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INTEL CORPORATION
REV: 
DOCUMENT NUMBER:
TITLE: Intel® Quark
SoC X1000
Application
Processor

5V Brick Power Supply
Three-Output Voltage Regulator
VTT Regulator
FETs for SO/S3 states

IOREF¼Gain
selects 3.3V or
5V Shield
Operation

3.3V

VIN

5V

IOREF
RESET
3.3V
5V
GND
GND
GND

All GPIO PWM
provided by a
single I2C GPIO
Expander

DDR3
256 MB
DDR3
x8
x8

Intel® Galileo Board Feb D
September/2013

Mini-PCIe

Host USB 1

Micro SD
Connector

SDIO

Host USB 0

Client USB

UART 0

3.3V -> 5V Level
Translation provided
on board between
all SoC IO and Shield
Headers

3 pin Jack (Not Audio)

Host USB

Client USB

PHY

Ethernet

UART 1

RMI [6]

User exiting
STITCHING CAPS FOR SPLIT PLANES

STITCHING CAPS FOR SIGNAL REFERENCE TRANSITION

CAD NOTE
PLACE AS CLOSE AS POSSIBLE TO SIGNAL VIAS

INTEL CORPORATION
DOCUMENT NUMBER: GE7171
TITLE: QUARK POWER
REV: 1.0 SHEET 8 OF 27

Order Number: 329682-001US
PLACE 0.1UF DECOUPLING AS CLOSE AS POSSIBLE TO DRAM POWER PINS

2GBIT (256MBIT X 8) AND 4GBIT (512MBIT X 8) DEVICES

A14, A15 ALLOW FOOTPRINT COMPATIBILITY WITH
2GBIT (256MBIT X 8) AND 4GBIT (512MBIT X 8) DEVICES

SDRAM 1

DESIGN NOTE:
A14, A15 ALLOW FOOTPRINT COMPATIBILITY WITH
2GBIT (256MBIT X 8) AND 4GBIT (512MBIT X 8) DEVICES
2GBIT (256MBIT X 8) AND 4GBIT (512MBIT X 8) DEVICES

PLACE 0.1UF DECOUPLING AS CLOSE AS POSSIBLE TO DRAM PINS

DESIGN NOTE:
A14, A15 ALLOW FOOTPRINT COMPATIBILITY WITH 2GBIT (256MBIT X 8) AND 4GBIT (512MBIT X 8) DEVICES
Distribute Decoupling Among Termination Resistors

- R4L23: 36.5 Ω
- R4L22: CH 0402LF
- R4L21: 1% 0402LF
- R4L20: 36.5 Ω
- R4L19: 1% 0402LF
- R4L18: 36.5 Ω
- R4L17: CH 0402LF
- R4L16: 36.5 Ω
- R4L15: CH 0402LF
- R4L14: 36.5 Ω
- R4L13: 36.5 Ω
- R4L12: 36.5 Ω
- R4L11: 36.5 Ω
- R4L10: 36.5 Ω
- R4L9: 36.5 Ω
- R4L8: 36.5 Ω
- R4L7: 36.5 Ω
- R4L6: 36.5 Ω
- R4L5: 36.5 Ω
- R4L4: 36.5 Ω
- R4L3: 36.5 Ω
- R4L2: 36.5 Ω
- R4L1: 36.5 Ω
- R1A18: 36.5 Ω
- R1A17: 36.5 Ω
- R1A16: 36.5 Ω
- R1A15: 36.5 Ω
- R1A14: 36.5 Ω
- R1A13: 36.5 Ω
- R1A12: 36.5 Ω
- R1A11: 36.5 Ω
- R1A10: 36.5 Ω
- R1A9: 36.5 Ω
- R1A8: 36.5 Ω
- R1A7: 36.5 Ω
- R1A6: 36.5 Ω
- R1A5: 36.5 Ω
- R1A4: 36.5 Ω
- R1A3: 36.5 Ω
- R1A2: 36.5 Ω
- R1A1: 36.5 Ω

Capacitors:
- C1A7: 0.1UF 16V X7R 0402LF
- C1A9: 10% 0.1UF 16V X7R 0402LF
- C1A6: 10% 0.1UF 16V X7R 0402LF
- C1A10: 10% 0.1UF 16V X7R 0402LF
- C1A8: 10% 0.1UF 16V X7R 0402LF
- C1A5: 10% 0.1UF 16V X7R 0402LF
- C1A1: 10% 0.1UF 16V X7R 0402LF

BI: VTT

Order Number: 329682-001US
CAD NOTE:
PLACE SD LED CLOSE TO THE SDIO CONN
TX/RX RS-232 UTILIZING 3.5MM AUDIO CONNECTOR

NOTE: THIS IS NOT AUDIO
3 LED SIGNALS BELOW HAVE INTERNAL PU PER DATASHEET

CAD NOTE:
PLACE RESISTOR AND CAPACITORS CLOSE TO RMII PHY

PLACE CAPACITORS CLOSE TO PFBOUT(PIN 23)

LENSCAP MATCH CLOCK SPLIT, TRACE BETWEEN PIN 1 OR RESISTORS SHOULD BE SHORT

CAD NOTE:
RMII REF_CLK OUT

CAD NOTE:
RMII PHY

V3P3_S0
CAD NOTE:
PLACE DECOUPLING CAPACITORS AS CLOSE AS POSSIBLE TO U2B1
(HIGH) X8 DDR SDRAM

01 - 1GBIT SDRAM

(LOW) MEMORY DOWN CONFIG

(LOW) PUNIT BASE ADDRESS

(HIGH) X8 DDR SDRAM

01 - 1GBIT SDRAM

(LOW) MEMORY DOWN CONFIG

(LOW) PUNIT BASE ADDRESS

00 - REMOVABLE CARD SLOT FOR SDIO

00 - REMOVABLE CARD SLOT FOR SDIO

(low) POWER BUTTON NOT USED
Order Number: 329682-001US
CAD NOTE:
PLACE DECOUPLING CAPS AS CLOSE AS POSSIBLE TO SWITCH PINS
PWR BRICK IN  PIN2&PIN3 DISCONNECTED  PIN3=PU TO 5V  V5_ALW_ON=BRICK_PWR
PWR BRICK OUT  PIN2&PIN3 SHORTED  PIN3=GND  V5_ALW_ON=VBUS_IN

RECOMMENDED POWER SUPPLY:

X = TYPE OF BLADE. REFER TO DATASHEET
EMGA050300X P5P-SZ

OPTION TO POWER FROM USB
V5_PWR_JACK

CAD NOTE:
PLACE NEAR Q3B2

CONNECTOR TRUTH TABLE

V43700-002

CAD NOTE:
PLACE CAP NEAR Q3B2
NOTE: RESET_N HAS AN INTERNAL Pull TO V3P3_S3

SS: REBOOT

PG DELAY

V3P3_S5

V3P3_RTC

V3P3_S5

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