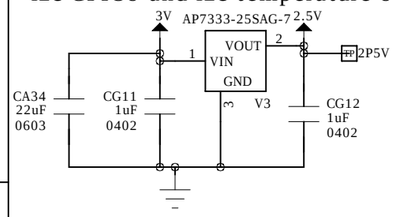
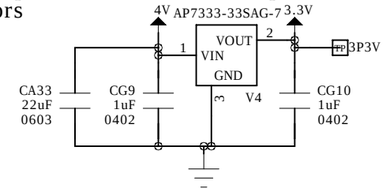
provides 2.5V i2c eeprom,
i2c GPIOs and i2c temperature sensors



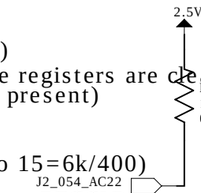
provides 3.3V for multiplexers and DAC

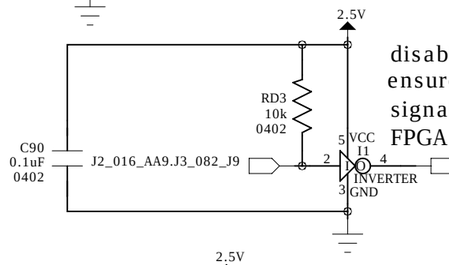


2013-11 notes / changes since revB:
added 10 Ohm series resistors between external DAC and ASIC pins
changed capacitance for external DACs to be 1uF+47nF+200pF
connected 3V and 5V nets to bottom connectors (so only one power connector should be necessary per stack)
exchanged SMA connectors for MMCX
exchanged ltc2637 for ltc2657
used lt1963a with a shutdown and wired shutdowns to be active on power-up (controllable via I2C)
changed to LMH6629 amplifier
the RJ resistors are 50 Ohms; the RF resistors are 20k, yeilding a supposed voltage gain of 400 (compared to 15=6k/400)
the CE resistors are 1nF instead of 100nF

2013-11-15 notes / changes since revC:
added LT1529 5V regulator (need to provide ~6V to board now; repurposed FPGA's J16 as a $\overline{\text{shutdown}}$ pin for this)
exchanged 2mm connectors for pogo pins; changed board shape to accomodate this

the pullup is so all the registers are cleared
(even when FPGA not present)

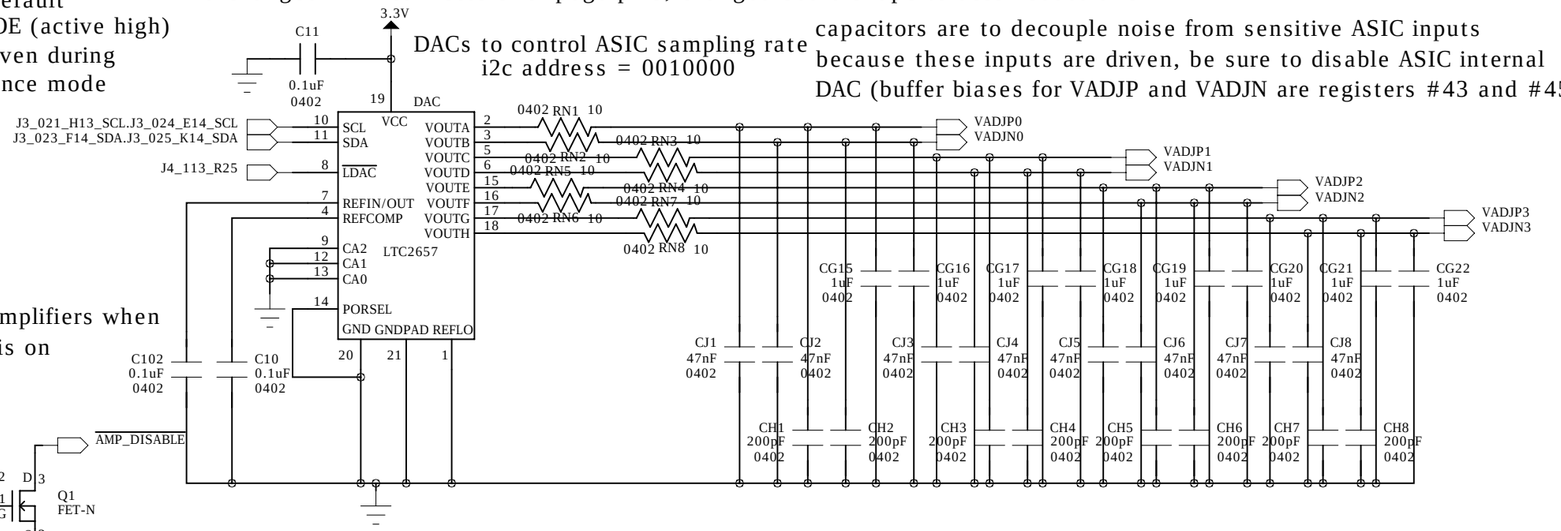


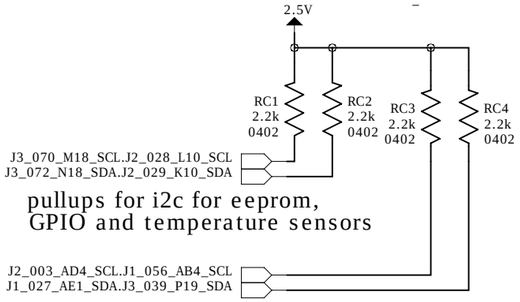


disables DOE by default
ensures all four DOE (active high)
signals are not driven during
FPGA high-impedance mode

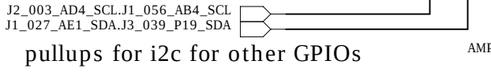
DACs to control ASIC sampling rate
i2c address = 0010000

capacitors are to decouple noise from sensitive ASIC inputs
because these inputs are driven, be sure to disable ASIC internal
DAC (buffer biases for VADJP and VADJN are registers #43 and #45)



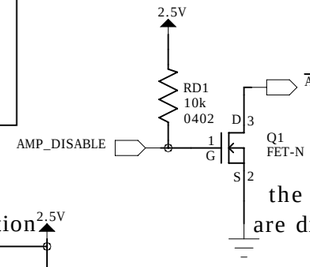


pullups for i2c for eeprom,
GPIO and temperature sensors



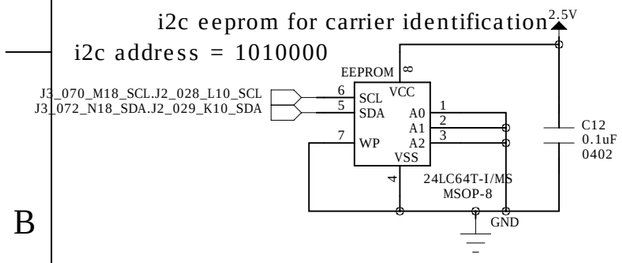
pullups for i2c for other GPIOs

disables amplifiers when
transistor is on

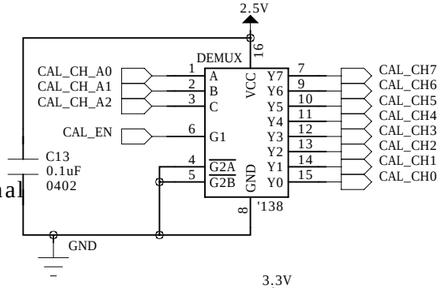


the pullup is so the amps
are disabled by default

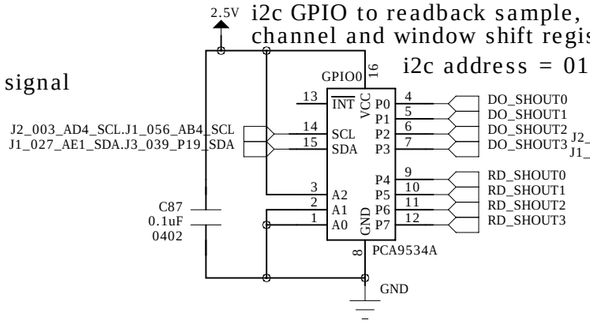
i2c eeprom for carrier identification
i2c address = 1010000



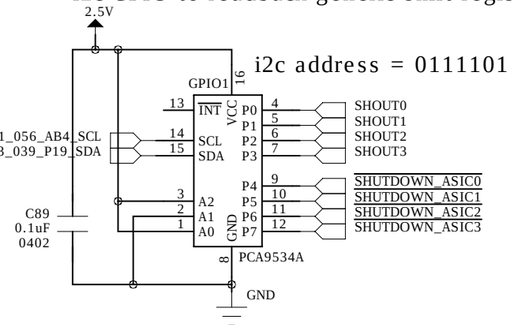
selects one channel out of 8 for calibration signal



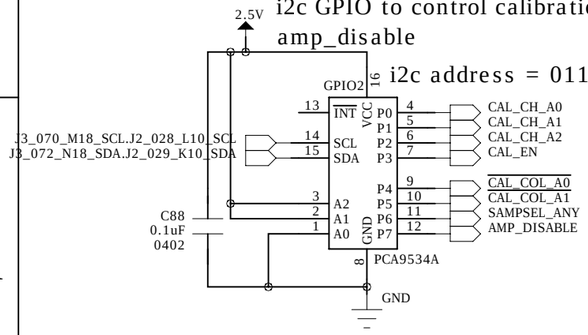
i2c GPIO to readback sample,
channel and window shift registers
i2c address = 0111100

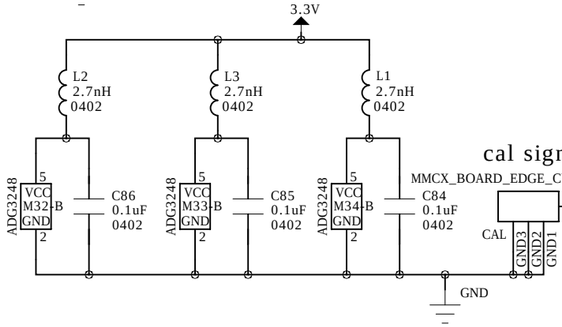


i2c GPIO to readback generic shift register
i2c address = 0111101



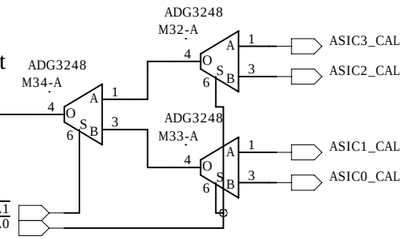
i2c GPIO to control calibration signal
amp_disable
i2c address = 0111110



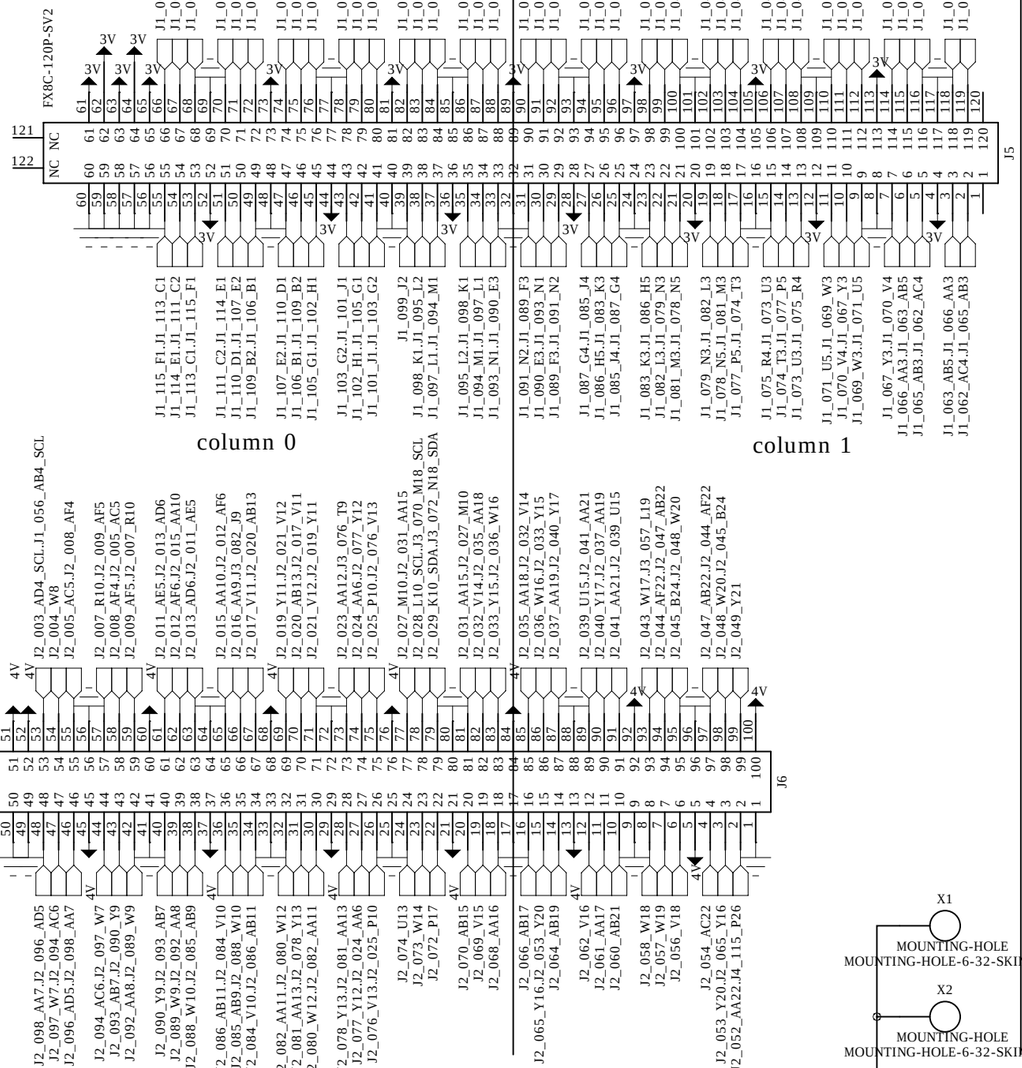


cal signal input

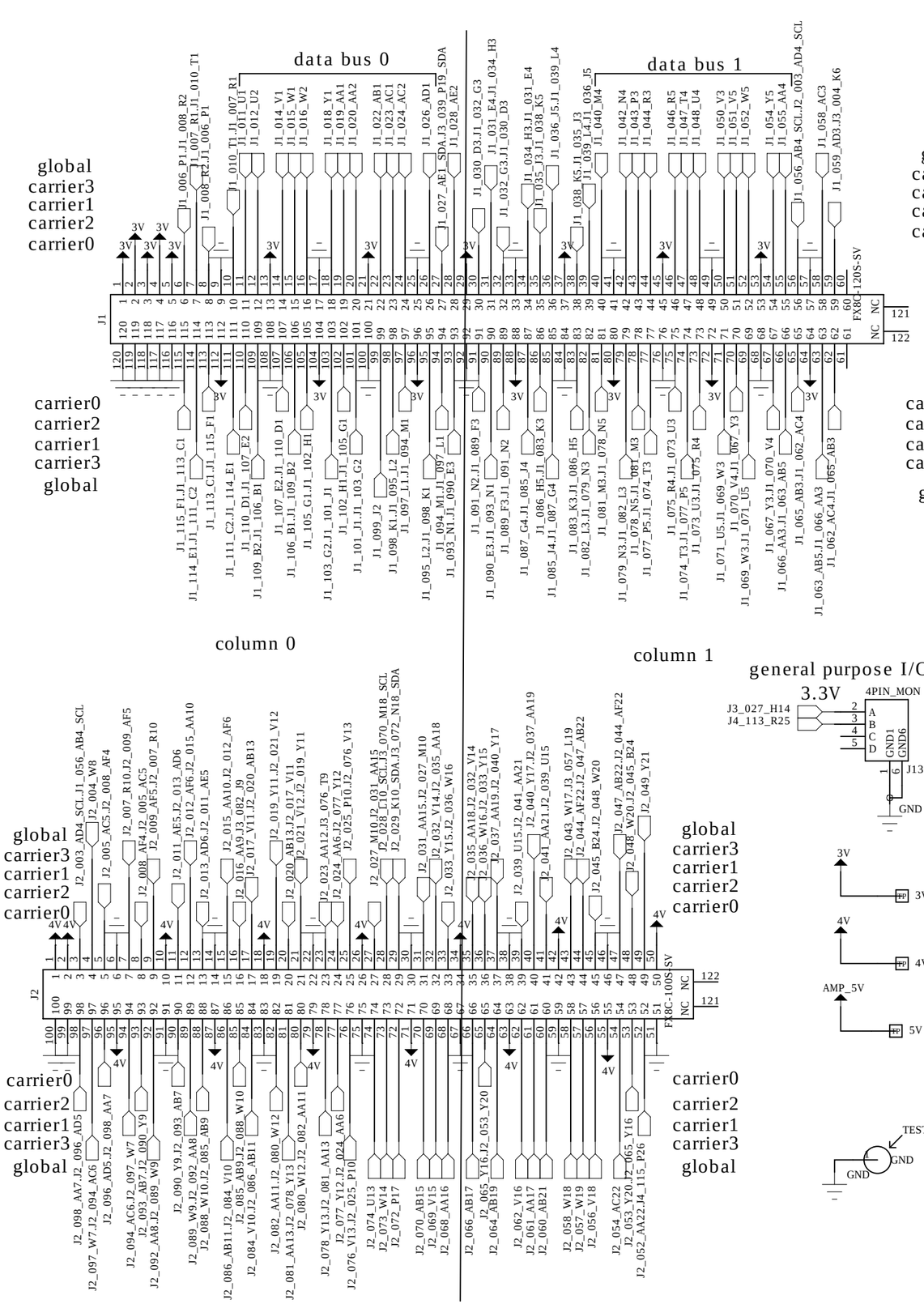
sends calibration signal to one of four ASICs



institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	1 of 11
sheet description:	POWER_CAL_I2C_FET_DAC_GPIO_EPROM
date last modified:	2013-11-22



institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	2 of 11
sheet description:	BOTTOM_CONNECTORS
date last modified:	2013-11-22



LJR, MZA, KAN, GSV, LM, G
MZA, LJR

3 of 11
TOP_CONNECTORS
2013-11-22

IMPORTANT SCROD pin mapping page

provides power to ASIC
320mV max dropout

VA0 LT1963AES8-2.5
SHUTDOWN_ASIC0
3V
RD4 10k 0402
CB1 100uF 1206
CB2 100uF 1206
2.5V_0
2V5_0
0_2V5
C76 0.1uF 0402
C1 0.1uF 0402
C2 0.1uF 0402
C3 0.1uF 0402
C4 0.1uF 0402
C5 0.1uF 0402
C6 0.1uF 0402
C7 0.1uF 0402
C8 0.1uF 0402
CA35 22uF 0603
CA1 22uF 0603
CA2 22uF 0603
CA3 22uF 0603
CA4 22uF 0603
CA5 22uF 0603
CA6 22uF 0603
CA7 22uF 0603
CA8 22uF 0603

global row column p2p

J1_008_R2.J1_006_P1
J2_057_W19
J2_056_V18
J2_054_AC22
PCLK
SIN
SCLK
REGCLR
THRESHOLD_0
THRESHOLD_1
THRESHOLD_2
THRESHOLD_3
THRESHOLD_4
THRESHOLD_5
THRESHOLD_6
THRESHOLD_7
WBIAS
VADJP
VADJN
SSTIN
VDD33 VDD41 VDD47 VDD54 VDD58 VDD60 VDD64 VDD72 VDD75 VDD81 VDD92 VDD96 VDD102 VDD105 VDD111 VDD117 VDD123 VDD128

p2p column row global

SHOUT
SHOUT0
TRGMON
J2_013_AD6.J2_011_AE5
TRG_0 TRG_1 TRG_2 TRG_3 TRG_4 TRG_5 TRG_6 TRG_7
J1_113_C1.J1_115_F1
J1_110_D1.J1_107_E2
J2_096_AD5.J2_098_AA7
J2_090_Y9.J2_093_AB7
J2_085_AB9.J2_088_W10
J2_080_W12.J2_082_AA11
J2_024_AA6.J2_077_Y12
J1_102_H1.J1_105_G1
RCO_SSXMON
MONTIMING
J2_008_AF4.J2_005_AC5
J2_027_M10.J2_031_AA15
SAMPSEL_ANY
DO_SCLK
DO_SIN
DO_DIR
DOE
J2_073_W14
J2_068_AA16
J2_066_AB17
DO_0 DO_1 DO_2 DO_3 DO_4 DO_5 DO_6 DO_7 DO_8 DO_9 DO_10 DO_11
J1_026_AD1
J1_024_AC2
J1_023_AC1
J1_022_AB1
J1_020_AA2
J1_019_AA1
J1_018_Y1
J1_016_W2
J1_015_W1
J1_014_V1
J1_012_U2
J1_011_U1
DO_SHOUT
DO_SHOUT0
TST_OUT
J2_020_AB13.J2_017_V11
VDLY
VDLY0
0402 47nF
CJ9
CLR
START
J4_105_W25
J2_023_AA12.J3_076_T9
RD_ENA
RD_DIR
RD_SCLK
RD_SIN
RD_SHOUT
J2_060_AB21
J2_064_AB19
J2_062_V16
J2_061_AA17
RD_SHOUT0

ASIC1_CAL
CAL_CH0 CAL_CH1 CAL_CH2 CAL_CH3 CAL_CH4 CAL_CH5 CAL_CH6 CAL_CH7
J9-A
AMP_DISABLE
A0 A1 A2 A3 A4 A5 A6 A7
ASIC0_RAW_RF0 ASIC0_RAW_RF1 ASIC0_RAW_RF2 ASIC0_RAW_RF3 ASIC0_RAW_RF4 ASIC0_RAW_RF5 ASIC0_RAW_RF6 ASIC0_RAW_RF7
ASIC0_AMPED_RF0 ASIC0_AMPED_RF1 ASIC0_AMPED_RF2 ASIC0_AMPED_RF3 ASIC0_AMPED_RF4 ASIC0_AMPED_RF5 ASIC0_AMPED_RF6 ASIC0_AMPED_RF7
RFIN_0 RFIN_1 RFIN_2 RFIN_3 RFIN_4 RFIN_5 RFIN_6 RFIN_7
POGO-PIN-23-EDGE
ASIC0_AMPS
SHEET-5

provides pedestal voltage for ASIC
2.5V_0
VB0
VIN VOUT GND
MCP1700T-1202E
1.25V_0
1P2V_0
CG1 1uF 0402
CG2 1uF 0402
C93 0.1uF 0402
C92 0.1uF 0402
GND

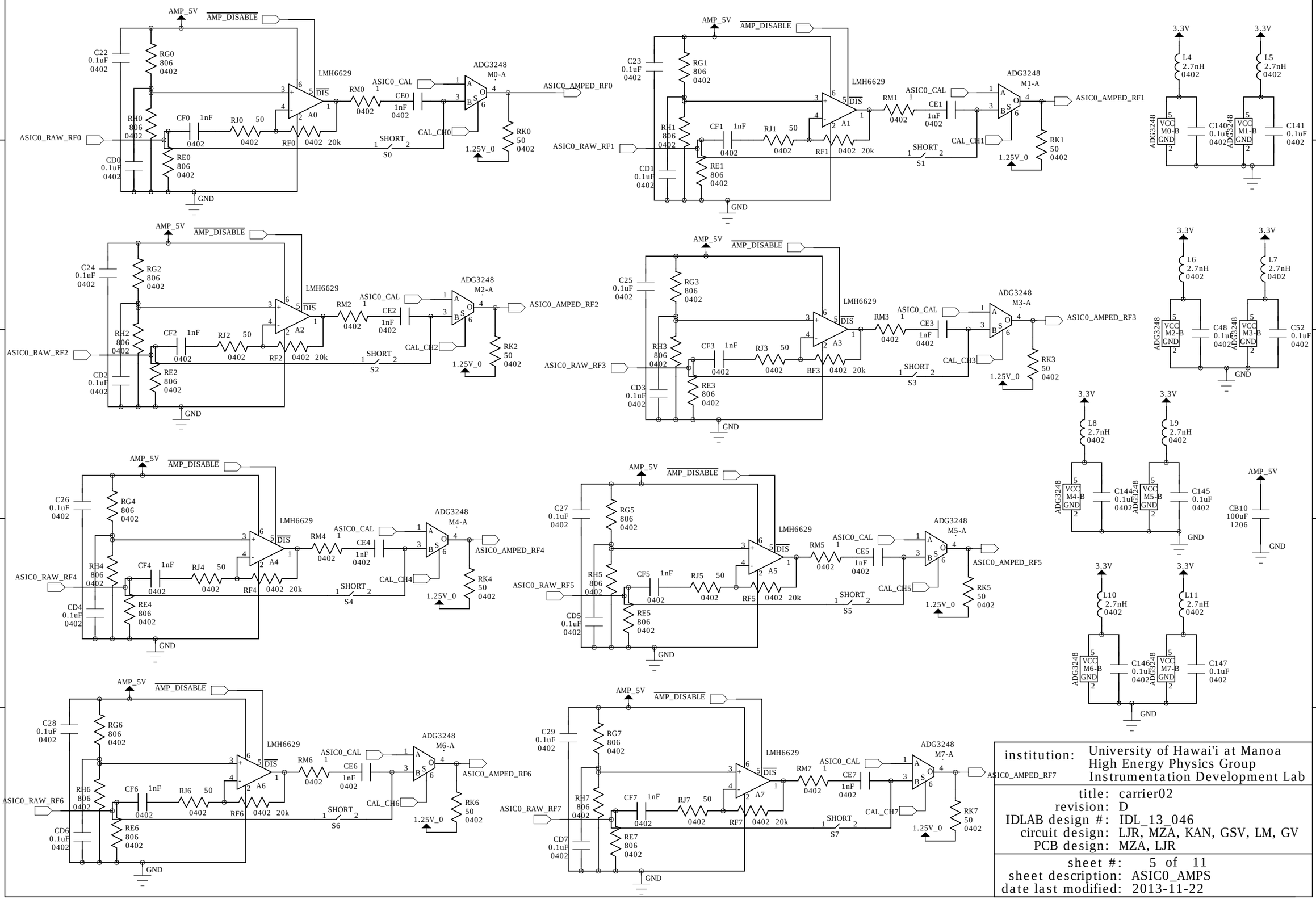
ASIC0
IRS3C

VPED_0A VPED_0B VPED_1A VPED_1B VPED_2B VPED_2A VPED_3A VPED_3B VPED_4A VPED_4B VPED_5B VPED_5A VPED_6B VPED_6A VPED_7B VPED_7A
WR_CS_S0 WR_CS_S1 WR_CS_S2 WR_CS_S3 WR_CS_S4 WR_CS_S5
J4_103_Y26
J4_106_W26
J4_109_U24
J4_111_T26
J4_114_R26
J4_095_AD26
WR_RS_S1 WR_RS_S2 WR_RS_S3
J2_072_P17
J2_070_AB15
J2_069_V15
ISEL
RAMP
J2_074_U13
CMPBIAS
PUBIAS
25 ppm/C
RL0 14k 0402
CC2 220pF 0402 NP0 or C0G
VRAMPREF RAMPMON
RAMP0
GND34 GND46 GND57 GND61 GND65 GND73 GND76 GND87 GND93 GND97 GND101 GND107 GND112 GND118 GND122 GND127

J9-C
POGO-PIN-23-EDGE
GND01 GND06 GND11 GND16 GND21
GND

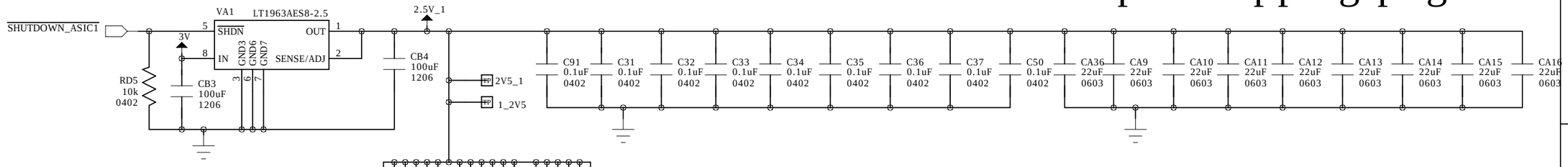
temperature sensor for ASIC
2.5V
T0
VDD 2.25-3.6V
ADDR/THERM
SCL
SDA
EVENT
GND
0402
RA5 7.5k
RA1 7.5k
C9 0.1uF 0402
J3_070_M18_SCL.J2_028_L10_SCL
J3_072_N18_SDA.J2_029_K10_SDA
STTS751-0WB3F
i2c address = 1001000

institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	4 of 11
sheet description:	ASIC0
date last modified:	2013-11-22

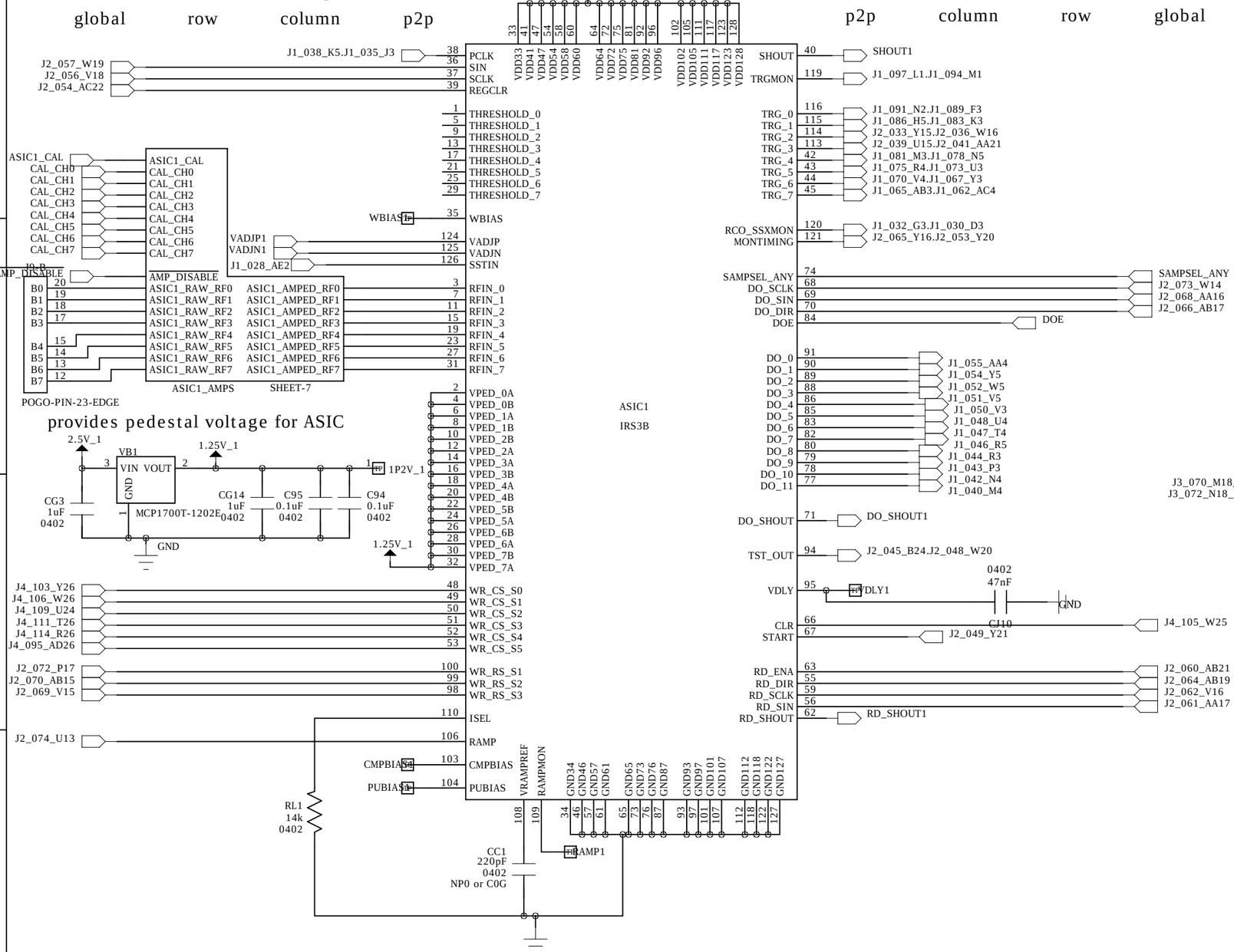

AMP_5V
AMP_DISABLE
C22 0.1uF 0402
RG0 806 0402
LMH6629
RH0 806 0402
CF0 1nF
RJ0 50
RE0 806 0402
CD0 0.1uF 0402
ASIC0_RAW_RF0
RM0 0402
ASIC0_CAL
CE0 1nF 0402
ADG3248 M0-A
CAL_CH0
SHORT
S0
RK0 50 0402
ASIC0_AMPED_RF0
1.25V_0
GND
C23 0.1uF 0402
RG1 806 0402
RH1 806 0402
CF1 1nF
RJ1 50
RE1 806 0402
CD1 0.1uF 0402
ASIC0_RAW_RF1
RM1 0402
CE1 1nF 0402
ADG3248 M1-A
CAL_CH1
S1
RK1 50 0402
ASIC0_AMPED_RF1
3.3V
L4 2.7nH 0402
L5 2.7nH 0402
ADG3248
VCC M0-B GND
VCC M1-B GND
C140 0.1uF 0402
C141 0.1uF 0402
C24 0.1uF 0402
RG2 806 0402
RH2 806 0402
CF2 1nF
RJ2 50
RE2 806 0402
CD2 0.1uF 0402
ASIC0_RAW_RF2
RM2 0402
CE2 1nF 0402
ADG3248 M2-A
CAL_CH2
S2
RK2 50 0402
ASIC0_AMPED_RF2
C25 0.1uF 0402
RG3 806 0402
RH3 806 0402
CF3 1nF
RJ3 50
RE3 806 0402
CD3 0.1uF 0402
ASIC0_RAW_RF3
RM3 0402
CE3 1nF 0402
ADG3248 M3-A
CAL_CH3
S3
RK3 50 0402
ASIC0_AMPED_RF3
L6 2.7nH 0402
L7 2.7nH 0402
C48 0.1uF 0402
C52 0.1uF 0402
C26 0.1uF 0402
RG4 806 0402
RH4 806 0402
CF4 1nF
RJ4 50
RE4 806 0402
CD4 0.1uF 0402
ASIC0_RAW_RF4
RM4 0402
CE4 1nF 0402
ADG3248 M4-A
CAL_CH4
S4
RK4 50 0402
ASIC0_AMPED_RF4
C27 0.1uF 0402
RG5 806 0402
RH5 806 0402
CF5 1nF
RJ5 50
RE5 806 0402
CD5 0.1uF 0402
ASIC0_RAW_RF5
RM5 0402
CE5 1nF 0402
ADG3248 M5-A
CAL_CH5
S5
RK5 50 0402
ASIC0_AMPED_RF5
L8 2.7nH 0402
L9 2.7nH 0402
C144 0.1uF 0402
C145 0.1uF 0402
CB10 100uF 1206
L10 2.7nH 0402
L11 2.7nH 0402
C146 0.1uF 0402
C147 0.1uF 0402
C28 0.1uF 0402
RG6 806 0402
RH6 806 0402
CF6 1nF
RJ6 50
RE6 806 0402
CD6 0.1uF 0402
ASIC0_RAW_RF6
RM6 0402
CE6 1nF 0402
ADG3248 M6-A
CAL_CH6
S6
RK6 50 0402
ASIC0_AMPED_RF6
C29 0.1uF 0402
RG7 806 0402
RH7 806 0402
CF7 1nF
RJ7 50
RE7 806 0402
CD7 0.1uF 0402
ASIC0_RAW_RF7
RM7 0402
CE7 1nF 0402
ADG3248 M7-A
CAL_CH7
S7
RK7 50 0402
ASIC0_AMPED_RF7
A0
A1
A2
A3
A4
A5
A6
A7
RF0
RF1
RF2
RF3
RF4
RF5
RF6
RF7
0402 20k
institution: University of Hawai'i at Manoa
High Energy Physics Group
Instrumentation Development Lab
title: carrier02
revision: D
IDLAB design #: IDL_13_046
circuit design: LJR, MZA, KAN, GSV, LM, GV
PCB design: MZA, LJR
sheet #: 5 of 11
sheet description: ASIC0_AMPS
date last modified: 2013-11-22

IMPORTANT SCROD pin mapping page

provides power to ASIC
320mV max dropout

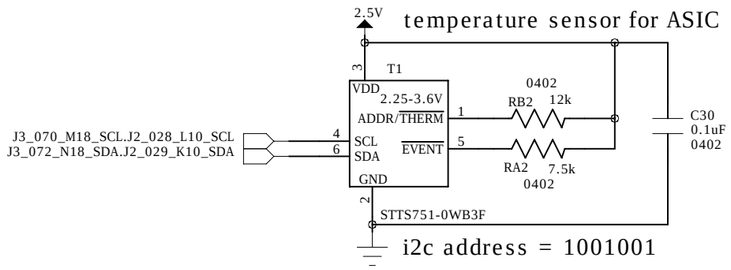


global row column p2p p2p column row global



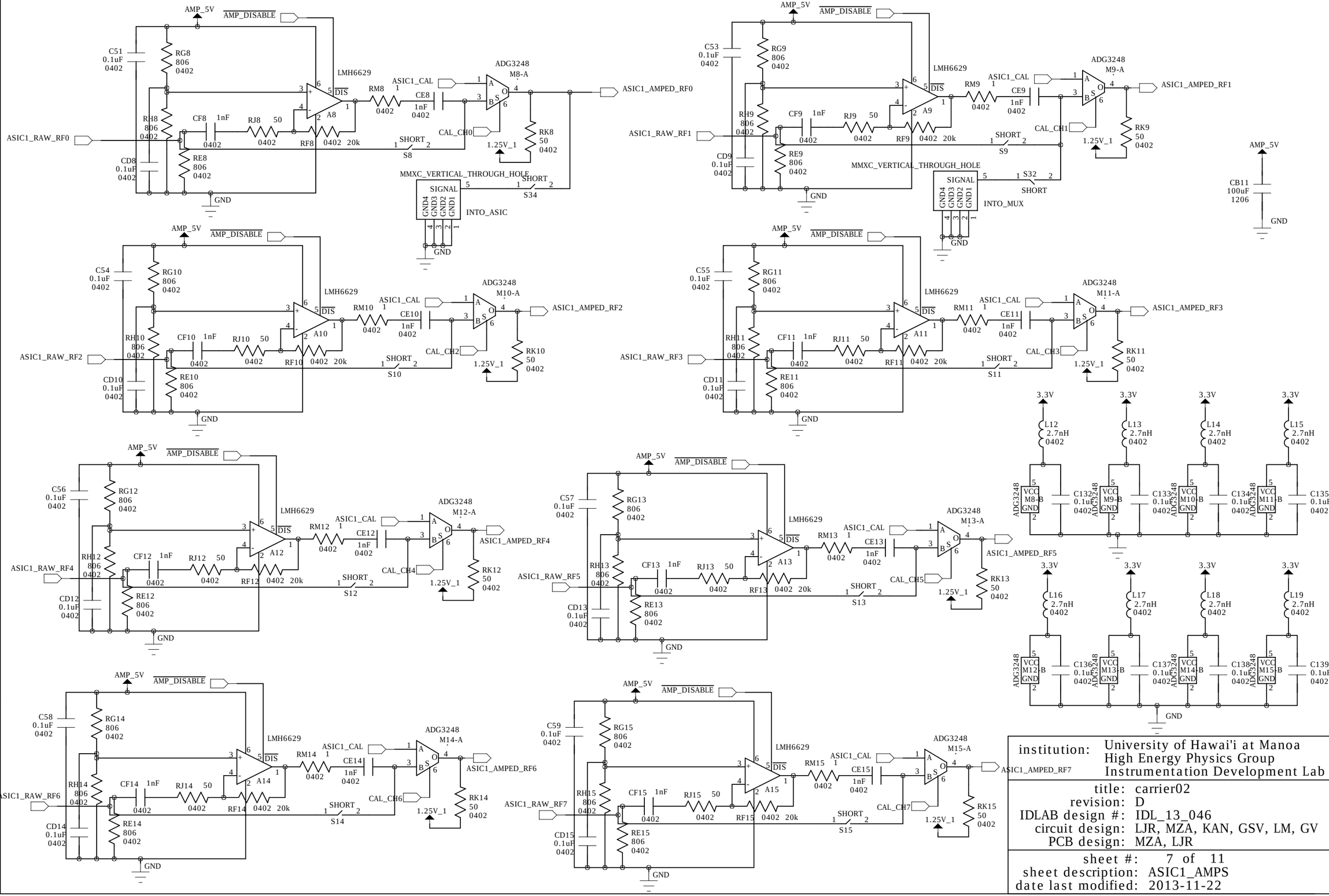
provides pedestal voltage for ASIC

temperature sensor for ASIC



i2c address = 1001001

institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	6 of 11
sheet description:	ASIC1
date last modified:	2013-11-22



institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	7 of 11
sheet description:	ASIC1_AMPS
date last modified:	2013-11-22

IMPORTANT SCROD pin mapping page

provides power to ASIC
320mV max dropout

SHUTDOWN_ASIC2
VA2 LT1963AES8-2.5
SHDN OUT IN SENSE/ADJ GND3 GND6 GND7
3V
RD6 10k 0402
CB5 100uF 1206
CB6 100uF 1206
2.5V_2
2V5_2
2_2V5
C39 0.1uF 0402
C40 0.1uF 0402
C41 0.1uF 0402
C42 0.1uF 0402
C43 0.1uF 0402
C44 0.1uF 0402
C45 0.1uF 0402
C46 0.1uF 0402
C96 0.1uF 0402
CA37 22uF 0603
CA17 22uF 0603
CA18 22uF 0603
CA19 22uF 0603
CA20 22uF 0603
CA21 22uF 0603
CA22 22uF 0603
CA23 22uF 0603
CA24 22uF 0603

global row column p2p

J3_009_N6.J3_007_L7
J2_057_W19
J2_056_V18
J2_054_AC22
PCLK SIN SCLK REGCLR
THRESHOLD_0 THRESHOLD_1 THRESHOLD_2 THRESHOLD_3 THRESHOLD_4 THRESHOLD_5 THRESHOLD_6 THRESHOLD_7
WBIAS
VADJP2
VADJN2
J1_058_AC3
VADJP VADJN SSTIN
VDD33 VDD41 VDD47 VDD54 VDD58 VDD60 VDD64 VDD72 VDD75 VDD81 VDD92 VDD96 VDD102 VDD105 VDD111 VDD117 VDD123 VDD128

SHOUT SHOUT2
TRGMON J3_096_L6.J3_098_J7
TRG_0 J4_008_B25.J4_006_A25
TRG_1 J4_014_E26.J4_011_C25
TRG_2 J3_090_P6.J3_093_M8
TRG_3 J3_085_U8.J3_088_R8
TRG_4 J4_019_G25.J4_016_F26
TRG_5 J4_024_K26.J4_023_J25
TRG_6 J4_027_L25.J3_074_U9
TRG_7 J3_066_U20.J3_069_K18
RCO_SSXMON J3_004_K6.J1_059_AD3
MONTIMING J4_101_AA26.J4_099_AB26

ASIC2_CAL
CAL_CH0 CAL_CH1 CAL_CH2 CAL_CH3 CAL_CH4 CAL_CH5 CAL_CH6 CAL_CH7
J10-A
AMP_DISABLE
A0 A1 A2 A3 A4 A5 A6 A7
POGO-PIN-23-EDGE
ASIC2_RAW_RF0 ASIC2_RAW_RF1 ASIC2_RAW_RF2 ASIC2_RAW_RF3 ASIC2_RAW_RF4 ASIC2_RAW_RF5 ASIC2_RAW_RF6 ASIC2_RAW_RF7
ASIC2_AMPED_RF0 ASIC2_AMPED_RF1 ASIC2_AMPED_RF2 ASIC2_AMPED_RF3 ASIC2_AMPED_RF4 ASIC2_AMPED_RF5 ASIC2_AMPED_RF6 ASIC2_AMPED_RF7
RFIN_0 RFIN_1 RFIN_2 RFIN_3 RFIN_4 RFIN_5 RFIN_6 RFIN_7
ASIC2_AMPS SHEET-9

SAMPSEL_ANY DO_SCLK DO_SIN DO_DIR DOE
SAMPSEL_ANY J2_073_W14 J2_068_AA16 J2_066_AB17
DOE
DO_0 DO_1 DO_2 DO_3 DO_4 DO_5 DO_6 DO_7 DO_8 DO_9 DO_10 DO_11
J3_037_R20 J3_036_T20 J3_035_U21 J3_033_U19 J3_032_V20 J3_020_K9 J3_019_Y6 J3_017_V6 J3_016_U7 J3_015_T6 J3_013_R7 J3_012_P8

provides pedestal voltage for ASIC
2.5V_2 VB2 VIN VOUT GND MCP1700T-1202E
1.25V_2
1P2V_2
CG5 1uF 0402
CG6 1uF 0402
C98 0.1uF 0402
C97 0.1uF 0402
GND
1.25V_2
VPED_0A VPED_0B VPED_1A VPED_1B VPED_2B VPED_2A VPED_3A VPED_3B VPED_4A VPED_4B VPED_5B VPED_5A VPED_6B VPED_6A VPED_7B VPED_7A

ASIC2
IRS3B

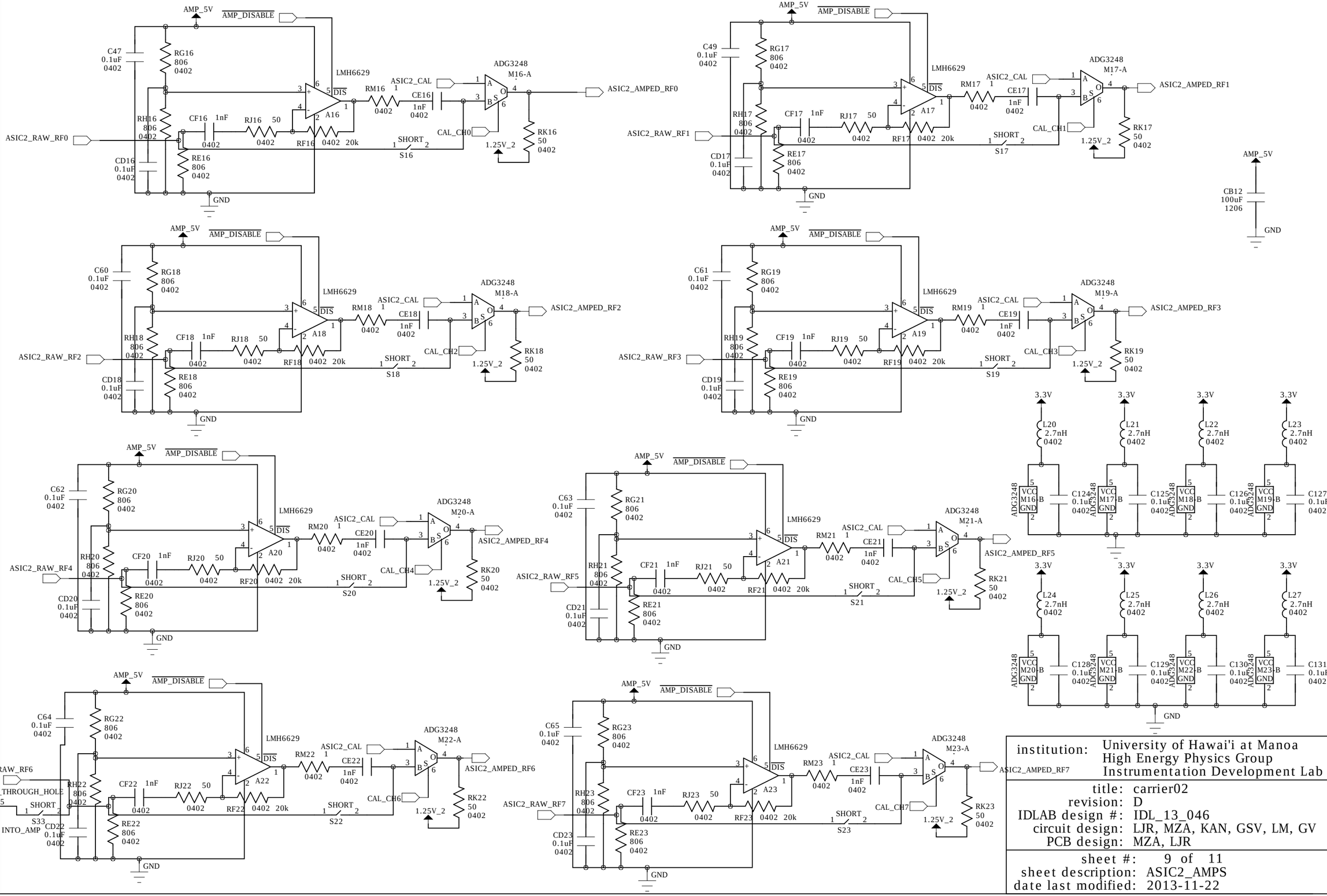
DO_SHOUT DO_SHOUT2
TST_OUT J3_078_N9.J3_081_L9
VDLY VDLY2
0402 47nF
GND
CLR START
CJ11
J4_105_W25
J3_076_T9.J2_023_AA12
RD_ENA RD_DIR RD_SCLK RD_SIN RD_SHOUT
J2_060_AB21 J2_064_AB19 J2_062_V16 J2_061_AA17
RD_SHOUT2

J4_103_Y26 J4_106_W26 J4_109_U24 J4_111_T26 J4_114_R26 J4_095_AD26
WR_CS_S0 WR_CS_S1 WR_CS_S2 WR_CS_S3 WR_CS_S4 WR_CS_S5
J2_072_P17 J2_070_AB15 J2_069_V15
WR_RS_S1 WR_RS_S2 WR_RS_S3
ISEL
J2_074_U13
RAMP
CMPBIAS
PUBIAS
RL2 14k 0402
CC3 220pF 0402 NP0 or C0G
VRAMPREF RAMPMON RAMP2
GND34 GND46 GND57 GND61 GND65 GND73 GND76 GND87 GND93 GND97 GND101 GND107 GND112 GND118 GND122 GND127

J10-C
POGO-PIN-23-EDGE
GND01 GND06 GND11 GND16 GND21
GND

temperature sensor for ASIC
2.5V
T2
VDD 2.25-3.6V
ADDR/THERM SCL SDA EVENT GND
0402
RF32 20k
RA3 7.5k
0402
C38 0.1uF 0402
J3_070_M18_SCL.J2_028_L10_SCL
J3_072_N18_SDA.J2_029_K10_SDA
STTS751-0WB3F
i2c address = 0111000

institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	8 of 11
sheet description:	ASIC2
date last modified:	2013-11-22



institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	9 of 11
sheet description:	ASIC2_AMPS
date last modified:	2013-11-22

IMPORTANT SCROD pin mapping page

provides power to ASIC
320mV max dropout

SHUTDOWN_ASIC3
VA3 LT1963AES8-2.5
SHDN OUT IN SENSE/ADJ GND3 GND6 GND7
3V
RD7 10k 0402
CB7 100uF 1206
CB8 100uF 1206
2.5V_3
2V5_3
3_2V5
C67 0.1uF 0402
C68 0.1uF 0402
C69 0.1uF 0402
C70 0.1uF 0402
C71 0.1uF 0402
C72 0.1uF 0402
C73 0.1uF 0402
C74 0.1uF 0402
C99 0.1uF 0402
CA38 22uF 0603
CA25 22uF 0603
CA26 22uF 0603
CA27 22uF 0603
CA28 22uF 0603
CA29 22uF 0603
CA30 22uF 0603
CA31 22uF 0603
CA32 22uF 0603

global row column p2p

VDD33 VDD41 VDD47 VDD54 VDD58 VDD60 VDD64 VDD72 VDD75 VDD81 VDD92 VDD96 VDD102 VDD105 VDD111 VDD117 VDD123 VDD128

p2p column row global

J3_049_G20.J3_047_K21
J2_057_W19
J2_056_V18
J2_054_AC22
PCLK SIN SCLK REGCLR
SHOUT SHOUT3
TRGMON J4_030_N26.J4_032_D23
THRESHOLD_0 THRESHOLD_1 THRESHOLD_2 THRESHOLD_3 THRESHOLD_4 THRESHOLD_5 THRESHOLD_6 THRESHOLD_7
TRG_0 J4_035_F23.J4_038_H24
TRG_1 J4_082_H22.J4_079_K24
TRG_2 J4_087_E24.J4_085_F22
TRG_3 J3_061_P21.J3_058_M19
TRG_4 J4_040_J22.J4_044_M24
TRG_5 J4_075_M23.J4_073_P24
TRG_6 J4_070_T24.J4_066_V24
TRG_7 J4_063_AA24.J4_061_AC23
WBIAS2
WBIAS
RCO_SSXMON J3_044_L20.J3_041_N21
MONTIMING J4_097_AC26.J4_091_AF23
VADJP3 VADJN3 J3_040_N19
VADJP VADJN SSTIN
SAMPSEL_ANY DO_SCLK DO_SIN DO_DIR DOE
SAMPSEL_ANY J2_073_W14 J2_068_AA16 J2_066_AB17
DOE
ASIC3_CAL CAL_CH0 CAL_CH1 CAL_CH2 CAL_CH3 CAL_CH4 CAL_CH5 CAL_CH6 CAL_CH7
J10-B
AMP_DISABLE
B0 B1 B2 B3 B4 B5 B6 B7
ASIC3_RAW_RF0 ASIC3_RAW_RF1 ASIC3_RAW_RF2 ASIC3_RAW_RF3 ASIC3_RAW_RF4 ASIC3_RAW_RF5 ASIC3_RAW_RF6 ASIC3_RAW_RF7
ASIC3_AMPED_RF0 ASIC3_AMPED_RF1 ASIC3_AMPED_RF2 ASIC3_AMPED_RF3 ASIC3_AMPED_RF4 ASIC3_AMPED_RF5 ASIC3_AMPED_RF6 ASIC3_AMPED_RF7
RFIN_0 RFIN_1 RFIN_2 RFIN_3 RFIN_4 RFIN_5 RFIN_6 RFIN_7
ASIC3_AMPS SHEET-11
POGO-PIN-23-EDGE
DO_0 DO_1 DO_2 DO_3 DO_4 DO_5 DO_6 DO_7 DO_8 DO_9 DO_10 DO_11
J4_060_AD24 J4_059_AC24 J4_058_AA23 J4_056_Y24 J4_055_V23 J4_054_U22 J4_052_N17 J4_051_T23 J4_050_R23 J4_048_P22 J4_047_N22 J4_046_N24
DO_SHOUT DO_SHOUT3
TST_OUT J3_054_K20.J3_052_H21
VDLY VDLY3
0402 47nF CJ12 GND
CLR J4_105_W25
START J4_078_L24
RD_ENA RD_DIR RD_SCLK RD_SIN RD_SHOUT
J2_060_AB21 J2_064_AB19 J2_062_V16 J2_061_AA17
RD_SHOUT3

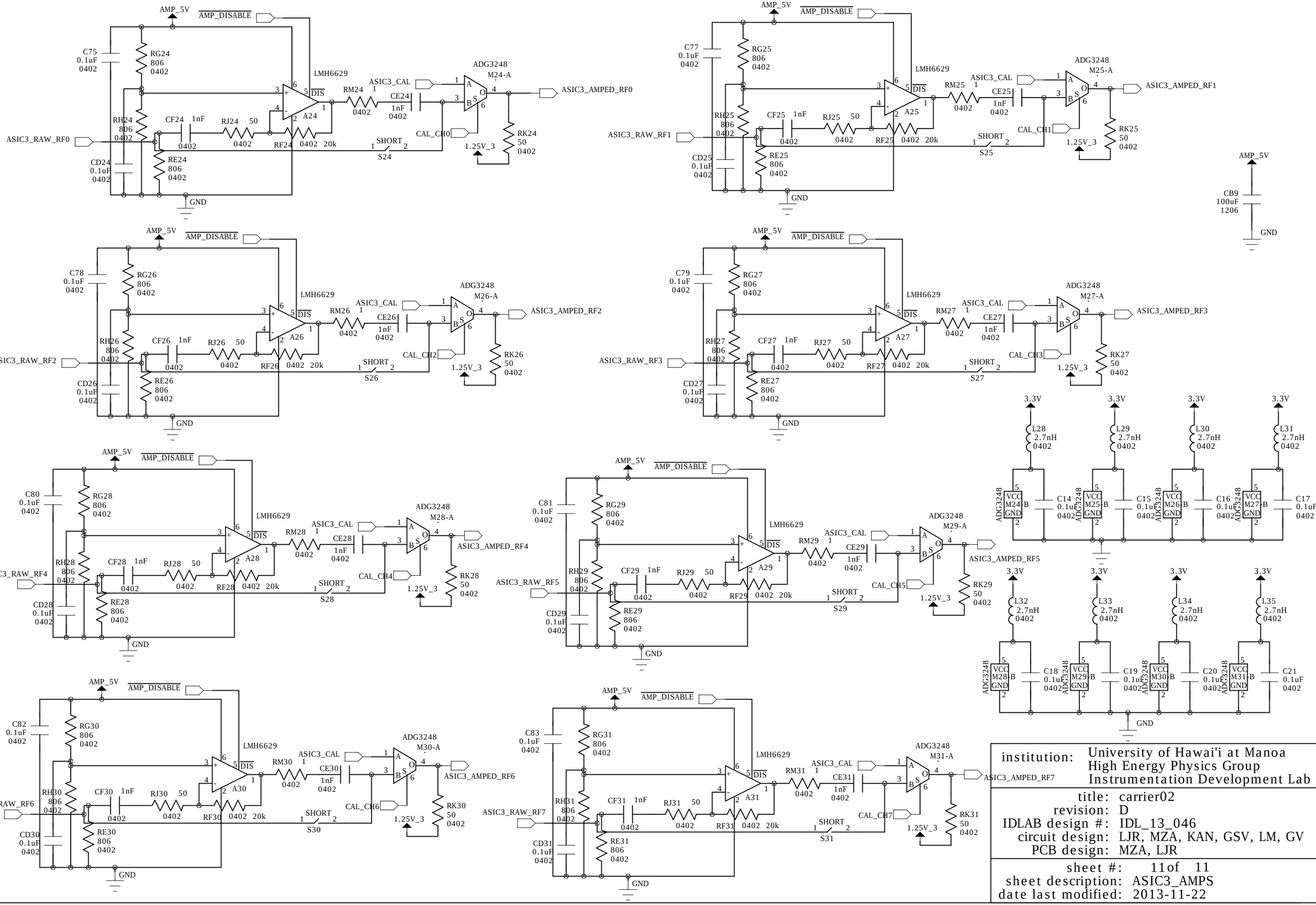
provides pedestal voltage for ASIC
2.5V_3 VB3 VIN VOUT GND MCP1700T-1202E
1.25V_3
1P2V_3
CG7 1uF 0402
CG8 1uF 0402
C101 0.1uF 0402
C100 0.1uF 0402
GND
1.25V_3

ASIC3
IRS3B

VPED_0A VPED_0B VPED_1A VPED_1B VPED_2B VPED_2A VPED_3A VPED_3B VPED_4A VPED_4B VPED_5B VPED_5A VPED_6B VPED_6A VPED_7B VPED_7A
J4_103_Y26 J4_106_W26 J4_109_U24 J4_111_T26 J4_114_R26 J4_095_AD26
WR_CS_S0 WR_CS_S1 WR_CS_S2 WR_CS_S3 WR_CS_S4 WR_CS_S5
J2_072_P17 J2_070_AB15 J2_069_V15
WR_RS_S1 WR_RS_S2 WR_RS_S3
ISEL
J2_074_U13
RAMP
CMPBIAS2
CMPBIAS
PUBIAS2
PUBIAS
RL3 14k 0402
VRAMPREF RAMPMON
GND34 GND46 GND57 GND61 GND65 GND73 GND76 GND87 GND93 GND97 GND101 GND107 GND112 GND118 GND122 GND127
RAMP3
CC4 220pF 0402 NP0 or C0G

2.5V temperature sensor for ASIC
T3
VDD 2.25-3.6V ADDR/THERM SCL SDA EVENT GND
STTS751-0WB3F
0402 RB4 33k
RA4 7.5k 0402
C66 0.1uF 0402
J3_070_M18_SCL.J2_028_L10_SCL
J3_072_N18_SDA.J2_029_K10_SDA
i2c address = 0111001

institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	10of 11
sheet description:	ASIC3
date last modified:	2013-11-22



institution:	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
title:	carrier02
revision:	D
IDLAB design #:	IDL_13_046
circuit design:	LJR, MZA, KAN, GSV, LM, GV
PCB design:	MZA, LJR
sheet #:	11of 11
sheet description:	ASIC3_AMPS
date last modified:	2013-11-22