
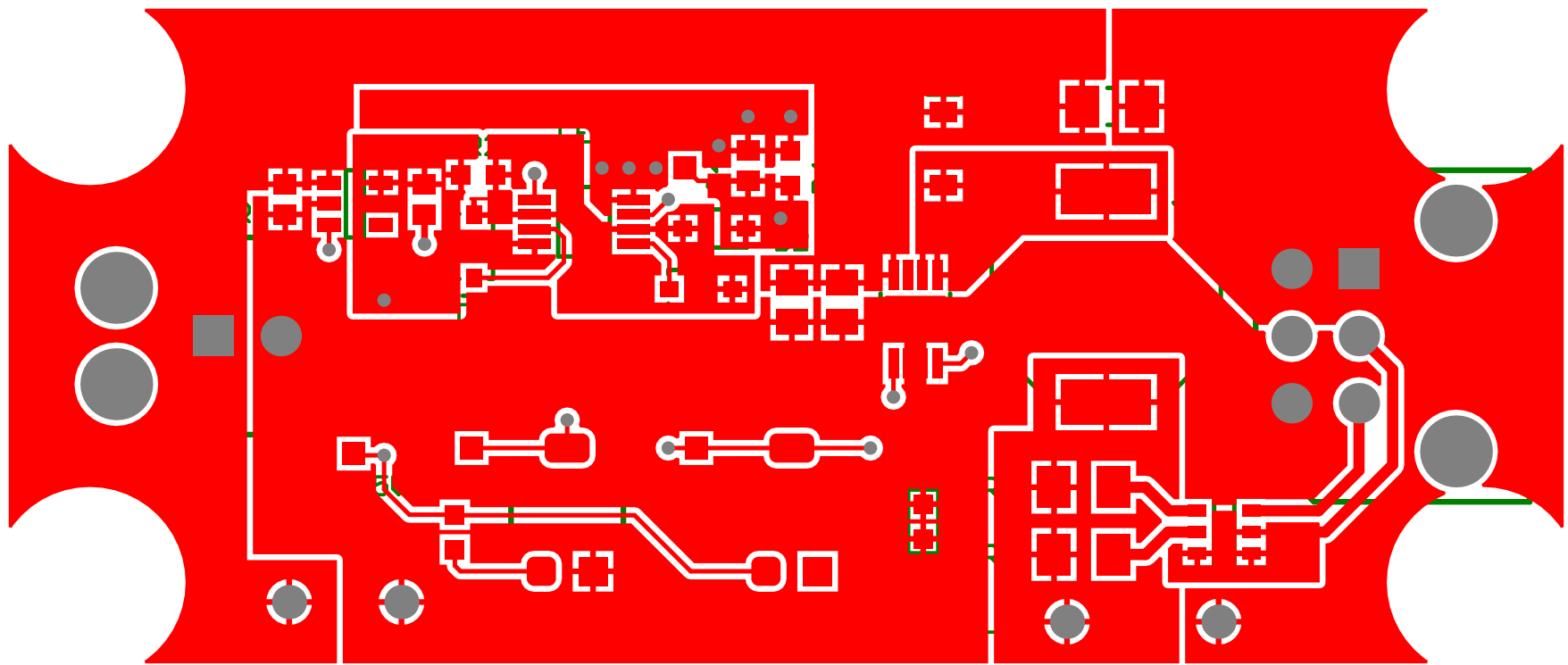
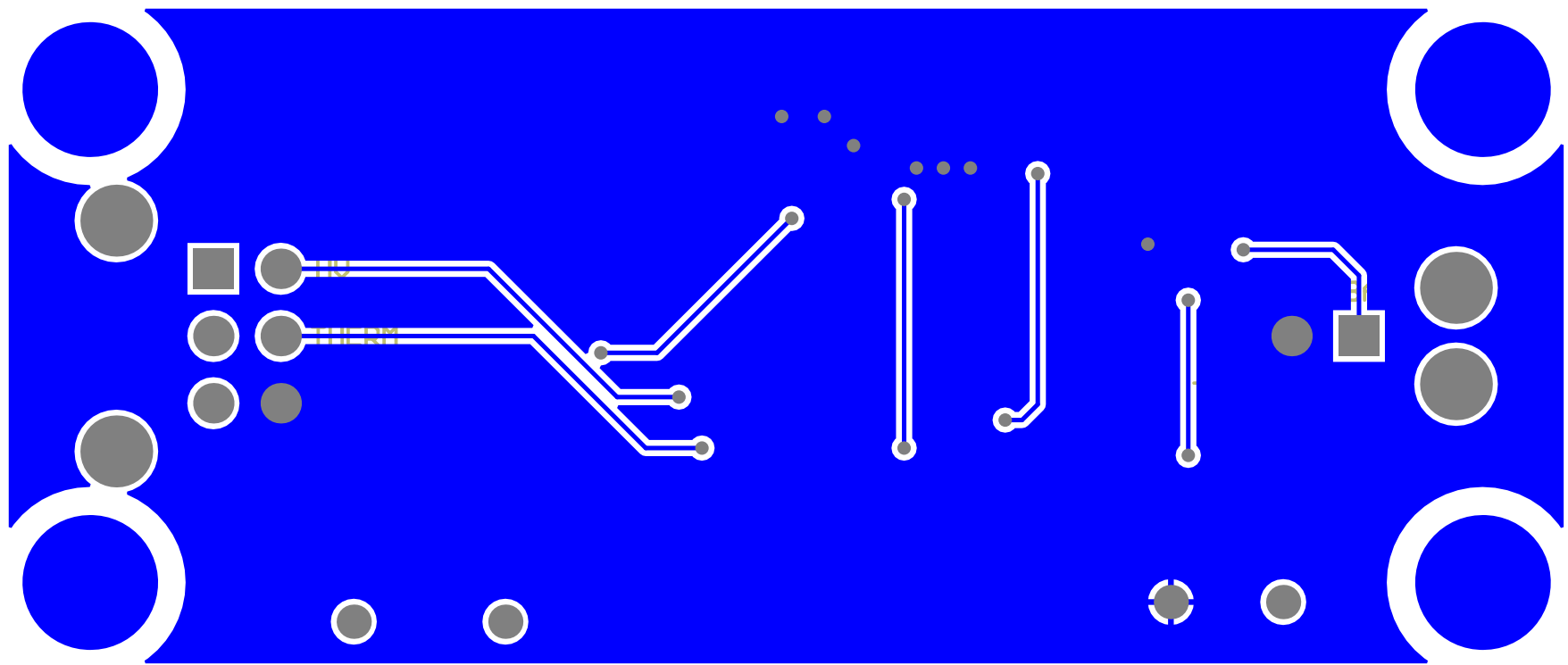


Project: <i>LightsDriver.PrjPcb</i>		<div><div>MIDNIGHT</div><div></div><div>SUN</div></div>
Title: <b>Lights Driver</b>		
Project AuthorNita E & Pei Liang Guo		University of Waterloo 200 University Ave W Waterloo, ON, Canada N2L 3E9
Size: Letter	Revision: 4.0	
Date: 3/28/2020	Sheet 1 of 1	
		Website: <a href="http://www.uwmidsun.com">www.uwmidsun.com</a>

Comment	Description	Designator	Footprint	LibRef	Quantity	Supplier 1	Supplier Part Number 1	Manufacturer 1	Manufacturer Part Number	Manufacturer Part Number 1
CAP CER 1UF 50V 10% X7R 0603	1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric)	C1	CAP_0603	CAP CER 1UF 50V 10% X7R 0603	1	Digi-Key	587-3247-1-ND	Taiyo Yuden		UMK107AB7105K A-T
CAP CER 2.2UF 25V 10% X5R 0603	2.2µF ±10% 25V Ceramic Capacitor X5R 0603 (1608 Metric)	C2	CAP_0603	CAP CER 2.2UF 25V 10% X5R 0603	1	Digi-Key	490-10731-1-ND	Murata Electronics North America		GRM188R61E225K A12D
CAP CER 10uF 25V 10% X5R 0805	10µF ±10% 25V Ceramic Capacitor X5R 0805 (2012 Metric)	C3	CAP_0805	CAP CER 10uF 25V 10% X5R 0805	1	Digi-Key	490-5523-1-ND		GRM21BR61E106K A73L	
DIODE SCHOTTKY 40V 1A SOD123F	DIODE SCHOTTKY 40V 1A SOD123F	D1	DIODE SOD123	DIODE SCHOTTKY 40V 1A SOD123F	1	Digi-Key	SS14FLCT-ND		SS14FL	
DIODE GEN PURP 100V 300MA SOD123	Diode Standard 100V 300mA (DC) Surface Mount SOD-123	D2, D3, D4	DIODE GEN PURP 100V 300MA SOD123	DIODE GEN PURP 100V 300MA SOD123	3	Digi-Key	1N4148WQ-7-FDICT-ND		1N4148WQ-7-F	
IND 100UH 1.2A 220MOHM SMD	Inductor Power Shielded Wirewound 100uH 30% 100KHz 26Q-Factor Ferrite 1.2A 220mOhm DCR Automotive T/R	L1	IND 100UH 1.2A 220MOHM SMD	IND 100UH 1.2A 220MOHM SMD	1	Digi-Key	SRU1048A-101YCT-ND		SRU1048A-101Y	
STANDOFF RND M2.5X0.45 STEEL 5MM		M1, M2, M3, M4	M2.5 Standoff	STANDOFF RND M2.5X0.45 STEEL 5MM	4	Digi-Key	732-7095-1-ND		9774050151R	
TO PWR DISTR	Header Connector, Pcb Mount, Recept, 2 Contacts, Pin, 0.118 Pitch, R Angle Pc Tail Terminal	P1	CONN_2POS MICRO-FIT R/A 2ROW	CONN 2POS MICRO-FIT R/A 2ROW 3mm	1	Digi-Key	WM2672-ND		43045-0221	
CONN 6POS MICRO-FIT R/A 2ROW 3mm	Conn Wire to Board HDR 6 POS 3mm Solder RA Thru-Hole Micro-Fit 3.0" Tray	P2	CONN_6POS MICRO-FIT R/A 2ROW	CONN 6POS MICRO-FIT R/A 2ROW 3mm	1	Digi-Key	WM2674-ND		043045-0621	
BJT NPN DUAL 80V 1A 6-TSOP	Bipolar (BJT) Transistor Array 2 PNP (Dual) Matched Pair 80V 1A 140MHz 500mW Surface Mount 6-TSOP	Q1	TSOP6 (SOT457)	BJT NPN DUAL 80V 1A 6-TSOP	1	Digi-Key	1727-7829-1-ND		BCM56DSF	
RES 0.1 OHM 1% 1/4W 1206	Res Thick Film 1206 0.1 Ohm 1% 0.25W(1/4W) ±600ppm/C Molded SMD Paper T/R	R1	RES 1206	RES 0.1 OHM 1% 1/4W 1206	1	Digi-Key	311-0.1LWCT-ND		RL1206FR-070R1L	
RES 10K OHM 1% 1/10W 0603	RES SMD 10K OHM 1% 1/10W 0603	R2, R3	RES_0603	RES 10K OHM 1% 1/10W 0603	2	Digi-Key	311-10.0KHRCT-ND	Yageo		RC0603FR-0710KLL
RES 100K OHM 5% 1/8W 0603	RES SMD 100K OHM 5% 1/10W 0603	R4	RES_0603	RES 100K OHM 5% 1/8W 0603	1	Digi-Key	311-100KGRCT-ND	Yageo		RC0603JR-07100KLL
POT 20k OHM 20% 1/4W SMD	20 kOhms 0.25W, 1/4W Gull Wing Surface Mount Trimmer Potentiometer Cermet 1 Turn Top Adjustment	R5, R6	POT TRIMMER 20K	POT 20k OHM 20% 1/4W SMD	2	Digi-Key	987-1016-1-ND		23BR20KLFTR	
RES 1 OHM 1% 1/2W 1206	BOURNS - CRM1206AFX-1R00ELF - RES, 1R, 1%, 1206, THICK FILM	R7, R8	RES 1206	RES 1 OHM 1% 1/2W 1206	2	Digi-Key	CRM1206AFX-1R00ELFCT-ND		CRM1206AFX-1R00ELF	
LED_HV, LED_LV, GND_VBAT		TH_TP1, TH_TP2, TH_TP3, TH_TP4	Thru Test Point	Thru Test Point	4					
GND		TP5	TEST POINT 0603 SMD	Test Point 0603 SMD	1	Digi-Key	A106145CT-ND	TE Connectivity		1625854-3
IC REG LDO 5V 0.1A SOT23-5	Linear Voltage Regulator IC Positive Fixed Output 5V 100mA SOT-23-5	U1	SOT95P280X145-5N	IC REG LDO 5V 0.1A SOT23-5	1	Digi-Key	497-7787-1-ND	STMicroelectronics		LD2981CM50TR
IC OP AMP DUAL GP RR 10MHZ 8-VSSOP	General Purpose Amplifier 2 Circuit Rail-to-Rail 8-VSSOP	U2	IC OP AMP DUAL 8-VSSOP	IC OP AMP DUAL GP RR 10MHZ 8-VSSOP	1	Digi-Key	296-47349-1-ND		OPA2197IDGKR	
IC LED DRIVER AL8860Q MSOP-8EP	AL8860 Series 40V 1.5A SMT High Efficiency Buck LED Driver - MSOP-8EP	U3	IC LED DRIVER AL8860Q 8-MSOP-EP	IC LED DRIVER AL8860Q MSOP-8EP	1	Digi-Key	AL8860QMP-13DICT-ND		AL8860QMP-13	





MSXIV Lights Driver 4.0

