SAKE FPGA SoC Board

Sheet: Power Circuitry

File: mark2_power.sch

Sheet: FPGA IO Circuitry

File: mark2_fpga_io.sch

Sheet: FPGA Configuration Circuitry

File: mark2_fpga_config.sch

U4B
EP4CE10E22C8N
FPGA Power Pins

VCCINT 5
VCCINT 29
VCCINT 45
VCCINT 61
VCCINT 78
VCCINT 102
VCCINT 116
VCCINT 134

GND 4
GND 19
GND 22
GND 27
GND 41
GND 48
GND 57
GND 63
GND 79
GND 82
GND 95
GND 118
GND 123
GND 131
GND 140

VCCIO1 17
VCCIO2 26
VCCIO3 40
VCCIO3 47
VCCIO4 56
VCCIO4 62
VCCIO5 81
VCCIO6 93
VCCIO7 117
VCCIO7 122
VCCIO8 130
VCCIO8 139

VCCA1 35
GNDA1 36
VCCD_PLL1 37

VCCA2 107
GNDA2 108
VCCD_PLL2 109

VCC1p2
VCC2p5
VCC3p3
GND

C7 100nF, C11 100nF, C15 100nF, C17 100nF, C19 100nF, C21 100nF, C23 100nF, C25 100nF
C8 100nF, C12 100nF, C16 100nF, C18 100nF, C20 100nF, C22 100nF, C24 100nF, C26 100nF, C27 100nF, C28 100nF, C29 100nF, C30 100nF
C9 100nF, C13 100nF
C10 100nF, C14 100nF

VCC1p2
VCC2p5
VCC1p2
VCC3p3

U1 AMS1117-2.5
VI VO
GND/ADJ
C1 10uF C4 100uF
VCC
VCC2p5
GND

U2 AMS1117-3.3
VI VO
GND/ADJ
C2 10uF C5 100uF
VCC
VCC3p3
GND

U3 AMS1117-1.2
VI VO
GND/ADJ
C3 10uF C6 100uF
VCC
VCC1p2
GND

P2 USB_A
1 VBUS
2 D-
3 D+
4 GND
5 shield
VCC
GND

P5 USB_A
1 VBUS
2 D-
3 D+
4 GND
5 shield
VCC
GND

U4A
EP4CE10E22C8N
FPGA IO and Alternate function Pins

PIN98 PIN99 PIN100 PIN101 PIN103 PIN104 PIN105 PIN106 PIN110 PIN111 PIN112 PIN113 PIN114 PIN115 PIN119 PIN120 PIN121 PIN124 PIN125 PIN126 PIN127 PIN128 PIN129 PIN132 PIN133 PIN135 PIN136 PIN137 PIN138 PIN141 PIN142 PIN143 PIN144

PIN1 PIN2 PIN3 PIN7 PIN10 PIN11 PIN28 PIN30 PIN31 PIN32 PIN33 PIN34 PIN38 PIN39 PIN42 PIN43 PIN44 PIN46 PIN49 PIN50 PIN51 PIN52 PIN53 PIN54 PIN55 PIN58 PIN59 PIN60 PIN64 PIN65 PIN66 PIN67 PIN68 PIN69 PIN70 PIN71 PIN72 PIN73 PIN74 PIN75 PIN76 PIN77 PIN80 PIN83 PIN84 PIN85 PIN86 PIN87

SDRAM1 SDRAM2 SDRAM3 SDRAM4 SDRAM5 SDRAM6 SDRAM7 SDRAM8 SDRAM9 SDRAM10 SDRAM11 SDRAM12 SDRAM13 SDRAM14 SDRAM15 SDRAM16 SDRAM17 SDRAM18 SDRAM19 SDRAM20 SDRAM21 SDRAM22 SDRAM23 SDRAM24 SDRAM25 SDRAM26 SDRAM27 SDRAM28 SDRAM29 SDRAM30 SDRAM31 SDRAM32 SDRAM33 SDRAM34 SDRAM35 SDRAM36 SDRAM37 SDRAM38 SDRAM39

HY57V561620
U6

VDD A3 A2 A1 A0 A10/AP BS1 BS0 *CS *RAS *CAS *WE LDQM DQ7 DQ6 DQ5 DQ4 DQ3 DQ2 DQ1 DQ0 VDD

VSS A4 A5 A6 A7 A8 A9 A11 A12 CKE CLK UDQM NC DQ8 DQ9 DQ10 DQ11 DQ12 DQ13 DQ14 DQ15 VSS

VSSQ VDDQ VSSQ VDDQ VSSQ VDDQ VSSQ VDDQ

P1 CONN_02X05
F_CLK2 F_CLK3
VCC3p3 GND

C34 C35 C36 C37 C38 C39 C40 100nF

LED D3
R20 1K PIN85
R21 1K PIN87
SW1 SW_Push
VCC3p3 GND

P4 CONN_02X20
PIN143 PIN141 PIN137 PIN135 PIN132 PIN128 PIN126 PIN124 PIN120 PIN115 PIN113 PIN106 PIN104 PIN101 PIN99 F_CLK4 F_CLK6 PIN87 VCC3p3
PIN144 PIN142 PIN138 PIN136 PIN133 PIN129 PIN127 PIN125 PIN119 PIN114 PIN112 PIN110 PIN105 PIN103 PIN100 PIN98 F_CLK5 F_CLK7
GND

VCC3p3
GND