO-8
BR	RMB6S	SMD
D5	not assembled	fast, 1,5A, MELF-B
D6	LL4148	Mini-MELF
D7	LL4148	Mini-MELF
D21	60V, 2A, Schottky Diode	SMB
Q1	SPD02N80C3	D-PAK
C1	68nF/250VAC MKP-X2	RM10
C5	1n/250VAC-Y1	RM10
C8	not assembled	
C11	33nF / 630V	RM15 EPCOS B32529/520/521/522
C12	not assembled	RM7.5
C15	22uF+10uF / 25V	1210
C17	2.2nF / 25V	0805
C18	470pF / 25V	0805
C22, C24	not assembled	1206
C25	220uF / 35V / Elko	RM 5, diameter 10, height 12
L1	2x15mH / 0.4A	B82730 U3401A 020
L2	1mH / 130mA	axial / EPCOS B78108S1105J
T1	EF16/9 - L35 = 4.0mH	Würth 750813141
		N35 = 190 / N68 = 14 / N12 = 10
R1	not assembled	axial
R2	22R0	0805
R3	2k0	0805
R4	2R2	1206
R5	Varistor / 275Vac	RM10 EPCOS S10K275
R6	15k	0805
R7	0R0	axial
R8	not assembled	
R17	3k9	0805
R19	150k	0805

## 6. PI-linkswitch-p: dimmer compatibility, dimming stability and no-flash[??]

Operating Junction Temperature<sup>(2)</sup> .....-40 to 150 °C

TSD

135	142	150	°C
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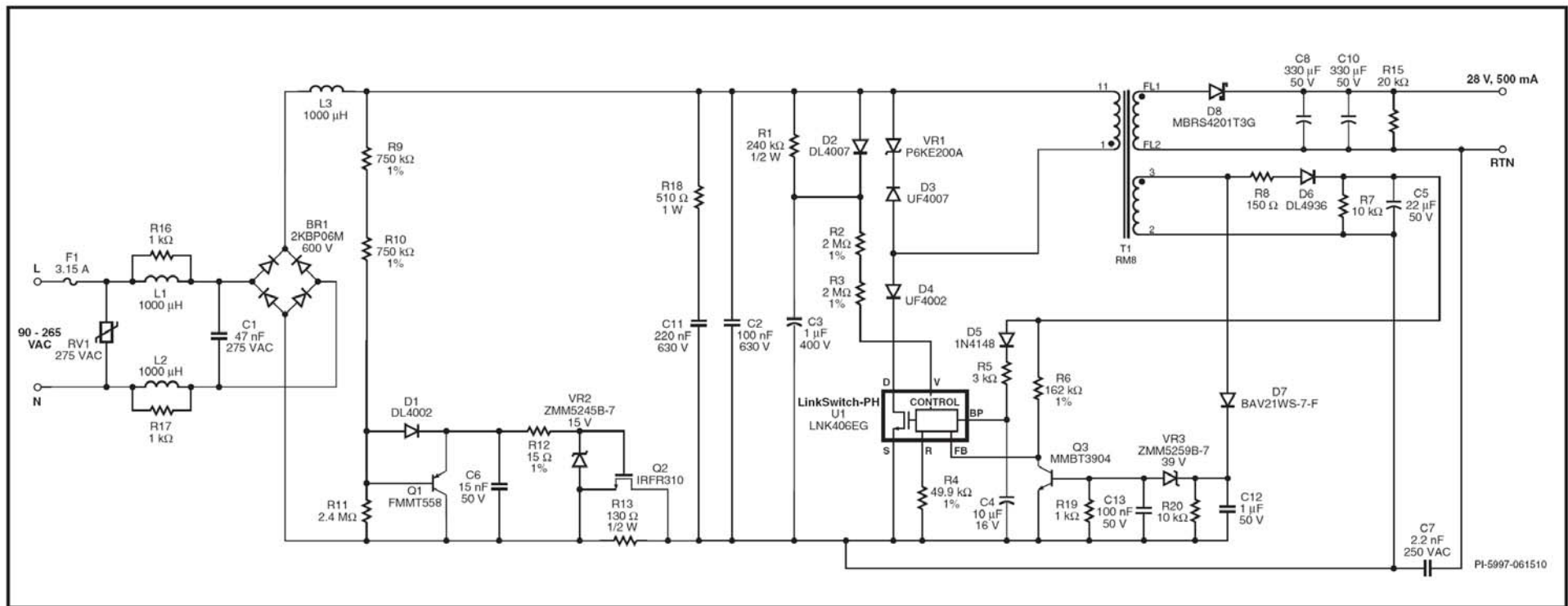


Figure 6. Schematic of an Isolated, TRIAC Dimmable, High Power Factor, Universal Input, 14 W LED Driver.



7. GreenMark: PD=??W; buck/forward topology;  
 3 dimming levels below full power, 60%, 40%, and 20%;  
 dimmer compatibility;  
 dimming stability and no-flash[??]

Operating Junction Temperature.....-40°C to 125°C

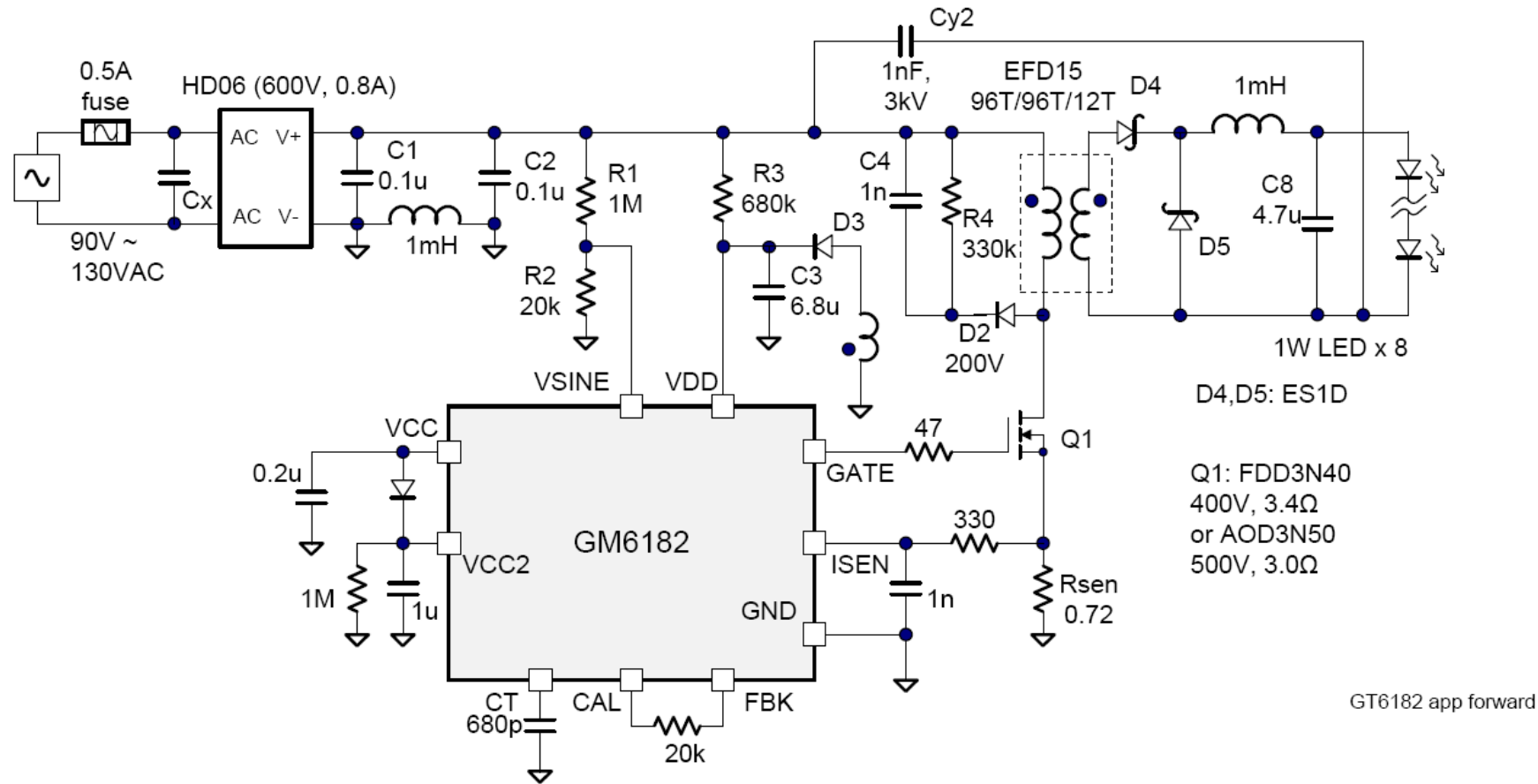


Fig. 2 110VAC 8W Isolated LED Light Bulb with EZ Dimming