



Status: PROTOTYPE
Drawn by: Ben Cartwright
The Flame Trench

Sheet: /
File: OBC-1.sch

Title: Singularity OBC – Top Level Architecture

Size: A4
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Rev: PROTO_A
Id: 1/11

Sheet: Power

OBC_1V2_P_PG
OBC_1V2_R_PG

File: Power.sch

Sheet: TMS570 uC

OBC_1V2_P_PG
OBC_1V2_R_PG

OBC_I2C_SDA
OBC_I2C_SCL
ADS_nRST

CAN_PL_RsD
CAN_PL_DD
CAN_PL_R

CAN_R_RsD
CAN_R_DD
CAN_R_R

CAN_PA_RsD
CAN_PA_DD
CAN_PA_R

Sheet: Supervisor_RTC_FRAM

SPVSR_COPID
SPVSR_CIPID
SPVSR_CLK
SPVSR_nCS
SPVSR_ACSD
SPVSR_nRSTD
SPVSR_CNT

File: Supervisor_RTC_FRAM.sch

Sheet: CAN_XCVR_PL

CAN_PL_Rs CAN_H_PL
CAN_PL_DD CAN_L_PL
CAN_PL_R

File: CAN_XCVR.sch

Sheet: CAN_XCVR_R

CAN_PL_Rs CAN_H_PL
CAN_PL_DD CAN_L_PL
CAN_PL_R

File: CAN_XCVR.sch

Sheet: CAN_XCVR_PA

CAN_PL_Rs CAN_H_PL
CAN_PL_DD CAN_L_PL
CAN_PL_R

File: CAN_XCVR.sch

Sheet: Connectors

OBC_SDA
OBC_SCL
ADS_nRST

CAN_H_PL
CAN_L_PL

CAN_H_R
CAN_L_R

CAN_H_PA
CAN_L_PA

GPS_STS
GPS_P1PPS

GPS_nRST
GPS_RXD0

GPS_TXD0

File: Connectors.sch

GPS_nRST
GPS_P1PPS
GPS_STS
GPS_RXD0
GPS_TXD0

Sheet: FRAM 1

FRAM_1_CIPID
FRAM_1_COPI
FRAM_1_CLKD
FRAM_1_nCS

File: FRAM_BMbit.sch

Sheet: FL 1

FL_1_nCS1D
FL_1_nCS2D
FL_1_CLKD

FL_1_nRESETD
FL_1_SL_I00D
FL_1_SO_I01

FL_1_nHOLD_I03D

File: FL_1Gbit.sch

Sheet: SDRAM 1

DQ[0:15]
BA[0:1]
A[0:12]

DQ[0:15]
BA[0:1]
A[0:12]

SDRAM_1_DQMHD
SDRAM_1_DQMLD
SDRAM_1_CLKD
SDRAM_1_CKED
SDRAM_1_nCASD
SDRAM_1_nRASD
SDRAM_1_nWED
SDRAM_1_nCSD

SDRAM_1_DQMHD
SDRAM_1_DQMLD
SDRAM_1_CLK
SDRAM_1_CKE
SDRAM_1_nCAS
SDRAM_1_nRAS
SDRAM_1_nWE
SDRAM_1_nCS

File: TMS570_uC.sch

File: SDRAM_128Mbit.sch

TP4
TP1
TP5
TP2
TP6
TP3
TP7

JTAG_nTRST
JTAG_RTCK
JTAG_TCK
JTAG_TDI
JTAG_TDO
JTAG_TEST
JTAG_TMS

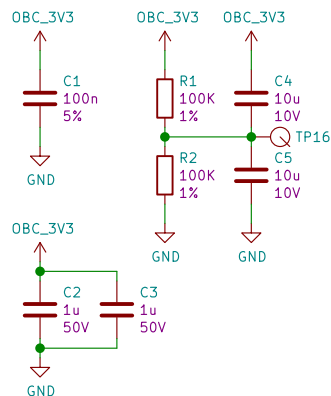
TP8
TP10
TP9
TP11

TP14
TP12
TP15
TP13

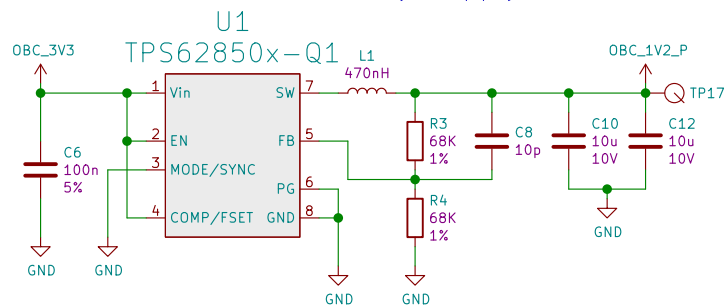
GND

H1
MountingHole_Pad
H2
MountingHole_Pad
H3
MountingHole_Pad
H4
MountingHole_Pad
GND

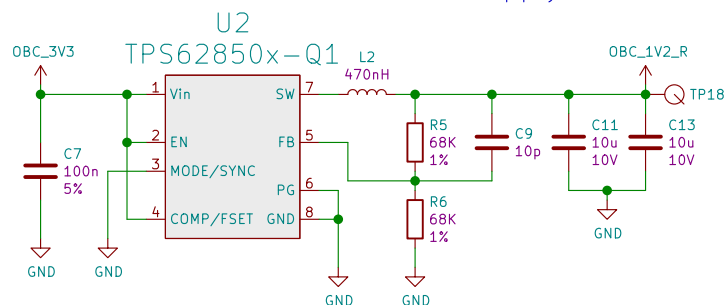
Bulk decoupling



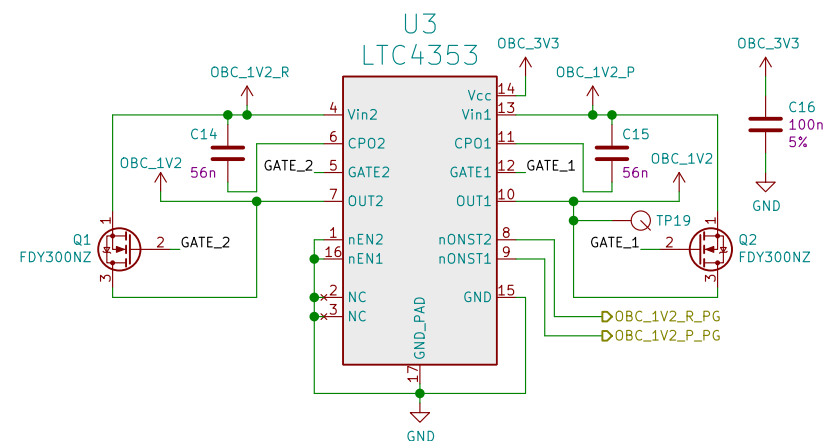
OBC 1V2 Core Primary Supply



OBC 1V2 Core Redundant Supply



OBC 1V2 Core Supply ORing



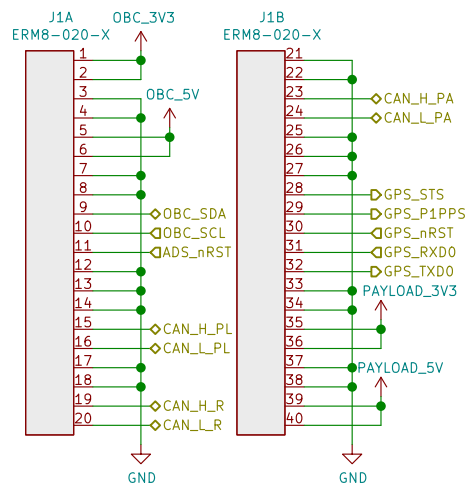
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 Sheet: /Power/
 File: Power.sch

Title: Singularity OBC – Power Conditioning

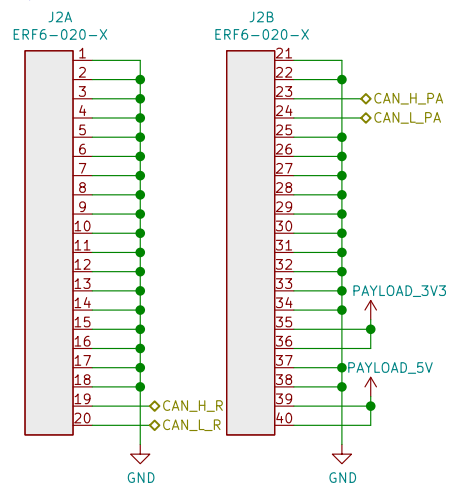
Size: A4
 Date: 2021-03-11
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 Id: 2/11

RFS Connector



Payload Connector



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Title: Singularity OBC – Connectors

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Rev: PROTO_A
 Id: 3/11



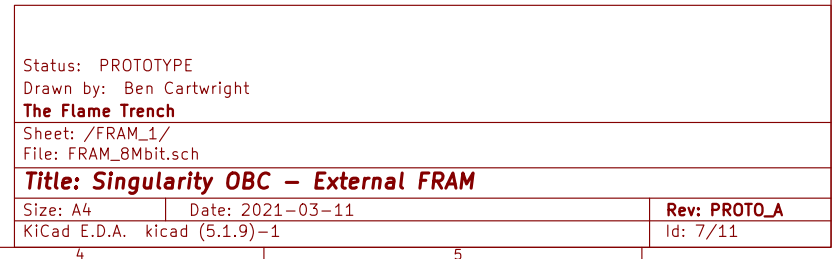
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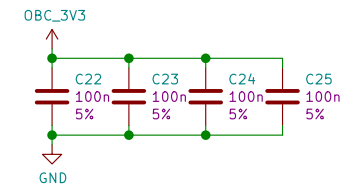
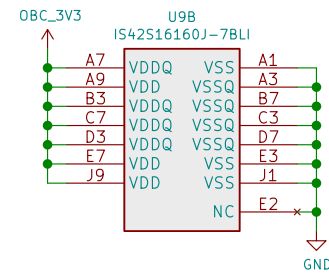
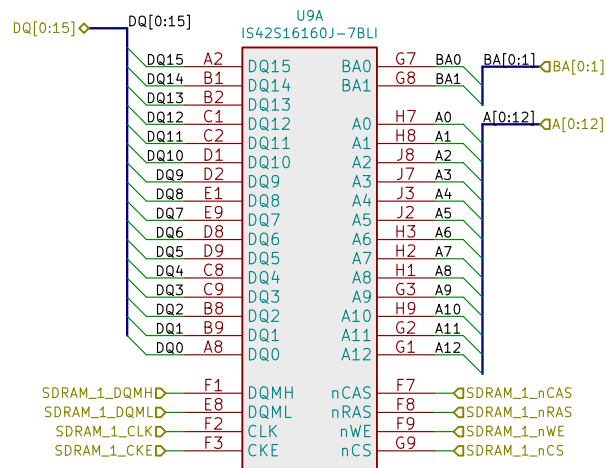
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Id: 5/11



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Sheet: /SDRAM_1/
File: SDRAM_128Mbit.sch

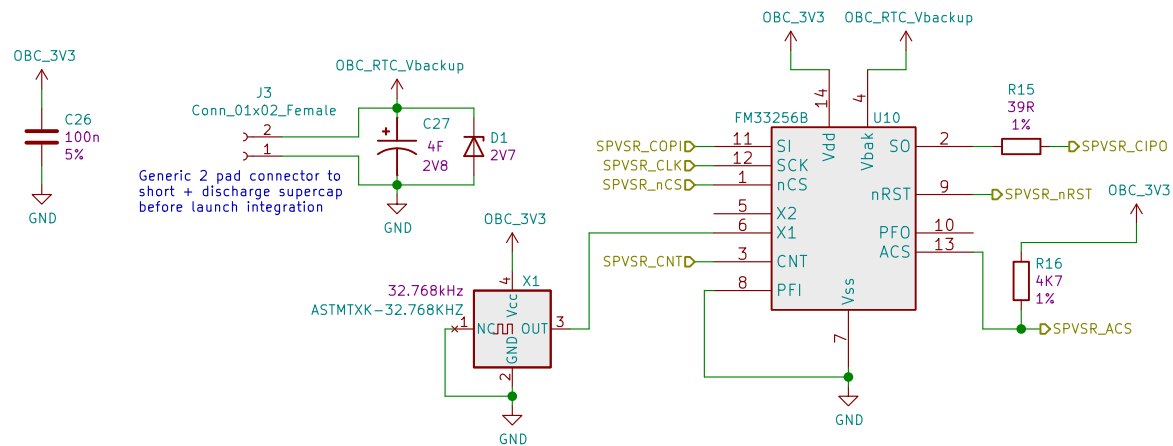
Title: Singularity OBC – External SDRAM

Size: A4 Date: 2021-03-11

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Status: PROTOTYPE
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The Flame Trench

Sheet: /Supervisor_RTC_FRAM/
 File: Supervisor_RTC_FRAM.sch

Title: Singularity OBC - uC Supervisor + RTC

Size: A4
 Date: 2021-03-11
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Rev: PROTO_A
 Id: 10/11

