IWR1443BOOST

PROC010

REVISIONS
SEE SHEET 2

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ASSEMBLY NOTES:

ASSEMBLIES MUST BE CLEAN AND FREE FROM FLUX AND ALL CONTAMINANTS. USE OF NO CLEAN FLUX IS NOT ACCEPTABLE

ASSEMBLIES MUST COMPLY WITH WORKMANSHIP STANDARDS IPC-A-610 CLASS 2, UNLESS OTHERWISE SPECIFIED

COMPONENTS MARKED "DNI = TRUE" WILL NOT BE ASSEMBLED

TEXAS INSTRUMENTS

SEMICONDUCTOR OPERATIONS

09/5/2016

CODE IDENTITY NUMBER 01295

SIZE	DRAWING NO.	REV
B	IWR1443BOOST	A

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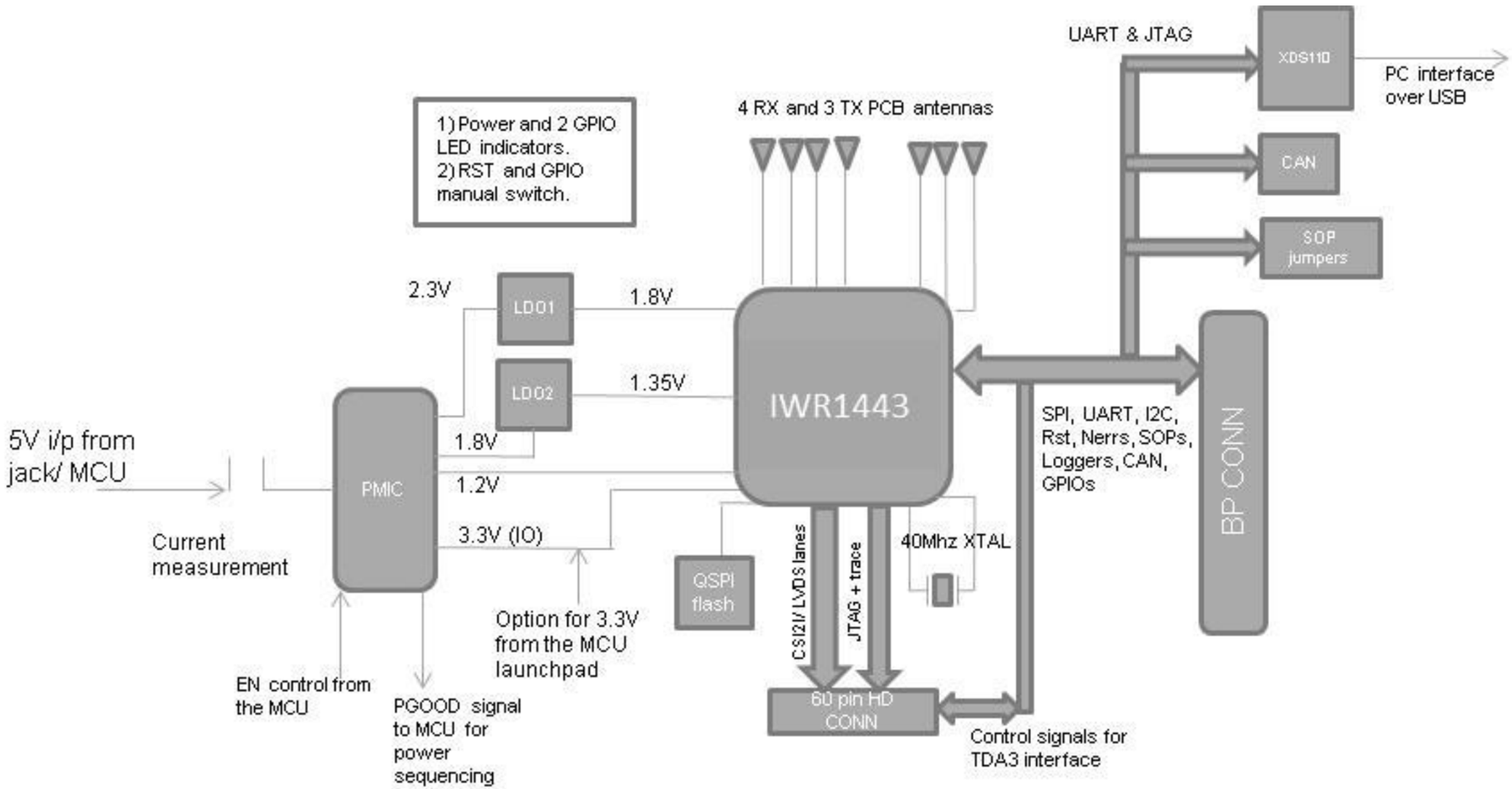

TEXAS INSTRUMENTS
SEMICONDUCTOR OPERATIONS
09/5/2016

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SIZE	DRAWING NO.	REV
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REVISIONS

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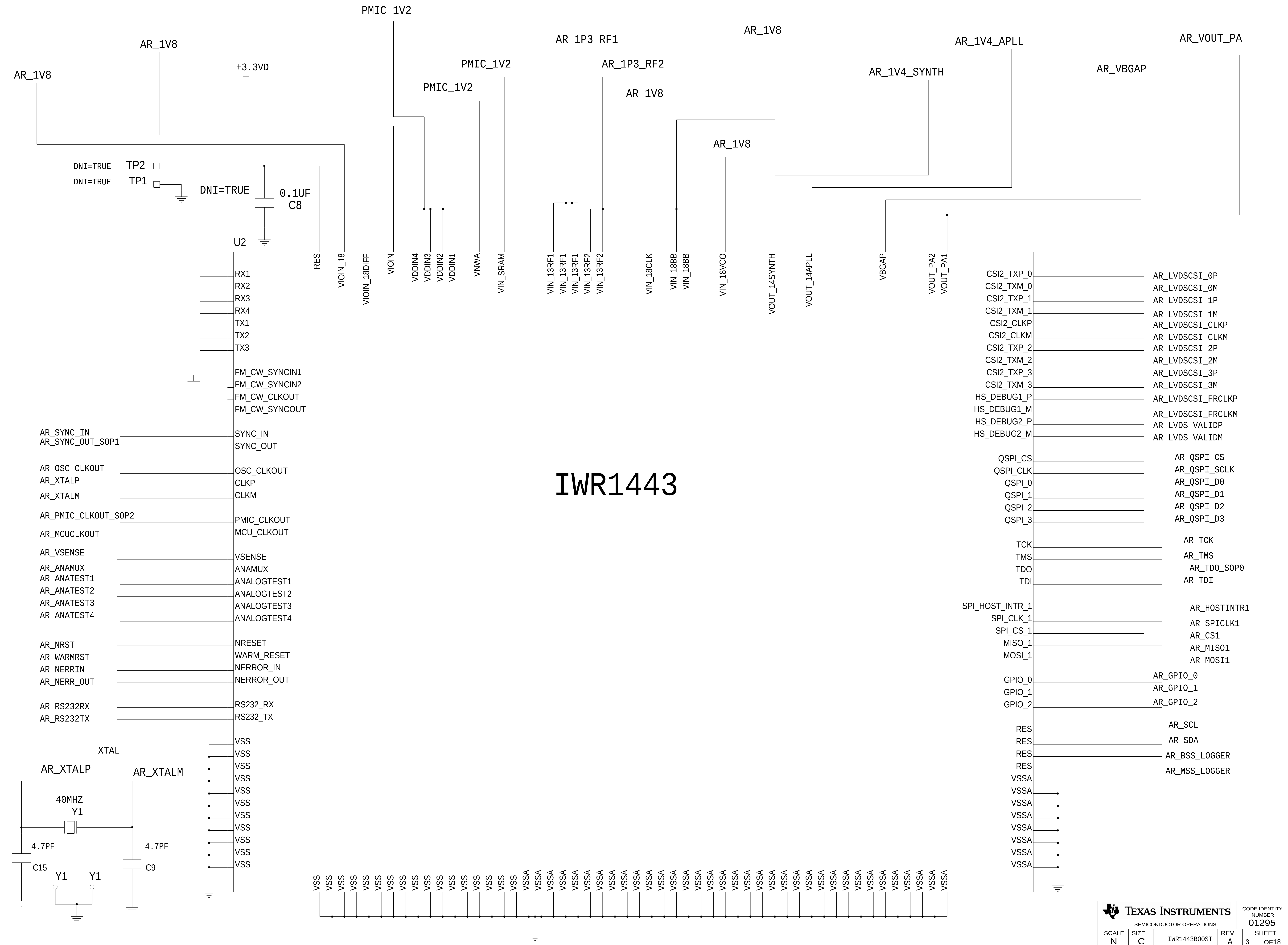

TEXAS INSTRUMENTS

SEMICONDUCTOR OPERATIONS

CODE IDENTITY NUMBER	01295

SCALE	SIZE		REV	SHEET
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SUPPLY_DECOUPLING_CAPS

REVISIONS

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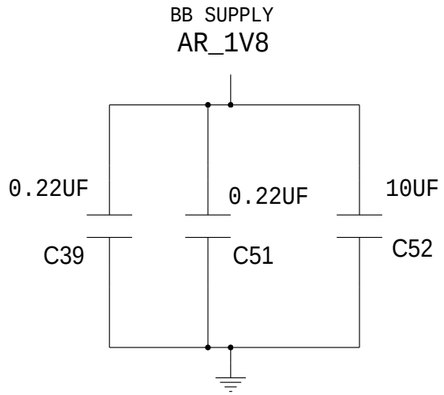
BB SUPPLY



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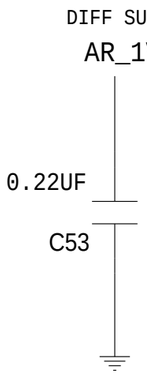
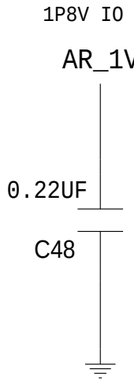
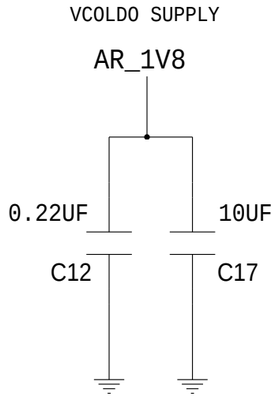
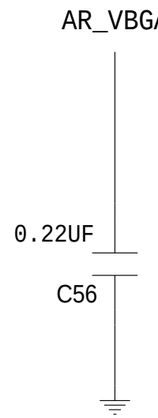


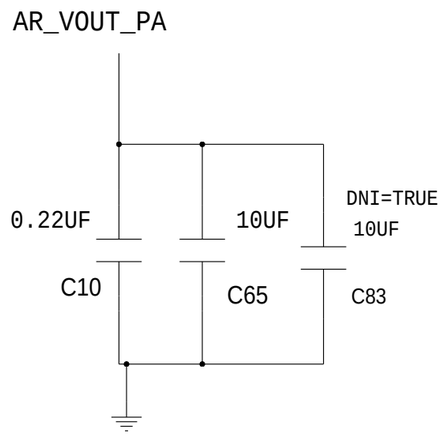
1P8V IO SUPPLY



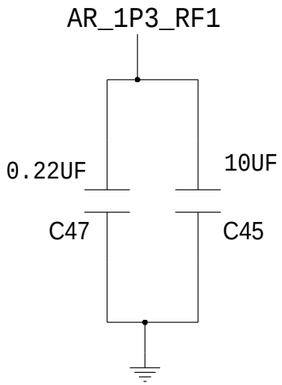
VCOLDO SUPPLY







RF1 SUPPLY



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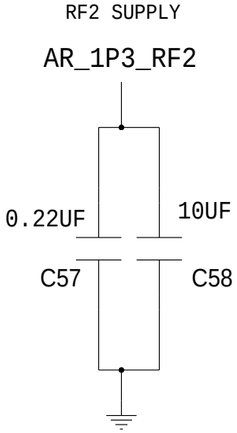
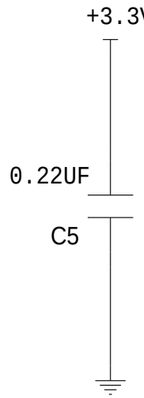
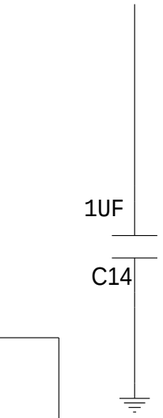
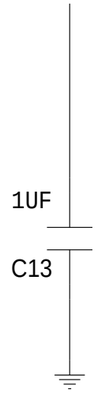


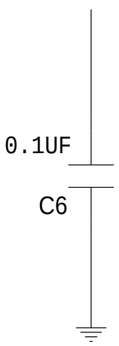
3V3IO SUPPLY



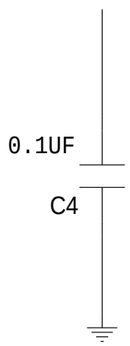




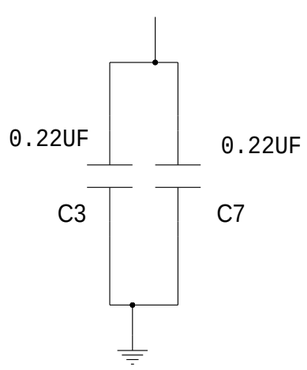
VNWA SUPPLY



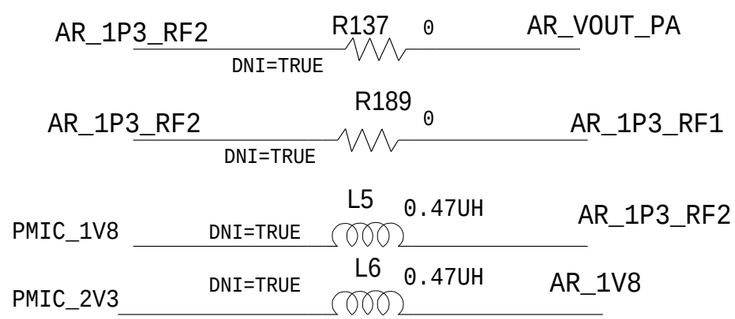
SRAM SUPPLY



DIG SUPPLY



PROVISIONS FOR DEBUG
FOR INTERNAL USE ONLY



TEXAS INSTRUMENTS

SEMICONDUCTOR OPERATIONS

09/5/2016

CODE IDENTITY NUMBER 01295

SIZE	DRAWING NO.	REV
B	IWR1443BOOST	A

Decoupling caps

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LDO_01 (1.8V OUTPUT)

REVISIONS

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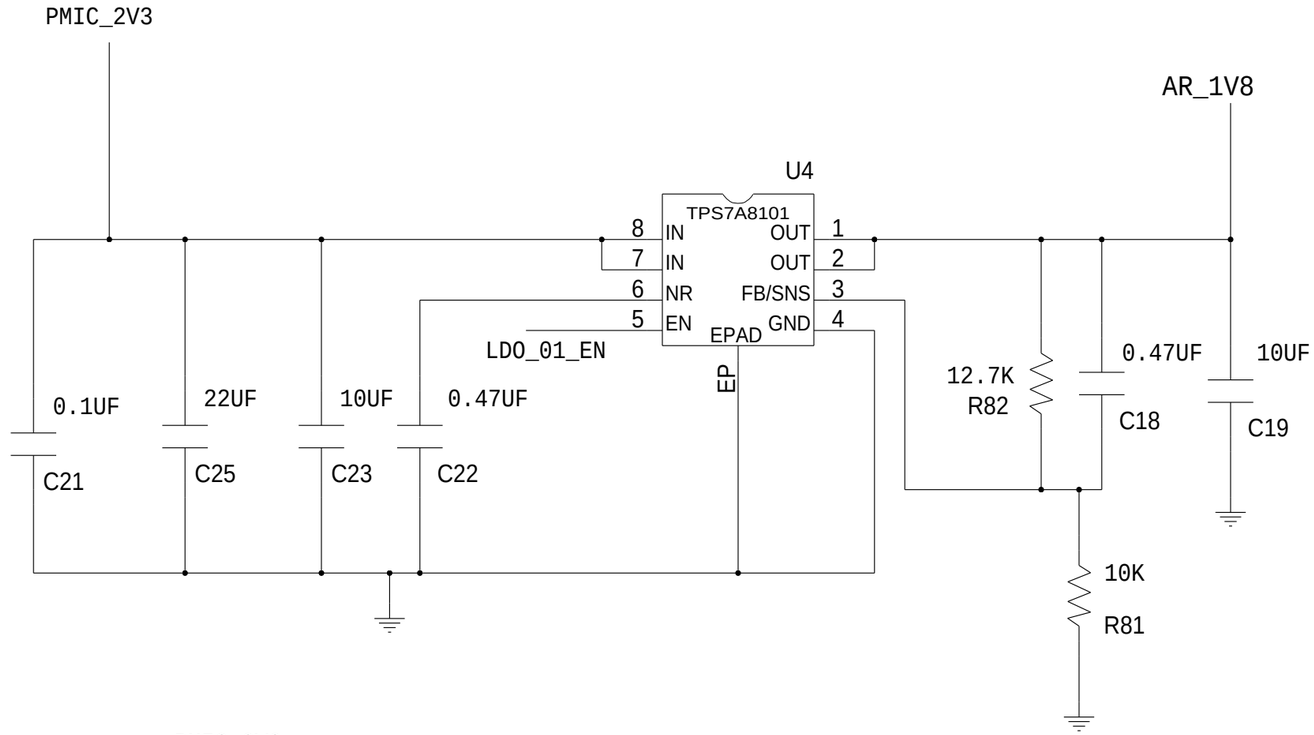

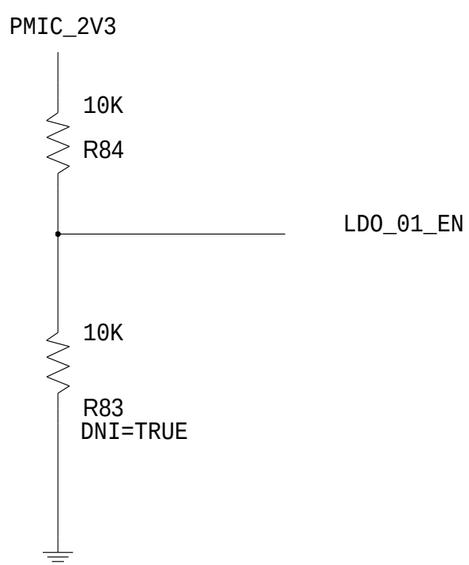

TEXAS INSTRUMENTS

SEMICONDUCTOR OPERATIONS

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LDO_01 (1.8V Output) | SHEET 5 OF 18

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LDO_02 (1.3V LDO)

REVISIONS

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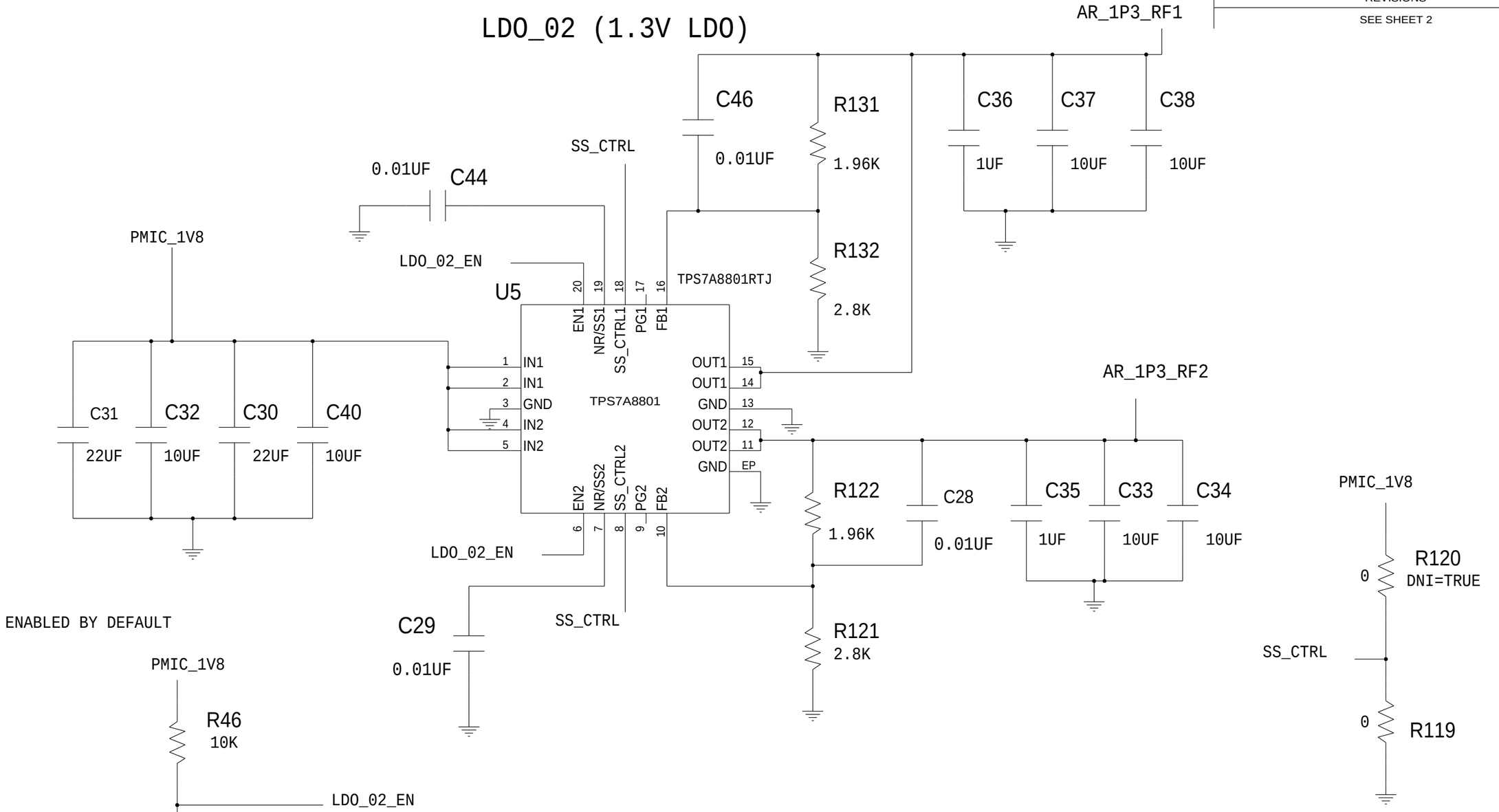

TEXAS INSTRUMENTS SEMICONDUCTOR OPERATIONS 09/5/2016		CODE IDENTITY NUMBER 01295
SIZE B	DRAWING NO. IWR1443BOOST	REV A
LDO_02 (1.3V Output)		SHEET 6 OF 18

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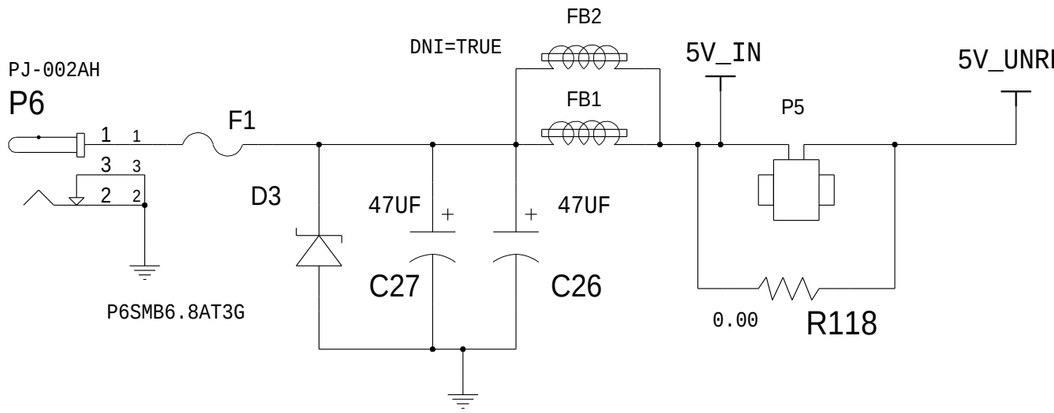
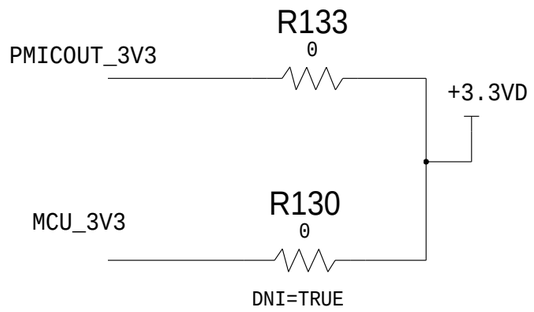
POWER SUPPLY CONNECTOR



3P3 SUPPLY FROM PMIC OR FROM THE MCU



REVISIONS

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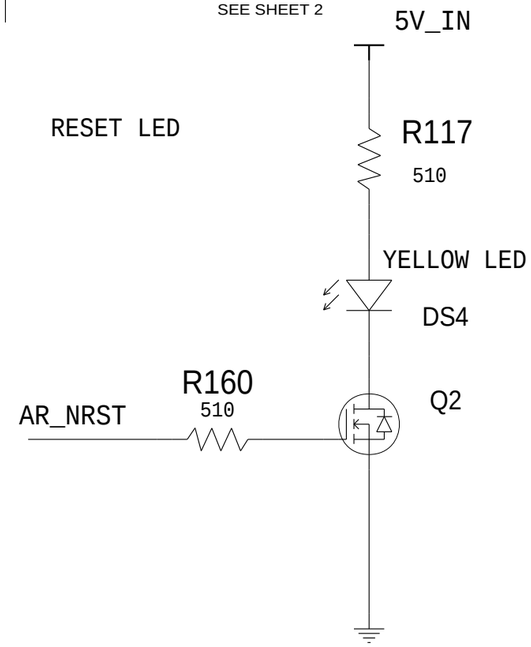
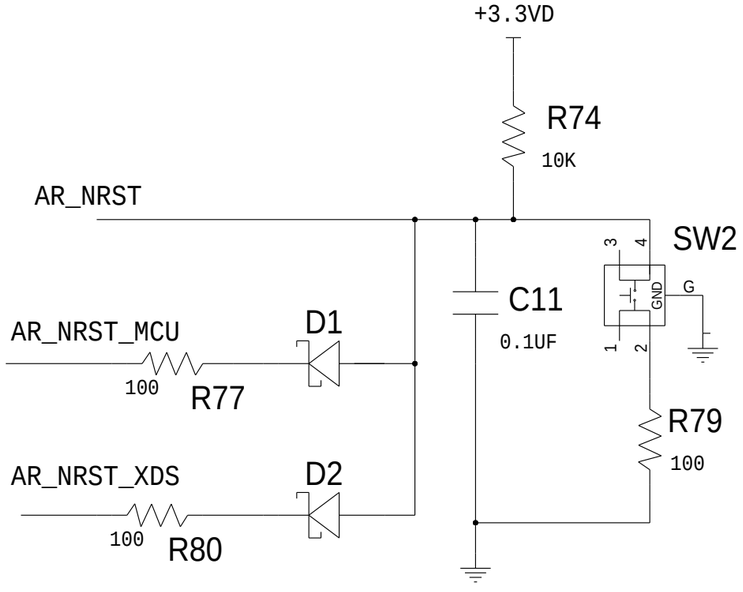
RESET LED

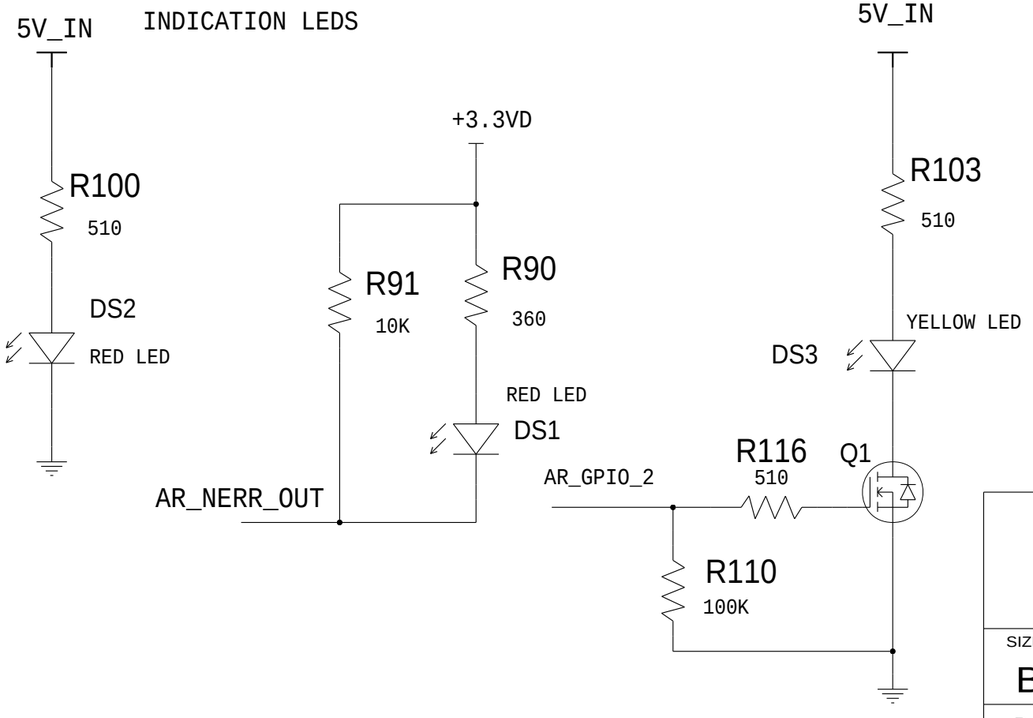


RESET AND LEDS

SW FOR MANUAL RESET



INDICATION LEDS



TEXAS INSTRUMENTS SEMICONDUCTOR OPERATIONS 09/5/2016		CODE IDENTITY NUMBER 01295
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PMIC (3.3V, 1.2V, 1.8V,2.3V OUTPUTS)

REVISIONS

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5V_UNREG

10UF C59 | 10UF C60 | 10UF C73 | 10UF C72

PMIC_1V8 — L4 0.47UH — SW2 — 5V_UNREG — 22UF C81

PMICVIO_3V3 — R145 10K

SW3 — L3 0.47UH — PMIC_2V3 — 5V_UNREG — 22UF C82

PMICVIO_3V3 — 4.99K R147 | 4.99K R143 | 10K R148

U8

1	FB_B2							FB_B3	21
2	EN3							NRST	20 — PMIC_NRST
3	CLKIN — PMIC_CLK							NINT	19
4	AGND							VANA	18 — 5V_UNREG
5	SCL — AR_SCL R146 0							AGND	17
6	SDA — AR_SDA R144 0							PGOOD	16
7	EN1 — PMIC_EN							EN2	15
8	FB_B0							FB_B1	14
		VIN_B0	SW_B0	PGND_B01	SW_B1	VIN_B1		AGND	EP
		5V_UNREG	9	10	11	12	13	5V_UNREG	

P87524BRNFRQ1_ES2.2_PRELIMINARY

PMICOUT_3V3 — SW0 — L2 0.47UH — 22UF C55

SW1 — 0.47UH L1 — PMIC_1V2 — 22UF C54

C68 0.22UF

SNUBBER ON SWITCHING NODES

	SW0	SW1	SW2	SW3
	R190 3.83	R191 3.83	R192 3.83	R193 3.83
	C86 390PF	C87 390PF	C88 390PF	C89 390PF

THE 3V3 OUTPUT FROM PMIC IS USED AS PGOOD.

PMICOUT_3V3 — R141 0 — PGOOD — R138 100K

5V_IN

CONTROLS FOR THE PMIC

R149 1K — PMICVIO_3V3

R139 1.96K

PMICVIO_3V3

R150 4.99K — PMIC_NRST

R142 4.99K — PMIC_EN

TEXAS INSTRUMENTS

SEMICONDUCTOR OPERATIONS

09/5/2016

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B	IWR1443BOOST	A
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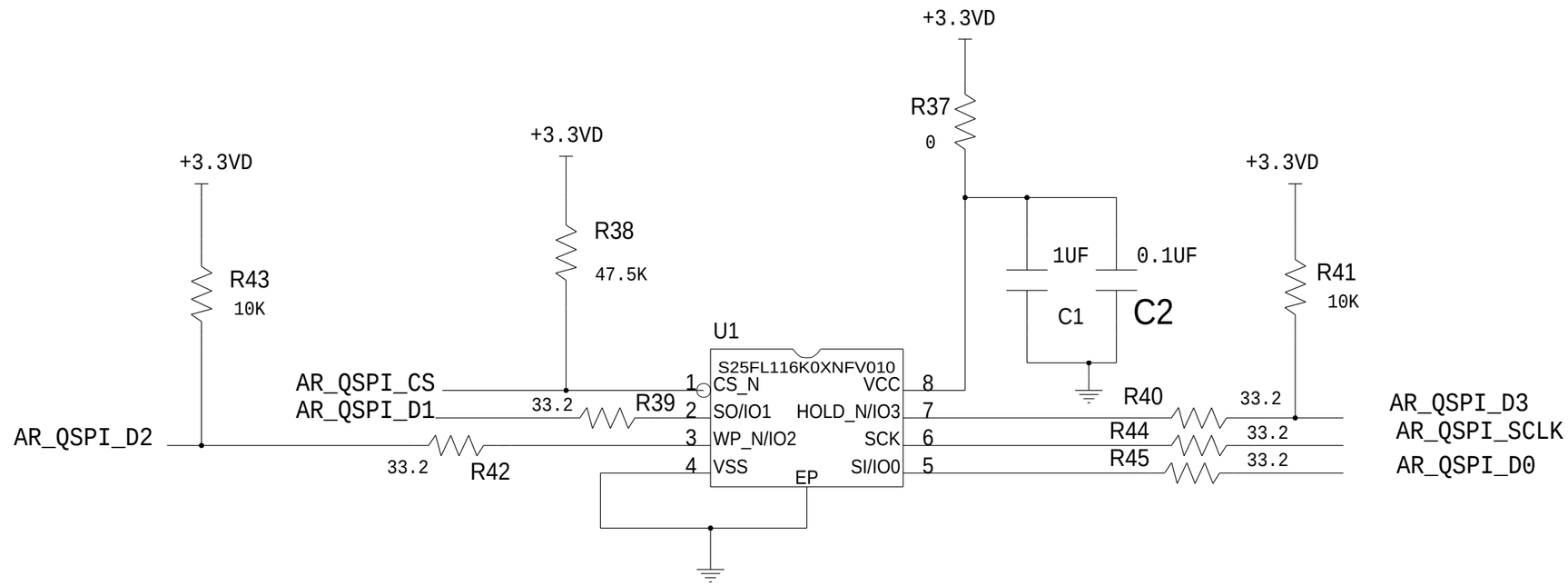
QSPI FLASH



TEXAS INSTRUMENTS

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B	IWR1443BOOST	A

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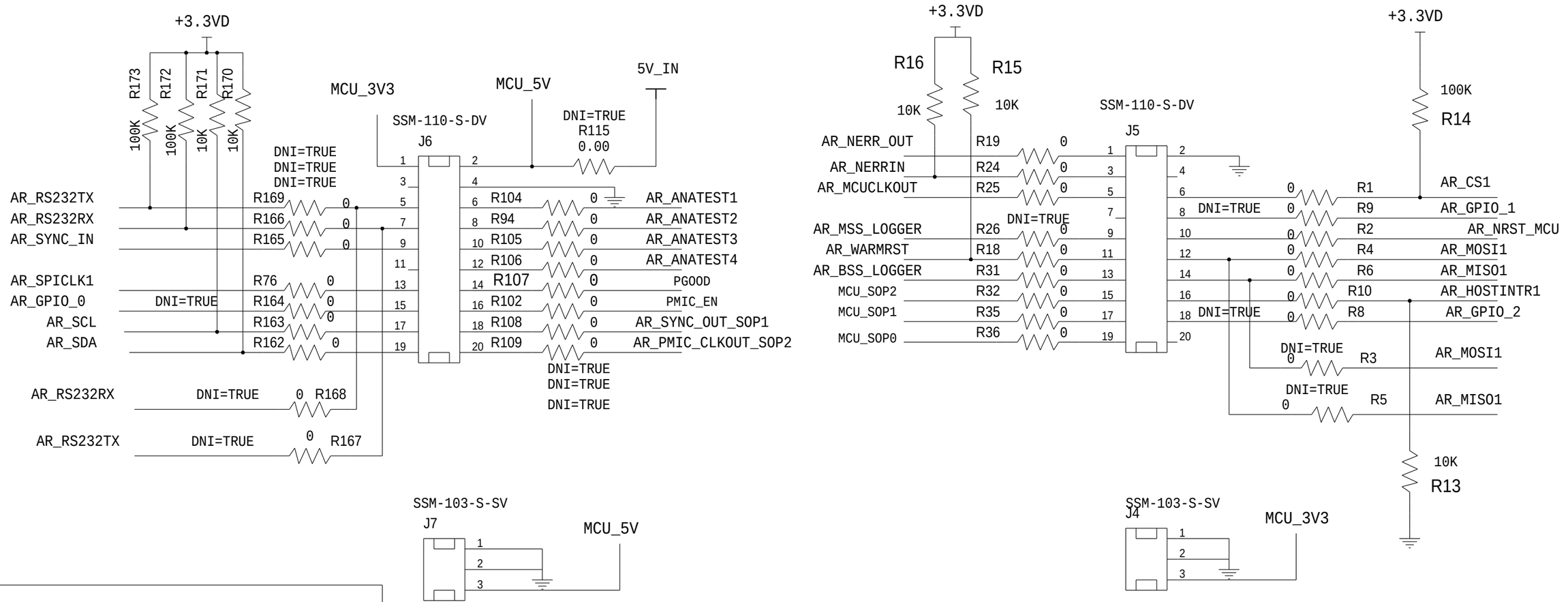
BP/LP CONNECTOR



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LP Connector		SHEET 10 OF 18

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HD CONNECTOR FOR LVDS/CSI AND JTAG

REVISIONS
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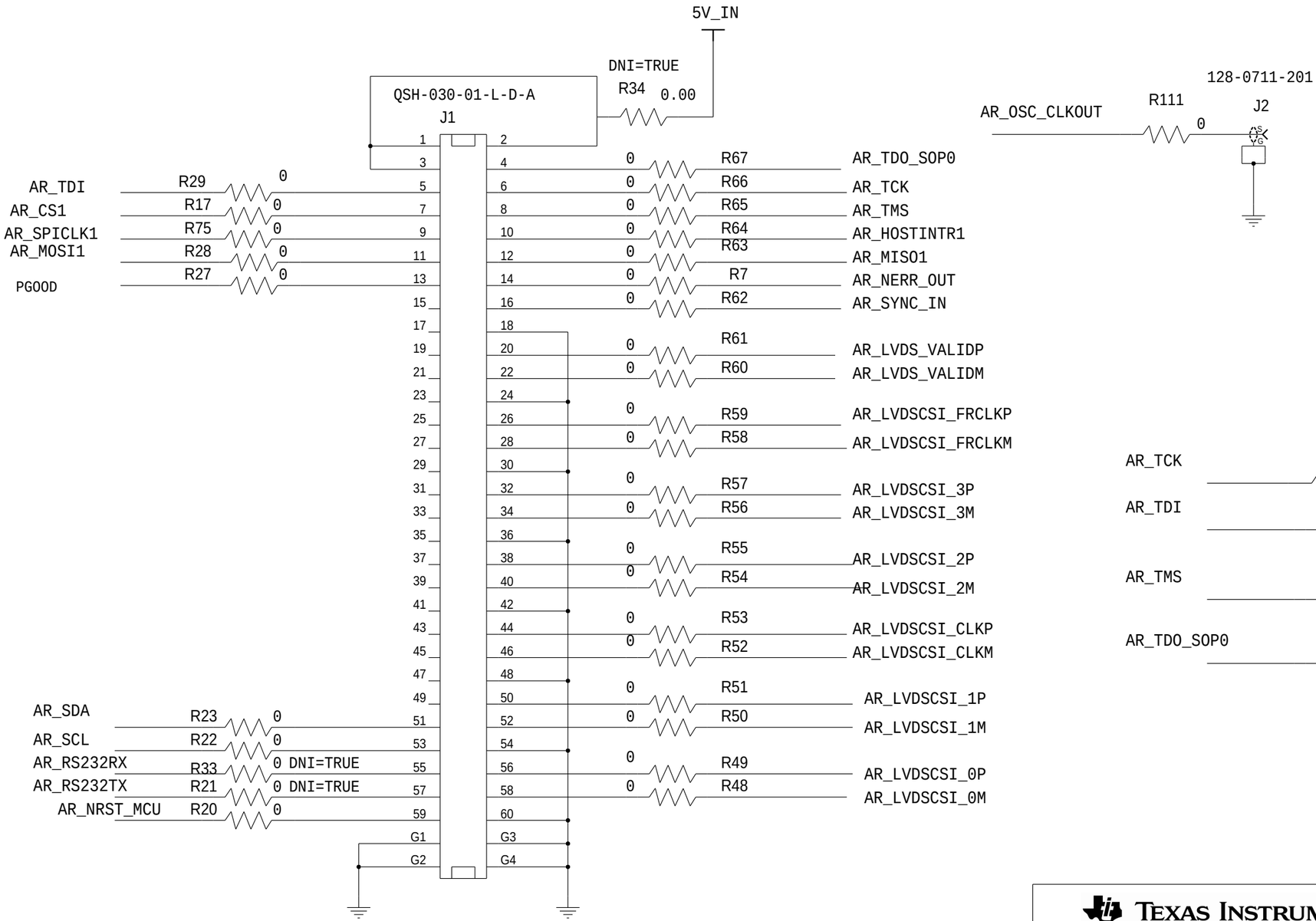

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HD Connector		SHEET 11 OF 18

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XDS110(1/2)

REVISIONS

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R176
0
5V_IN

3V3_MON_XDS_1

U9

C80 2.2UF
C79 0.1UF

TPS79601DRB
8 EN
7 NC
6 GND
5 FB
EPAD
IN 1
IN 2
OUT 3
OUT 4

EP

3V3_BRD

R156 49.9K
C78 15PF
C77 2.2UF

R157 30K

3V3_MON_XDS_1
R159 0
100K R158
PGOOD

BY DEFAULT THE XDS SUPPLY IS DISABLED..

GETS ENABLED ONLY ONCE THE PMIC IS POWERED UP.

XDSET_1_VBUS

R161 0

105017-0001
J8
G1 G 1
G2 G 2
G3 G 3
G4 G 4
G 5

U10
TPD4E004DRY
VCC 6
IO1 1
IO2 2
IO3 4
IO4 5
GND 3

XDSET_1_DM
XDSET_1_DP
XDSET_1_ID
XDSET_1_DP

R175 0
R174 30K

3V3_BRD

C43 0.1UF
C61 1UF
C42 0.1UF
C41 1UF
C50 10NF
C76 0.1UF

VDDC_1

C74 2.2UF
C75 0.1UF
C64 0.1UF
C62 1UF

XDSET_1_VBUS

R151 330K
R153 330K
VBUS_1_DETECT
C69 0.01UF

TEXAS INSTRUMENTS
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XDS110 Interface_1A		SHEET 12 OF 18

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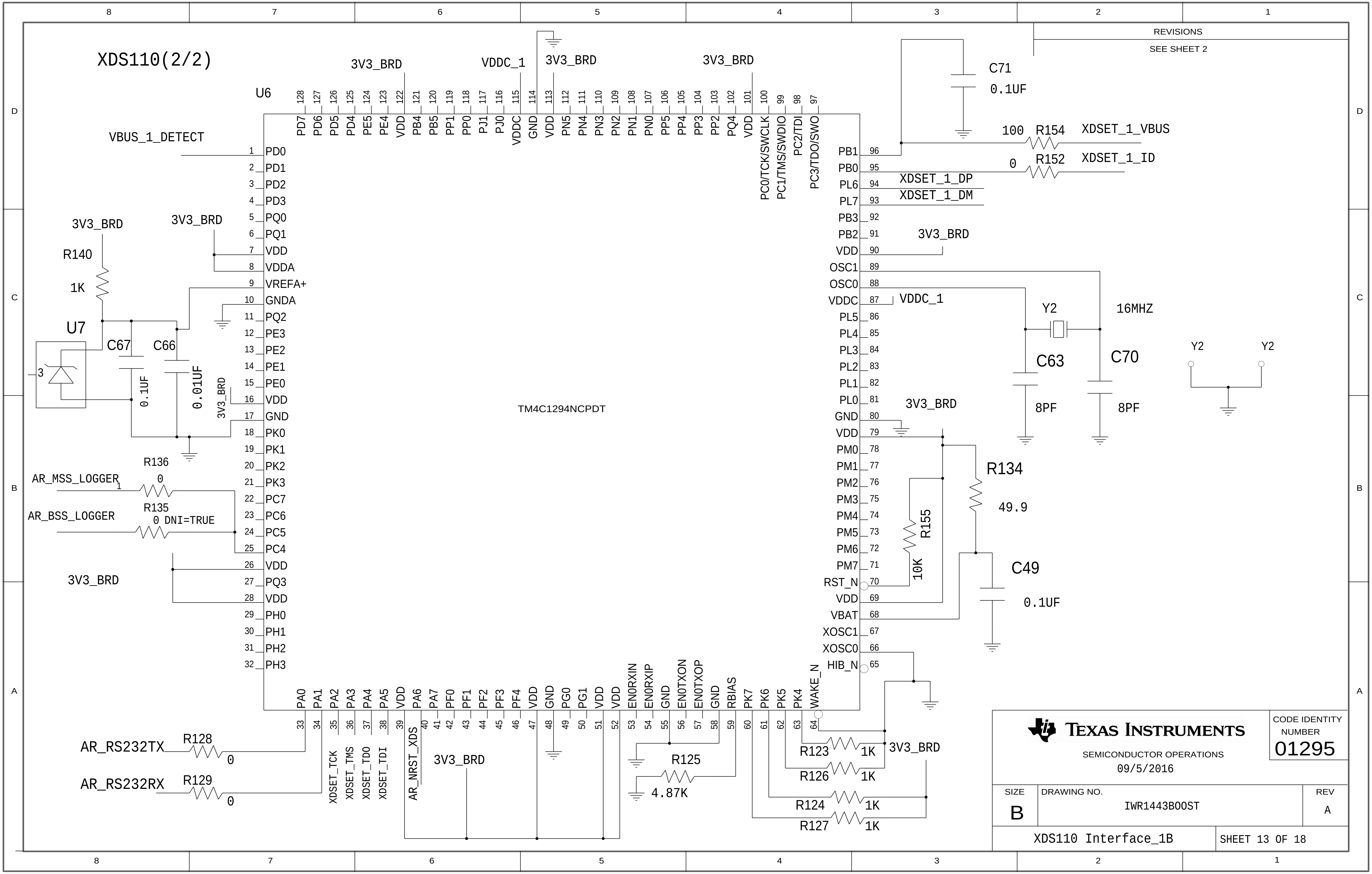

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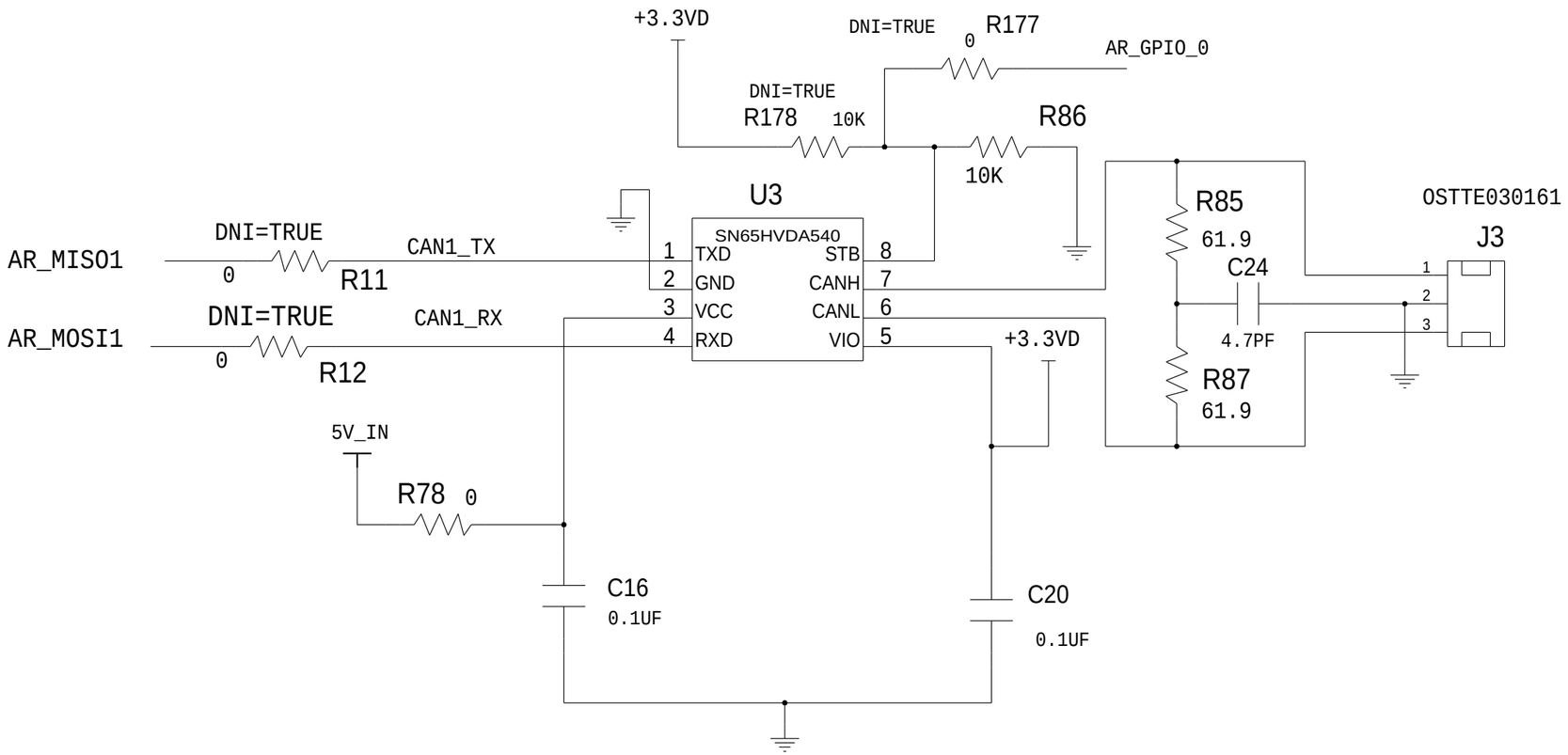
CAN INTERFACE



TEXAS INSTRUMENTS SEMICONDUCTOR OPERATIONS 09/5/2016		CODE IDENTITY NUMBER 01295
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SOP HEADERS

REVISIONS

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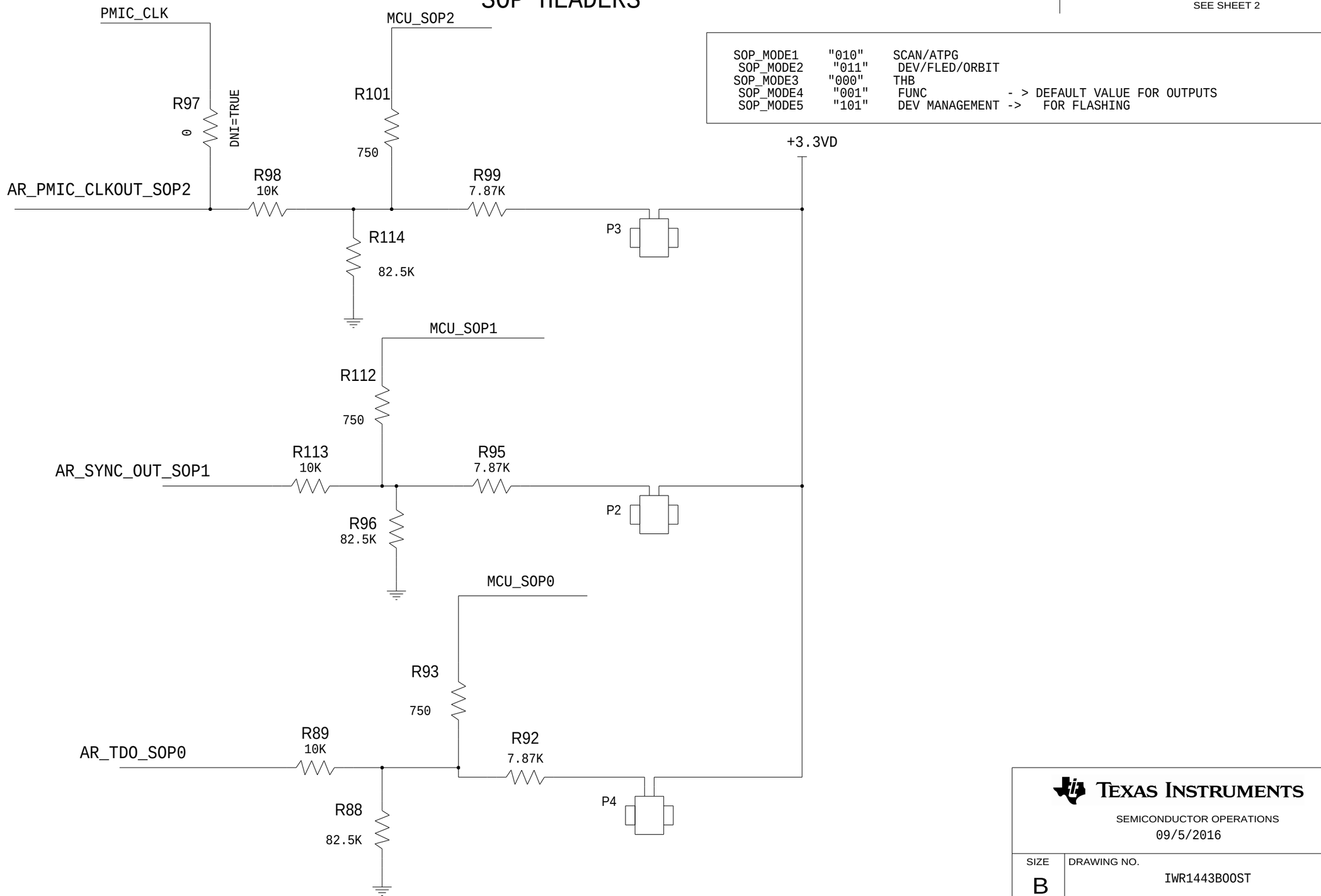
SOP_MODE1	"010"	SCAN/ATPG
SOP_MODE2	"011"	DEV/FLED/ORBIT
SOP_MODE3	"000"	THB
SOP_MODE4	"001"	FUNC - > DEFAULT VALUE FOR OUTPUTS
SOP_MODE5	"101"	DEV MANAGEMENT -> FOR FLASHING



TEXAS INSTRUMENTS

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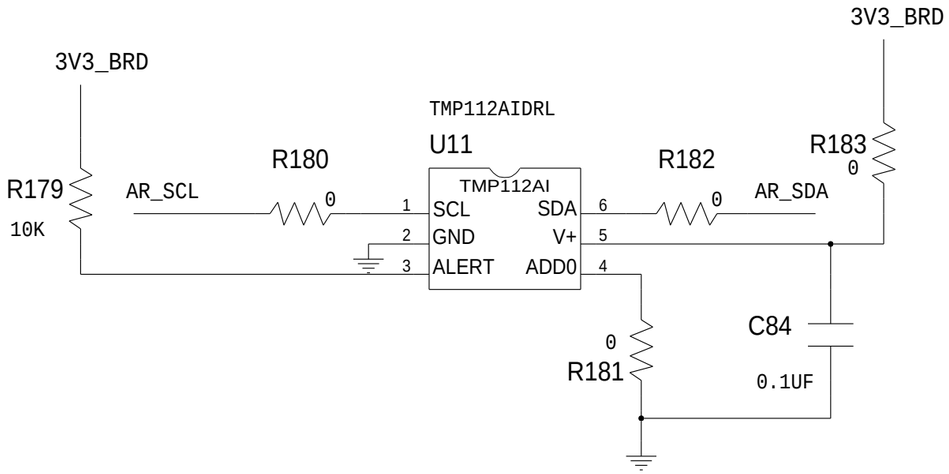
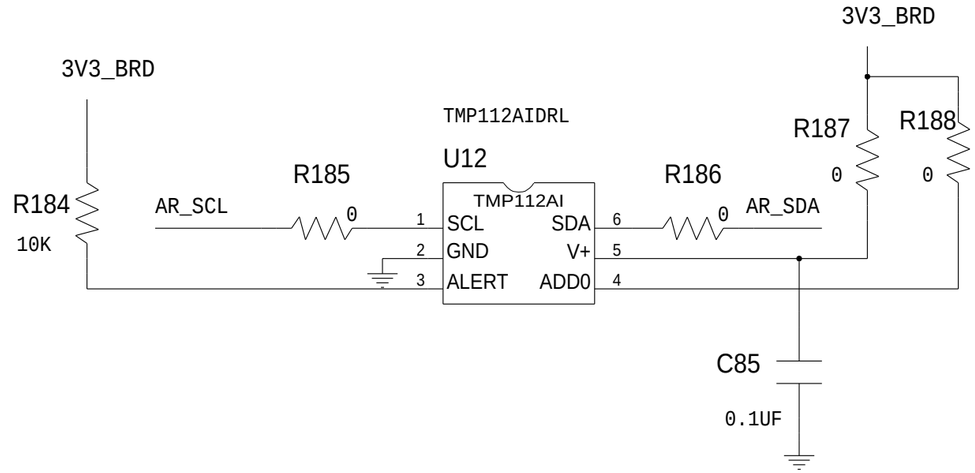
ONBOARD TEMP SENSORS



TEMP SENSOR CLOSE TO PMIC

DEFAULT I2C ADDRESS : 0X48



TEMP SENSOR AWAY FROM PMIC
AND MMWAVE DEVICE

DEFAULT I2C ADDRESS : 0X49

TEXAS INSTRUMENTS
SEMICONDUCTOR OPERATIONS
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Tempsensor		SHEET 16 OF 18

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REVISIONS
SEE SHEET 2

REVISION HISTORY

CHANGES IN REV A

1) ADDED ZENER DIODE ON 5V INPUT TO PROTECT FROM HIGH VOLTAGES.

2) ADDED ONBOARD TEMPERATURE SENSORS.

3) ADDED FERRITE BEAD ON 5V SUPPLY.

4) CHANGED THE PMIC PART TO PG2.2 VERSION

5) ADDED DUMMY ANTENNAS FOR RX

6) ADDED PM DUBUG PROVISION FOR LDO BYPASS

TEXAS INSTRUMENTS
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REVISIONS
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FD1

FD2

FD3

FD4

FD5

FD6

PCB LOGO

TEXAS INSTRUMENTS

PCB LOGO

ESD SENSITIVE

PCB LOGO

FCC DISCLAIMER

PCB LOGO

LAUNCHPAD COMPATIBLE

PCB LOGO

ROHS EXEMPT

PCB LABELS : THESE LABELS NEED TO BE PUT ON THE ASSEMBLED PCB

1) TOP SIDE OF THE PCB -> IWR1443BOOST
REV A

2) BOTTOM SIDE OF THE PCB -> IWR1443BOOST
REV A

ASSEMBLY NOTES:
ASSEMBLIES MUST BE CLEAN AND FREE FROM FLUX AND ALL CONTAMINANTS. USE OF NO CLEAN FLUX IS NOT ACCEPTABLE
ASSEMBLIES MUST COMPLY WITH WORKMANSHIP STANDARDS IPC-A-610 CLASS 2, UNLESS OTHERWISE SPECIFIED
COMPONENTS MARKED "DNI = TRUE" WILL NOT BE ASSEMBLED

TEXAS INSTRUMENTS
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