


Power Module (Type-A / Rev.B)

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Rev	Date	Designer	Description
A	24.04.11	Ganghyeok Lim	Create design project
B	24.05.19	Ganghyeok Lim	Connector Part Change (Molex Slim Stack → Amphenol BergStak 0.8mm)

Index


#1 Index
#2 Overview
#3 DC-DC Converter
#4 Connector

Title Power Module (Type-A).PrjPcb		Rev B
Doc 01_Index_(Rev.B).SchDoc		 ArkX ©2024
Sheet # 1 of 4	Author *	
Date 2024-05-19		
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D	<table><tr><td colspan="3">Title</td><td>Rev</td></tr><tr><td colspan="3">Power Module (Type-A).PrjPcb</td><td>*</td></tr><tr><td colspan="2">Doc</td><td colspan="2">02_Overview.SchDoc</td></tr><tr><td>Sheet # 2</td><td>of 4</td><td>Author</td><td>*</td></tr><tr><td colspan="2">Date</td><td colspan="2">2024-05-19</td></tr><tr><td colspan="4"><div><div><div></div><div></div><div></div></div><div>ArkX</div><div>©2024</div></div></td></tr><tr><td colspan="4">This document is copyright of ArkX and shall not be revealed, produced, copied, in whole or in part, nor used for any purpose other than submitted.</td></tr></table>				Title			Rev	Power Module (Type-A).PrjPcb			*	Doc		02_Overview.SchDoc		Sheet # 2	of 4	Author	*	Date		2024-05-19		<div><div><div></div><div></div><div></div></div><div>ArkX</div><div>©2024</div></div>				This document is copyright of ArkX and shall not be revealed, produced, copied, in whole or in part, nor used for any purpose other than submitted.			
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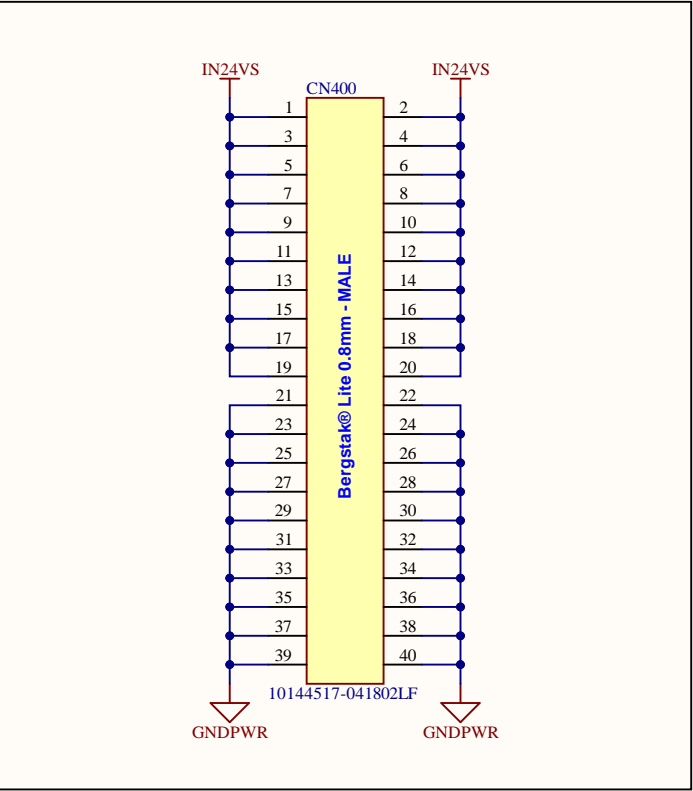
The schematic diagram illustrates the power supply section of the LED driver. It begins with the input IN24VS, which passes through a resistor R301 (0R/3216) to a fuse FUSE_IN. The circuit then splits into two parallel branches. The first branch contains a fuse FUSE_OUT, a resistor R304 (4.7K/2012), and a diode LED302 (RED/2012). The second branch contains a diode LED301 (GREEN/2012) in series with a resistor R303 (4.7K/2012). Both branches rejoin and connect to a diode D300 (SS34). The output of D300 is connected to a capacitor C301 (100uF/35V/GC/27.7) and a diode ZD300 (SMAJ24A). The output voltage is P24VS. Ground connections are shown for GNDPWR and DGND.

The diagram shows a voltage regulation circuit. The input is labeled DP5VS and is connected to a network of capacitors C314 (10µF/10V/1608) and C315 (100nF/50V/1608) to ground (DGND). The output of this network is pin 3 (VIN) of the U302 AMS1117-3.3 regulator. Pin 1 (GND) is connected to DGND. Pin 2 (VOUT) is connected to a network of capacitors C316 (10µF/50V/1608) and C317 (10µF/10V/1608) to ground (DGND). The output of this network is labeled DP3.3VS. This output is connected to an LED303 (GREEN/2012) through a resistor R311 (330R/2012). The LED is also connected to ground (DGND).

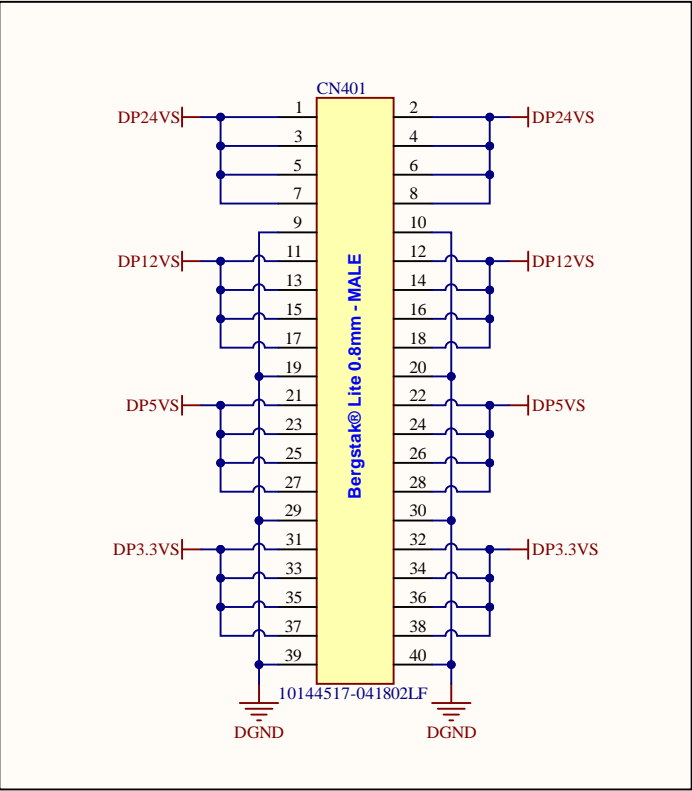
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[4] Connector

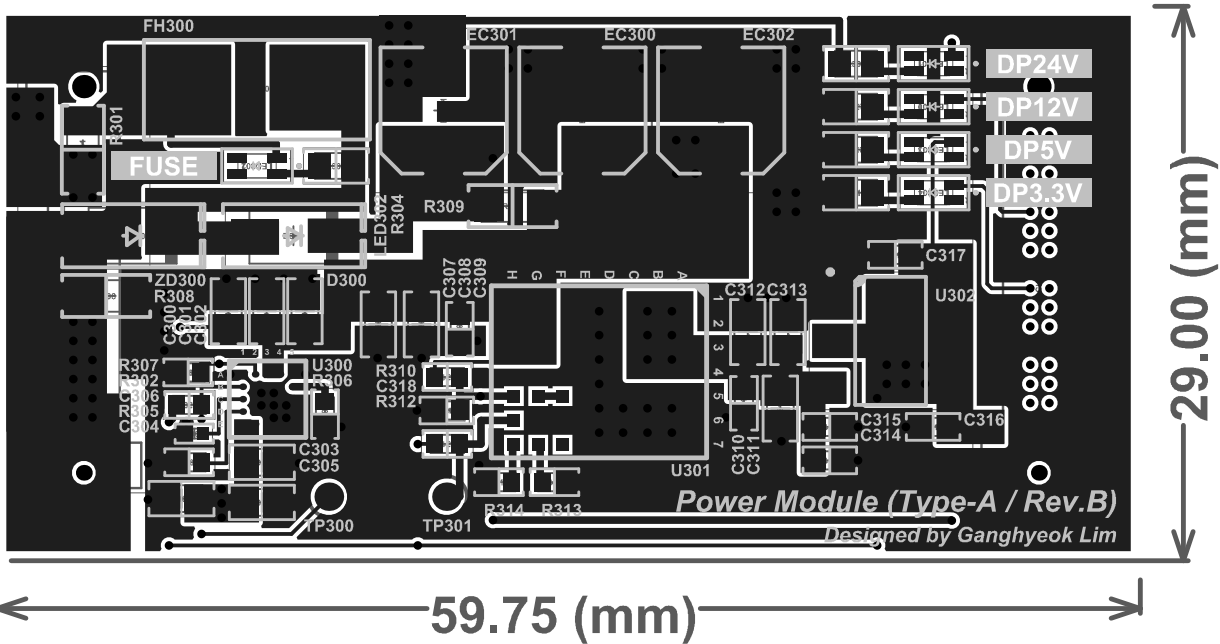
Power Input (24V)



Power Output (24V / 12V / 5V / 3.3V)



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# Layer Information	
L1	Top (Signal / GND)
L2	GND
L3	Power
L4	Bottom (Signal / GND)

# PCB Specification (JLPCB)		
No	Category	Selection
1	Base Material	FR-4
2	Layer #	4 - Layer
3	Dimension	59.75(mm) * 29.00(mm)
4	Thickness	1.6T
5	Color	Black
6	Material Type	FR4-Standard TG 135-140
7	Surface Finish	HASL(with lead)
8	Gold Thickness	No
9	Outer Copper Weight	1 oz
10	Inner Copper Weight	0.5 oz
11	Impedance Control	No
12	Layer Stack-up	Default Stack-up
13	Via Covering	Plugged
14	Min. Via Hole Size / Diameter	Hole : 0.3mm / Diameter : 0.45mm
15	Board Outline Tolerance	±0.2mm (Regular)
16	Confirm Production File	No
17	Remove Order Number	Yes
18	Flying Probe Test	Fully Test
19	Gold Fingers	No
20	30° Finger Chamfered	No
21	Castellated Holes	No
22	Edge Plating	No