Ultrascale Virtex FPGA Power Reference Design

UC090120A Digital Sequence/System Monitor

+3.3V

+12V

1.8V: 0 to 10A

TP551367

12A Buck Converter

0.95V: 0 to 10A

TP551448

PMBUS Synchronous Buck Converter

0.95V: 0 to 60A

TP540428 + 2x CD901378

2-phase Sync Buck Controller

0.95V: 0 to 10A

TP551367

12A Buck Converter

1.8V: 0 to 10A

TP5554820

PMBUS Synchronous Buck Converter

1.8V: 0 to 20A

TP5554820

PMBUS Synchronous Buck Converter

1.8V: 0 to 20A

TP551367

12A Buck Converter

1.8V: 0 to 10A

TP551367

12A Buck Converter

12V

VCCINT

VCCAUX

VCCBRAM

VCCO_1p8V

VCCO_1p2V

MGTVCC

MGTVYTT

M GSTCAUX

3.3V: 0 to 20A

TP5554820

PMBUS Synchronous Buck Converter

5V: 0 to 12A

TP555315

12A Buck Converter

Sequence Order

Revision History

Revision Notes
DO NOT connect AGNDs on this page to a common system AGND.

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Engineer:
Number:
Sheet:
Size:
Mod. Date:

Sheet Title:
Project Title:
Designed for:

Contact:

AGND internally connected to GND on TP544B20

MGTAVCC - 1.0V@20A
Input Ripple = ~2.9A RMS

VCCBRAM_R_SENSE_P

VCCBRAM_R_SENSE_N

TRIP = 5V => IOCL = 12A

MODE = GND => fsw = 400kHz

TRIP = 5V => IOCL = 12A

VCCBRAM: 0.95V@10A

VCCBRAM_EN

Margin "R3"

MODE = GND => fsw = 400kHz

System functionality for your application.

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licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.
AGND internally connected to GND on TPS544B20
Input Ripple = ~3.2A RMS

MODE = GND => fsw = 400kHz

TRIP = 5V => IOCL = 12A

ENGINEER: Sami Sirhan

VCCO 1.2V@10A

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Input Ripple = ~3.3A RMS

AGND internally connected to GND on TPS544B20

VIN ~10V, device turns on

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Engineer:  
Drawn By:  
SVN Rev:  
Number:  
Project Title:  
Designed for:  
Mod. Date:  
7/14/2014
UTIL_3p3V_20A.SchDoc
Sheet Title:
Size:

Mod. ... 41
U12
TPS544B20RVF
1
2
J11
300pF
C173
DNP
L8
744325072
0.1µF
C267
1µF
C268
133k
R106

http://www.ti.com
PMP9475 Ultrascale Virtex Power Solution

Project Title: Designed for: Public Release

Assembly Variant: 001

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Not in version control

SVN Rev: PMP9475 Number: Rev: E1

VIN ~8V, device turns on

fsw = 500kHz
PMP9475 Ultrascale Virtex Power Solution

Project Title: Designed for: Public Release

Assembly Variant: 001

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Drawn By: Engineer: Sami Sirhan

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Not in version control

SVN Rev: PMP9475 Number: Rev: E1

PCB Number: PMP9475
PCB Rev: E1

Label Table

<table>
<thead>
<tr>
<th>Variant</th>
<th>Label Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>ChangeMe!</td>
</tr>
<tr>
<td>002</td>
<td>ChangeMe!</td>
</tr>
</tbody>
</table>

Assembly Note

ZZ1
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ2
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ3
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.
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