

Input Voltage = 48Vin Nominal  
(24Vin Min.; 60Vin Max.)

UVLO Rising/Enable = 23.0Vin  
UVLO Falling/Disable = 20.0Vin

5Vout @ 30A Nominal  
(60A Max.)

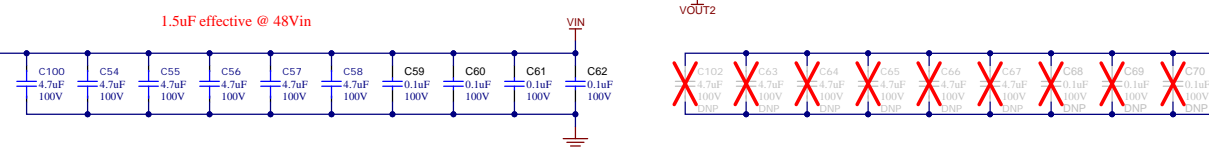
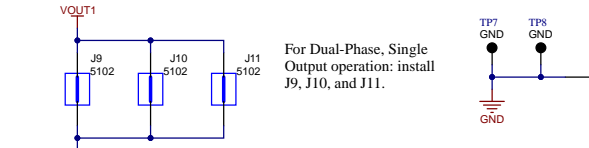
**\*NOTES:**

1. D1 and D5 can be removed. The LM5148-Q1 contains internal bootstrap diodes.
2. D2 and D6 are NOT absolutely necessary, though they improve negative-going voltage spikes on the switch nodes.
3. D3 and D7 protect the circuit from potential large negative voltages caused by short circuit applications using long lead wires on the output. These diodes may be omitted on a final system design.

Some Schottky Options for D2 and D6 (if needed):  
-STPS3H100UFY  
-PMEG100T50ELP-QX  
-PDS5100HQ-13D

Potential Options for Cout MLCCs:  
GCM32ER71A226KE12L (22uF; 10V; X7R; 18uF at 5V)  
GCM32EC71A476KE02K (47uF; 10V; X7S; 30uF at 5V)

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|                                 |                                                               |
|---------------------------------|---------------------------------------------------------------|
| Orderable: ChangeMe in variant  | Designed for: IMod: Date: 11/7/2024                           |
| TID #: PMP23420                 | Project Title: LM5148-Q1 2-Phase Buck Converter Using Si FETs |
| Number: PMP23420                | Sheet Title: -1 Rev: -1                                       |
| SVN Rev: Not in version control | Assembly Variant: 001                                         |
| Drawn By: Hrag Kasparian        | File: PMP23420_Schematic_SchDoc                               |
| Engineer: Hrag Kasparian        | Contact: http://www.ti.com/support                            |

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H1 NY PMS 440 0025 PH  
 H2 NY PMS 440 0025 PH  
 H3 NY PMS 440 0025 PH  
 H4 NY PMS 440 0025 PH

H5 1902C  
 H6 1902C  
 H7 1902C  
 H8 1902C

FID1 FID2 FID3 FID4 FID5 FID6

PCB Number: PMP23420  
 PCB Rev: B



PCB LOGO  
 FCC disclaimer

PCB LOGO  
 WEEE logo

LBL1  
 PCB Label  
 THT-14-423-10  
 Size: 0.65" x 0.20 "

| Variant/Label Table |            |
|---------------------|------------|
| Variant             | Label Text |
| 001                 |            |
|                     |            |
|                     |            |
|                     |            |
|                     |            |
|                     |            |
|                     |            |

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|                                                |                                                                            |                     |
|------------------------------------------------|----------------------------------------------------------------------------|---------------------|
| Orderable: <a href="#">ChangeMe in variant</a> | Designed for:                                                              | Mod. Date: 2/8/2024 |
| TID #: PMP23420                                | Project Title: LM5148-Q1 2-PH Buck Converter Using Si FETs                 |                     |
| Number: PMP23420                               | Rev: -1                                                                    | Sheet Title:        |
| SVN Rev: Not in version control                | Assembly Variant: 001                                                      | Sheet: 2 of 2       |
| Drawn By:                                      | File: PMP23420_Hardware_SchDoc                                             | Size: B             |
| Engineer: Hrag Kasparian                       | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |                     |



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