NOTES:
LINE INPUT VOLTAGE: 195VRMS - 265VRMS, 47Hz - 63Hz
PEAK INPUT CURRENT: 7.0A

OUTPUT VOLTAGE: 390VDC nominal
MAXIMUM OUTPUT POWER: 900W

195 to 265 VAC
J1
ED120/3DS
TP1
F1
01110501Z
TP2
GNDE
RV1
275V
C1
0.68µF
RLY-P
RLY-N
RCL1
10
L3
5 mH
L2
5 mH
C2
0.68µF
R30
221k
R32
221k
R29
221k
R33
221k
C8
1.0nF
C9
1.0nF
C6
1.0nF
C7
1.0nF
HS1
Heatsink HS1 for BR1
R40
0
V6560Y
PGND
BR1
TP3
D6
CGRM4007-G
D7
CGRM4007-G
C3
1.5µF
RTN
R5
0.2
R4
0.02
R11
221
D2
1N5406
Mount R28 and C21 only when Ultra-fast Diode is used for D1
Suggested UF Diode for D1: BYV29FX-600
L1
750342810
360 uH
C3D04060A
D1
R28
43.2
C21
330pF
VCC
U2
UCC27517ADBV
VDD
GND
IN+
OUT
IN-
C23
1µF
R24
2.10
D3
R3
1.05
TP7
R1
10.0k
Q1
IPP60R190P6
C26
DNP
Mount only either R2 or R24
Mount R2 for internal gate driver
R2
3.9
U1
UCC28180D
GND
ICOMP
ISENSE
FREQ
GATE
VCC
VSENSE
VCOMP
100khz
TP9
VCC
TP8
Vsense
R25
340k
R26
340k
R38
21.0k
R27
221k
R31
47.5k
C25
10µF
R39
1.00k
12V
D9
D10
BAT54
PFC_ON
K1
G5LE-1A4 DC12
BIAS
R13
100
D5
1N4148W-7-F
C17
1µF
2N7002-7-F
Q5
CURRENT LIMIT RESISTOR BYPASS CIRCUIT
Switch ON delay 0.2s
R20
332k
R21
332k
R22
340k
R23
10.0k
ACsense
C20
10µF
D8
BAT54
Vsense
Q4
BC847CLT1G
R14
13.7k
BOOST FOLLOWER CONTROL CIRCUIT
BAT54
D4
C15
1nF
C10
2.7nF
R12
21.5k
C16
0.1µF
TP10
C12
1µF
R10
23.7k
C14
4.7µF
C13
0.39µF
C11
820pF
R9
13.0k
R8
340k
R7
332k
R6
332k
TP5
TP6
390 VDC
2.3 Amps max
VDCBUS
J2
1786433
C4
220 uF
C5
220 uF
C18
220 uF
R35
221k
R36
221k
R34
221k
R37
221k
Bleeder Resistor to discharge output
When unit is turned-off
Q2
MMBT3906
R18
15.4
VCC
R15
10.0k
C19
10µF
R16
6.8k
PFC_ON
R19
2.21k
Q3
2N7002-7-F
C24
0.47µF
R17
100k
PFC SHUTDOWN CIRCUIT
12V-15VDC
BIAS
PFC_ON
ACsense
J3
PEC04SAAN
Recommended to use TIDA-00434 Design for Bias Supply Needs
HS2
Heatsink HS2 for Q1
V6560Y
HS3
Heatsink HS3 for D2
V6560Y

NOTES:
For Boost Follower Configuration:
Populate R14 and Q4 and set R9 = 21.5k
Populate R5 = 0.2 Ohm

For Fixed Output Boost PFC configuration
Do not populate R14 and Q4 and Set R9 = 13k
Do not populate R5

Orderable: TIDA-00443	Designed for: Public Release	Mod. Date: 6/15/2015
TID #: TIDA-00443	Project Title: 900W PFC Pre-Regulator for Inverter Fed Drives	
Number: TIDA-00443 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 1 of 2
Drawn By: Latif Ameer	File: TIDA-00443_REVB.SchDoc	Size: B
Engineer: Latif Ameer	Contact: http://www.ti.com/support	

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http://www.ti.com

H7 NY PMS 440 0025 PH

H8 NY PMS 440 0025 PH

H9 NY PMS 440 0025 PH

H10 NY PMS 440 0025 PH

H1 SJ-5303 (CLEAR)

H2 SJ-5303 (CLEAR)

H3 SJ-5303 (CLEAR)

H4 SJ-5303 (CLEAR)

FID1 FID2 FID3 FID4

PCB Number: TIDA-00443
PCB Rev: E2

PCB LOGO
Texas Instruments

PCB LOGO
Pb-Free Symbol

You should delete the nylon screws/standoffs and/or the bumpons as needed for your design (or substitute other parts from Hardware.IntLib). Bumpons are cheaper, but provide less clearance.

Deleting anything else from this page may result in your EVM submission being rejected (until you add them back).

Update the Label Text in the Label Table as needed for each Assembly Variant.

You can delete this note too.

Label Table

Variant	Label Text
001	ChangeMe!
002	ChangeMe!

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

ZZ2
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Orderable: TIDA-00443	Designed for: Public Release	Mod. Date: 6/1/2015
TID #: TIDA-00443	Project Title: 900W PFC Pre-Regulator for Inverter Fed Drives	
Number: TIDA-00443 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 2
Drawn By: Latif Ameer	File: TID_Hardware.SchDoc	Size: B
Engineer: Latif Ameer	Contact: http://www.ti.com/support	

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