Schematic modified for
CY8CKIT-062S2-43012 PSoC 62S2 Wi-Fi BT Pioneer Kit

CYW9-BASE-01 Pioneer Baseboard

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Drawing Numbers	
PCBA	121-60552-01
PCB	600-60552-01
FAB DRW	610-60552-01
ASSY DRW	620-60552-01
SCH DRW	630-60552-01

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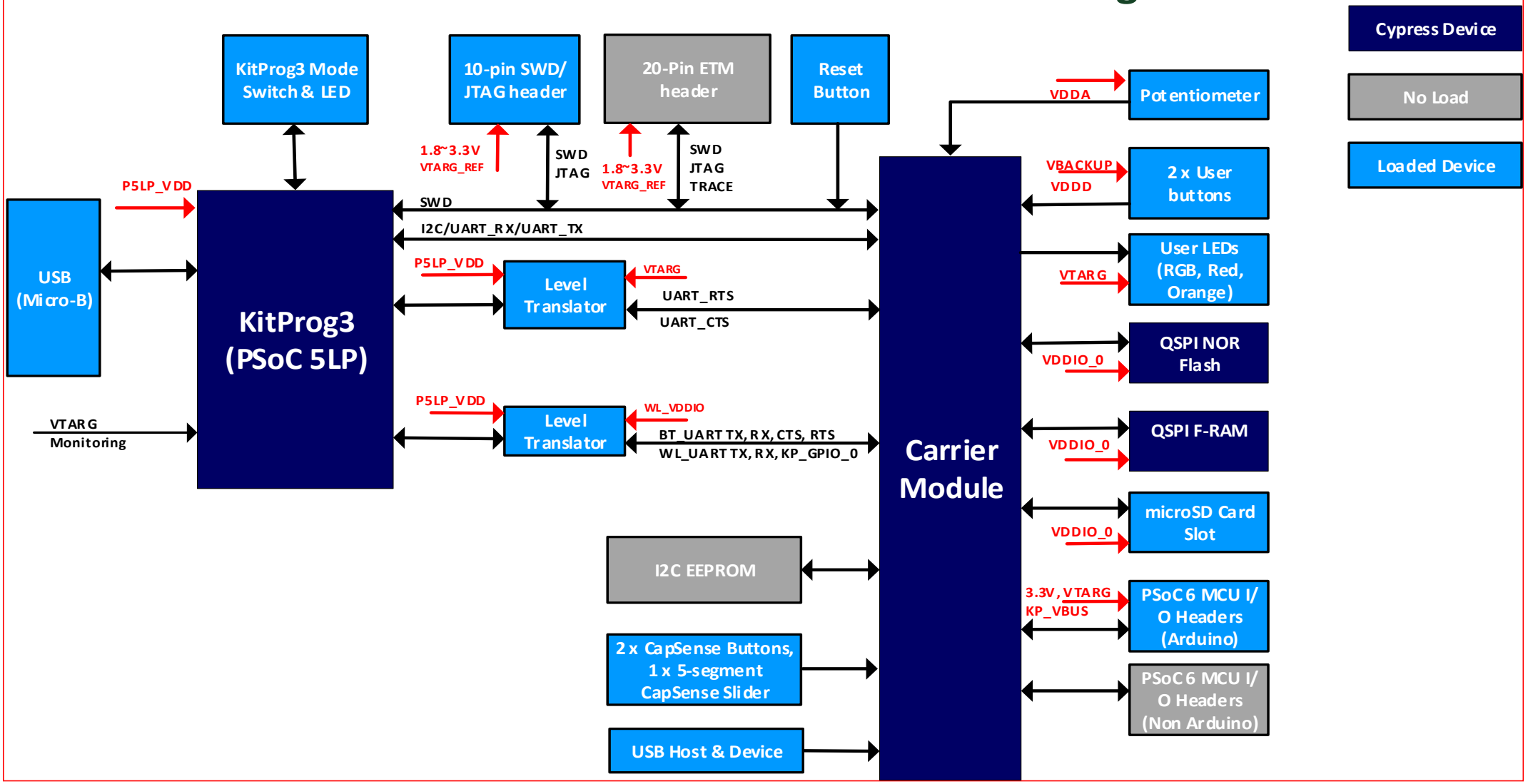
SCH Title : CYW9-BASE-01 Pioneer Baseboard

Page Title : Title Page

Size	Document Number	Drawn By	Approved By	Rev
A4	630-60552-01	TARE	RKAD	05

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CYW9-BASE-01 Architecture Block Diagram



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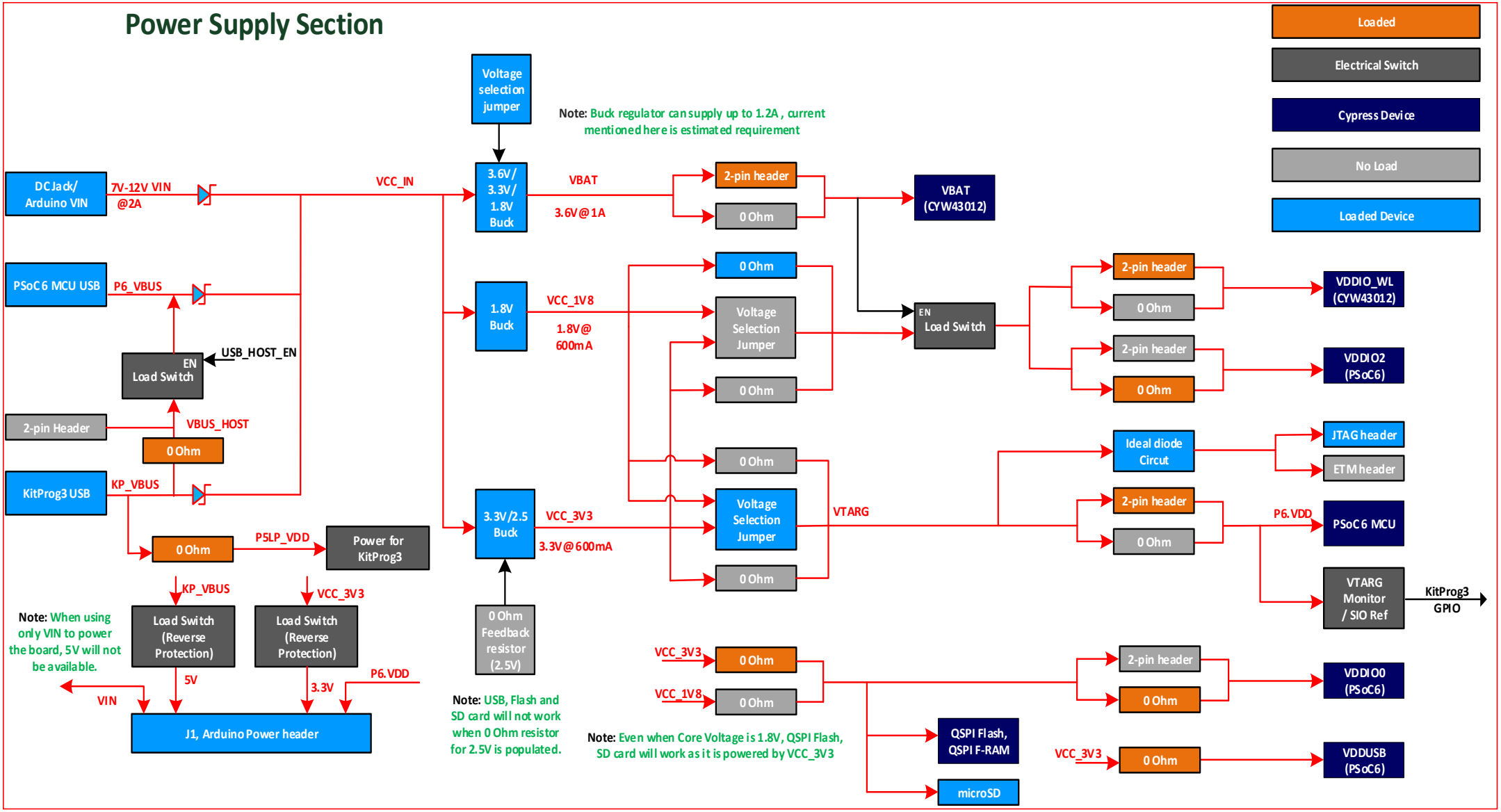
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Page Title : Functional Block Diagram

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Power Supply Section



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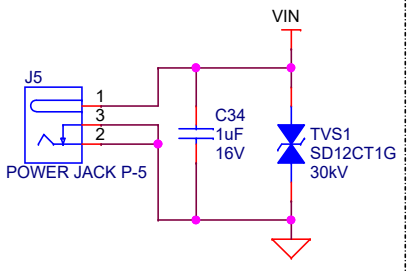
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SCH Title :	CYW9-BASE-01 Pioneer Baseboard
Page Title :	Power Supply Block Diagram

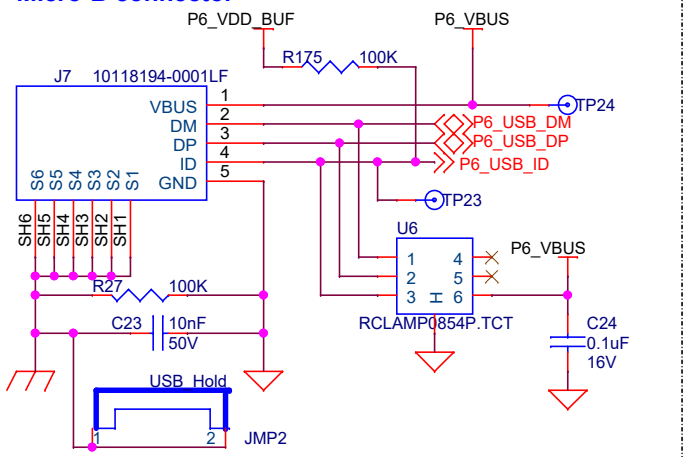
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Date: Wednesday, September 18, 2019 Sheet 3 of 13

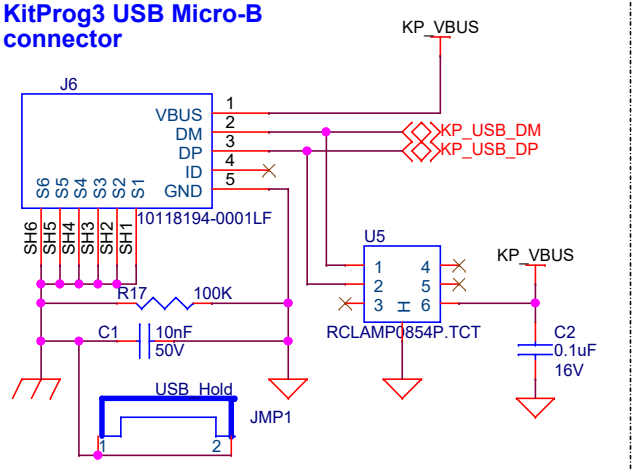
VIN Header

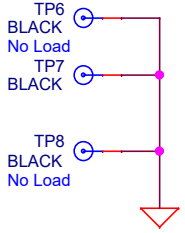


PSoC 6 MCU USB Host/Device Micro-B connector

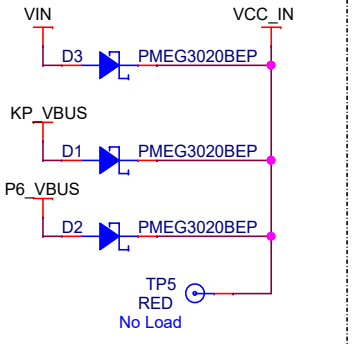


KitProg3 USB Micro-B connector

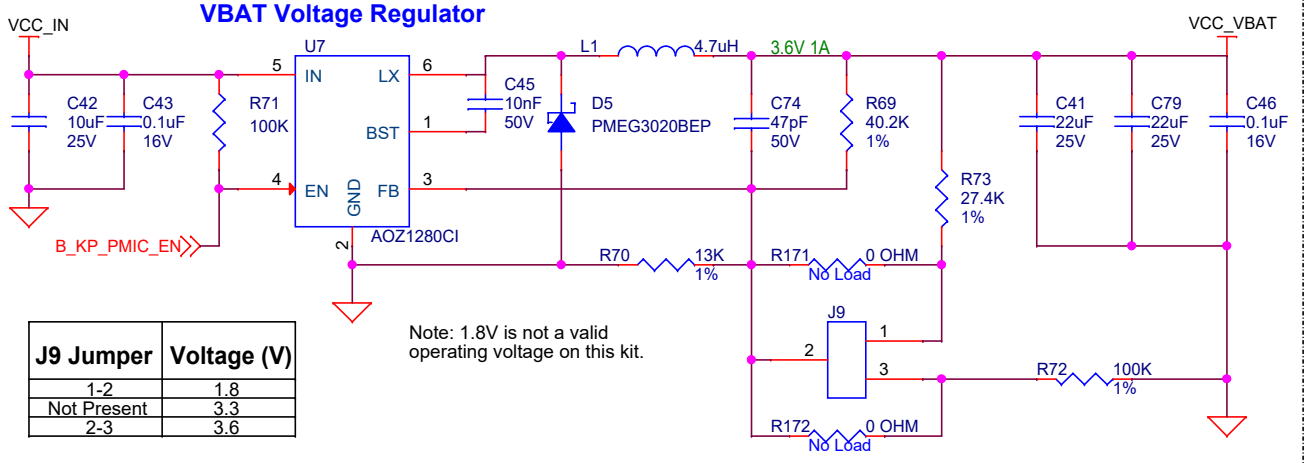




Power Supply 'OR'ing



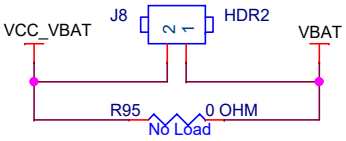
VBAT Voltage Regulator



J9 Jumper	Voltage (V)
1-2	1.8
Not Present	3.3
2-3	3.6

Note: 1.8V is not a valid operating voltage on this kit.

Current Measurement



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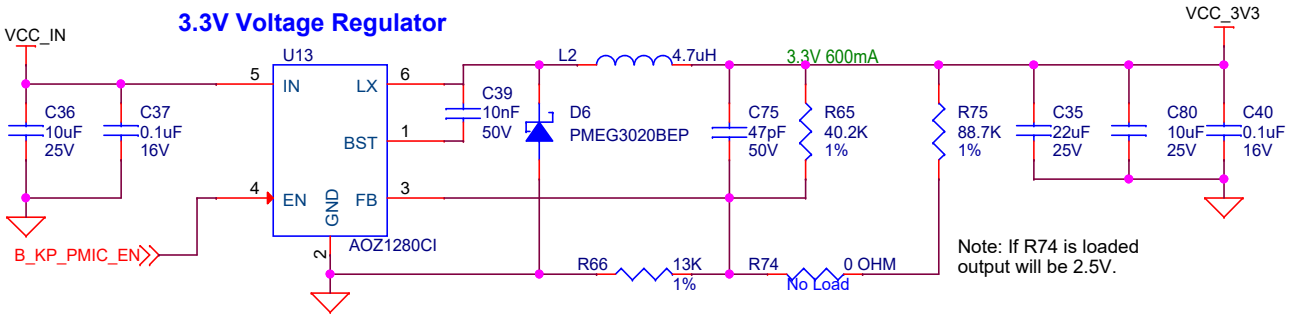
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Page Title : Power Supply (1)

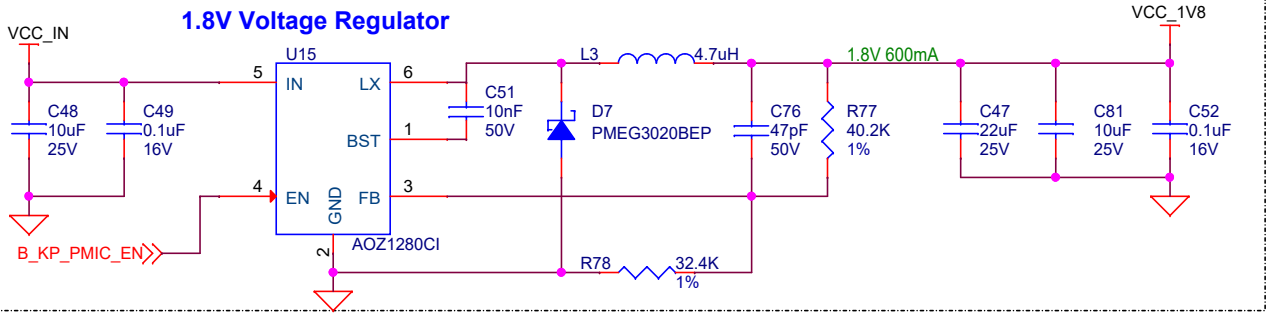
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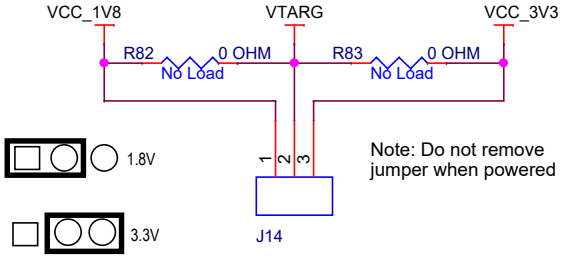
3.3V Voltage Regulator



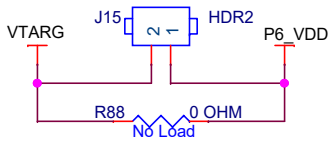
1.8V Voltage Regulator



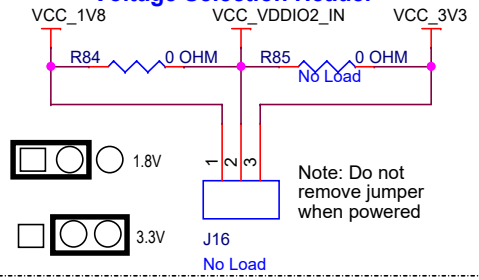
VTARG Voltage Selection Header



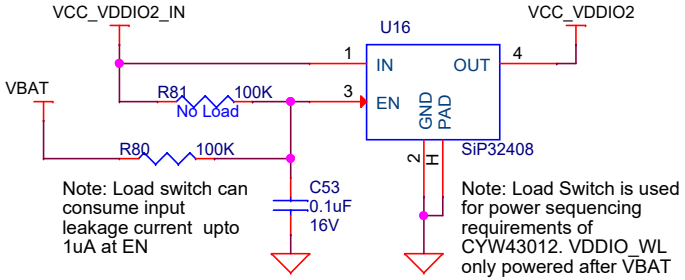
P6_VDD Current Measurement



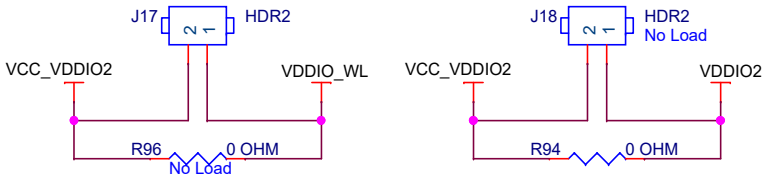
VCC_VDDIO2_IN Voltage Selection Header



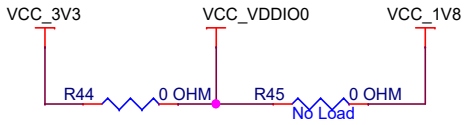
VCC_VDDIO2 Load Switch



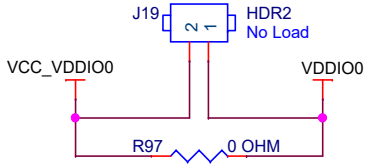
VDDIO_WL & VDDIO2 Current Measurement



VDDIO0 Voltage Selection



VDDIO0 Current Measurement

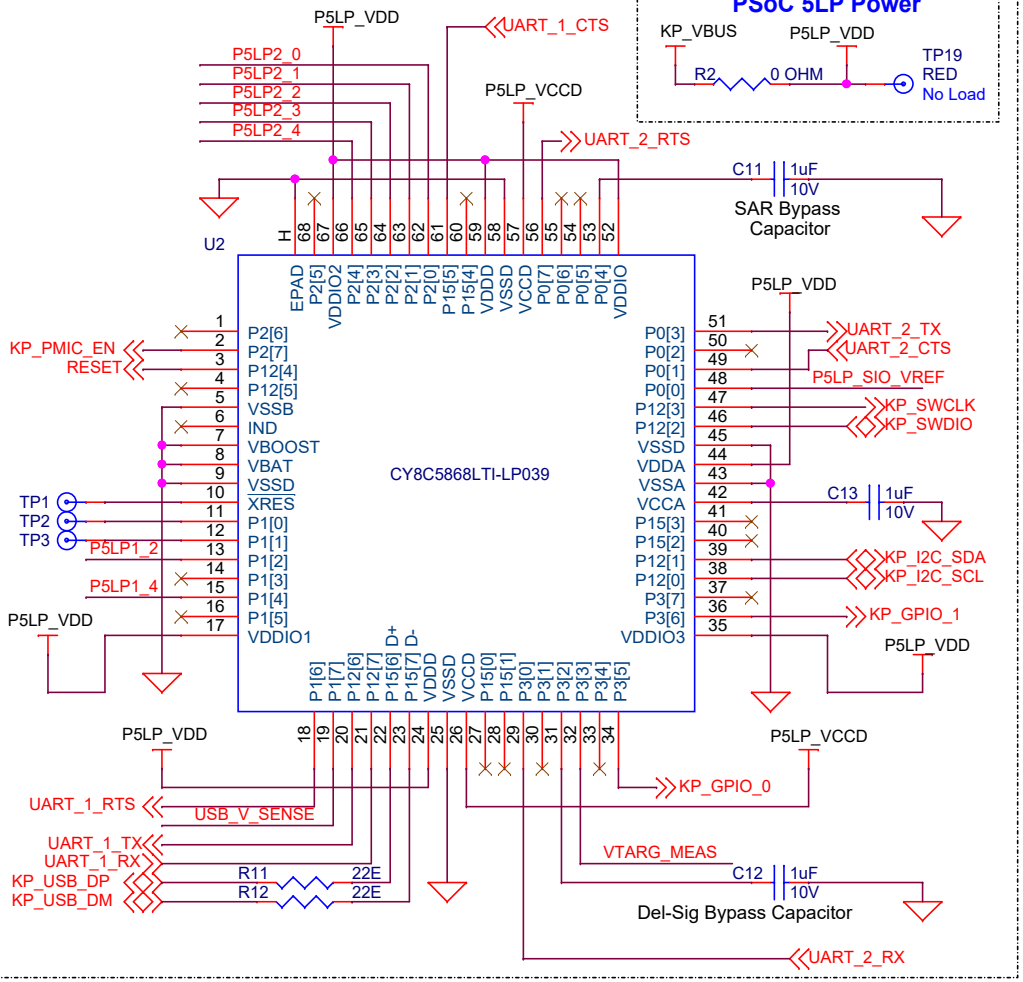


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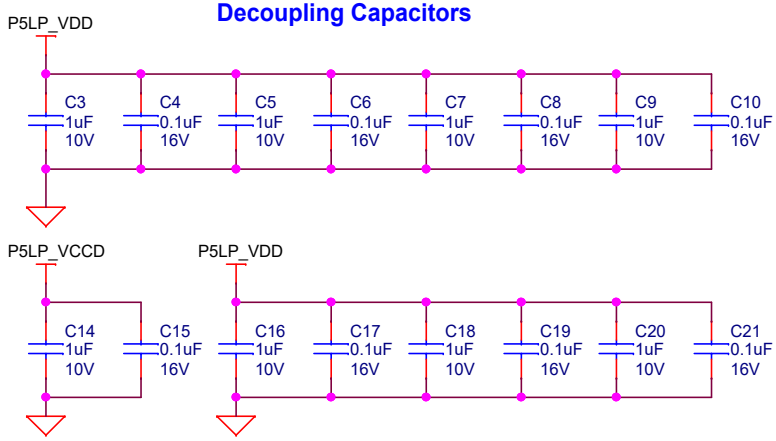
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Page Title : Power Supply (2)				
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PSoC 5LP based KitProg3

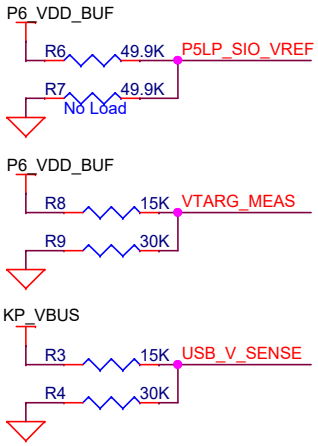


PSoC 5LP Power

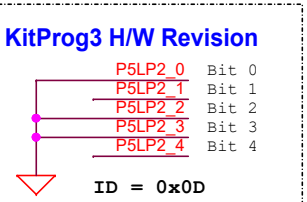
Decoupling Capacitors



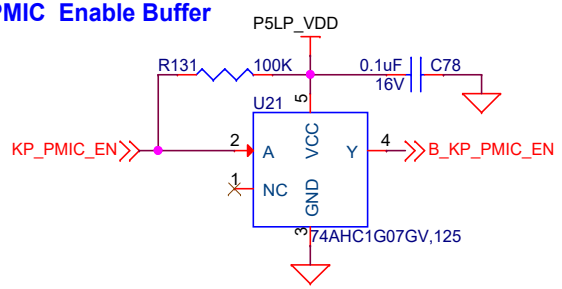
Voltage Monitoring



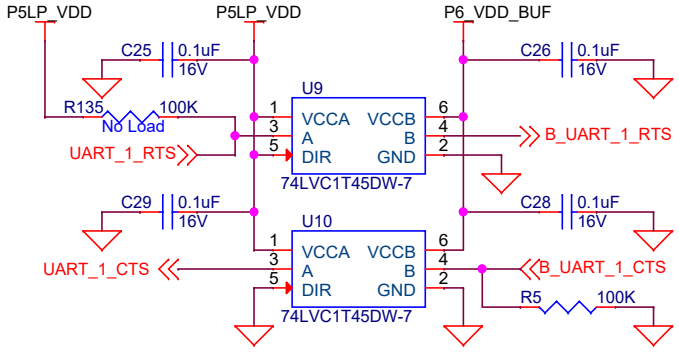
KitProg3 H/W Revision



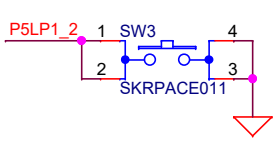
PMIC Enable Buffer



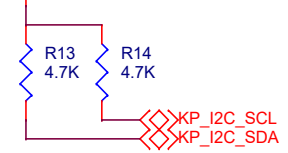
Primary UART H/W Flow Control Level Translator



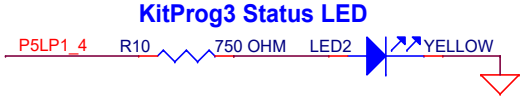
Mode Switch



I2C Pull-ups



KitProg3 Status LED

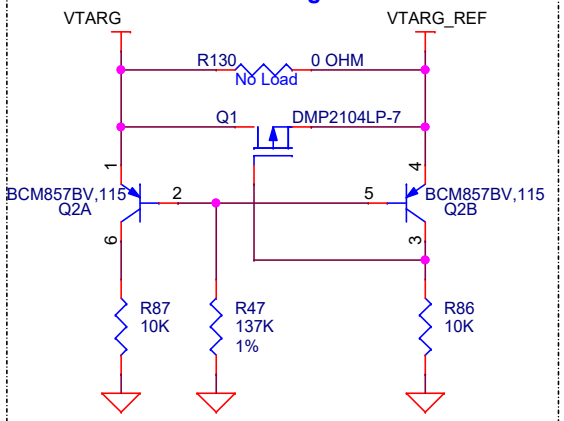


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Page Title : KitProg3 Controller				
Size A4	Document Number 630-60552-01	Drawn By TARE	Approved By RKAD	Rev 05
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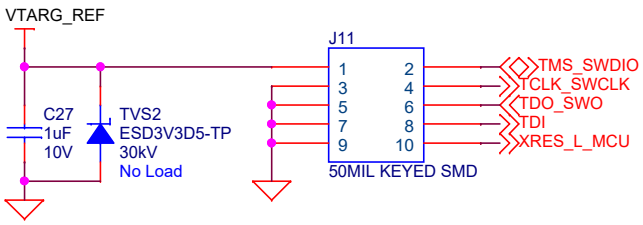
VTARG Reverse Voltage Protection



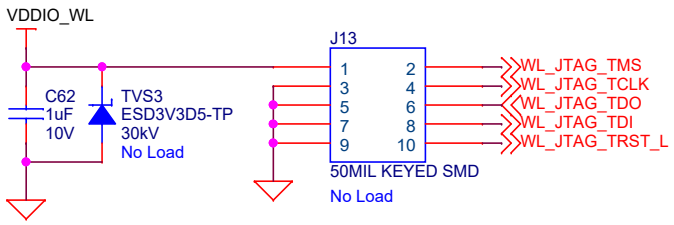
Note: VTARG_REF is only output voltage sense line for external debuggers. PSoC 6 can't be powered using external debugging headers J11 and J12

Note: If R130 is loaded and external power is used, make sure to remove jumper shunt from J14 to prevent reverse voltage to on-board regulator

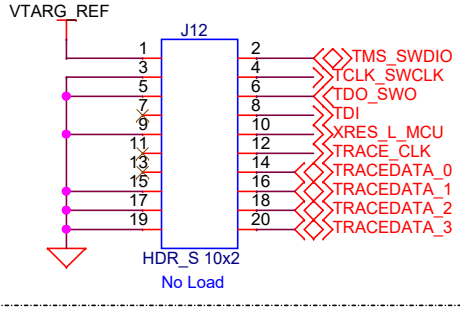
MCU 10-pin SWD/JTAG Header



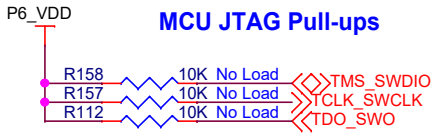
CYW43012 10-pin SWD/JTAG Header



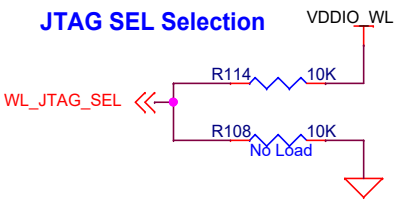
MCU 20-pin ETM Header



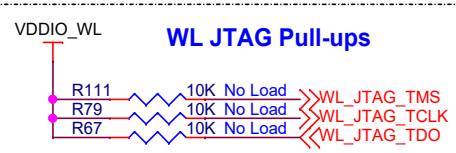
MCU JTAG Pull-ups



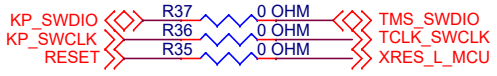
JTAG SEL Selection



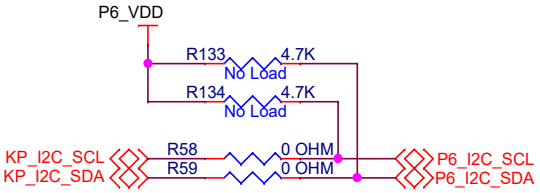
WL JTAG Pull-ups



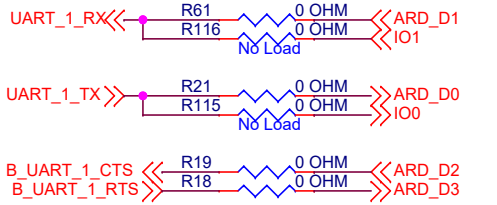
MCU SWD KitProg3 Interface



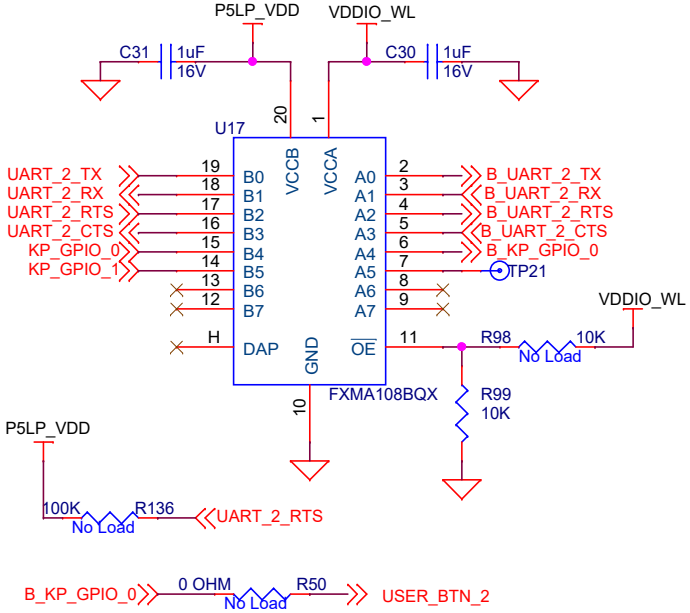
KitProg3 I2C Interface



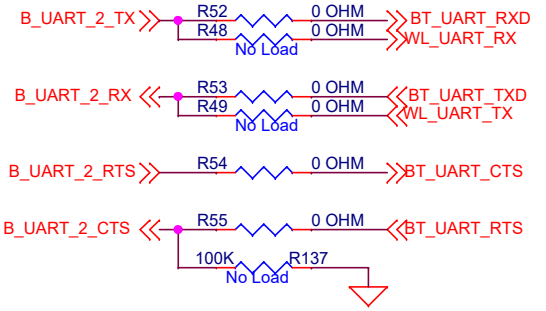
KitProg3 UART Interface



KitProg3 Level Translator for Secondary UART and GPIO



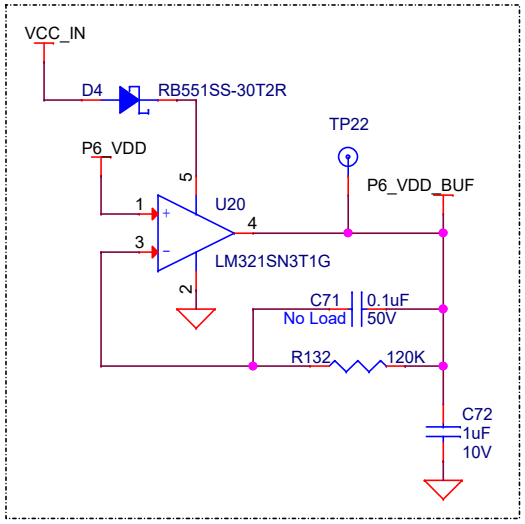
KitProg3 Secondary UART Multiplexing

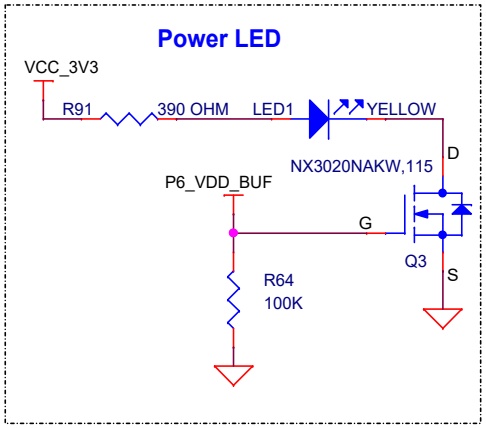


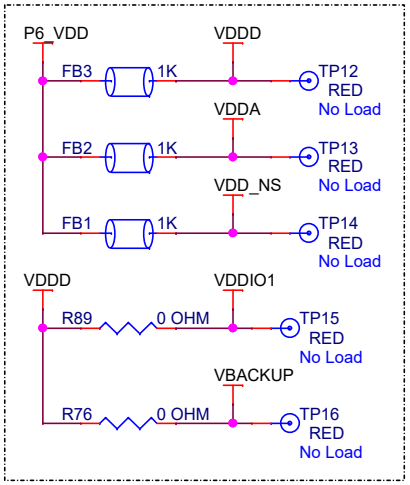
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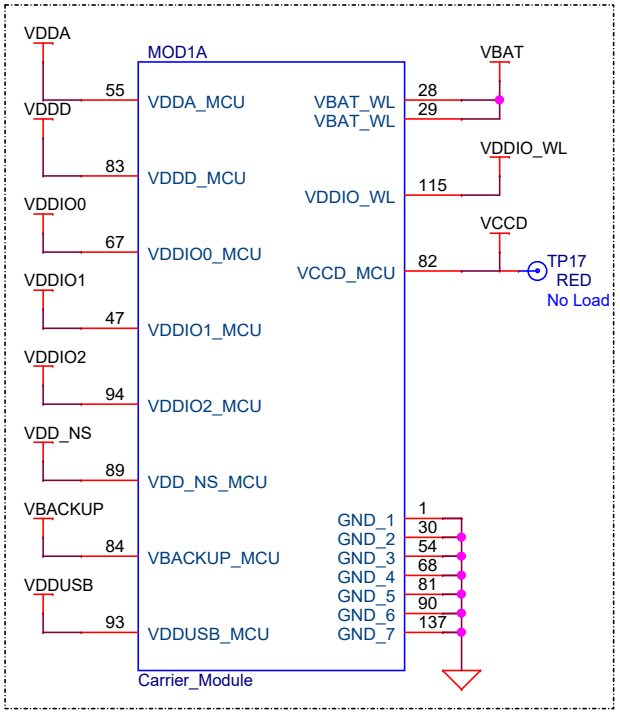
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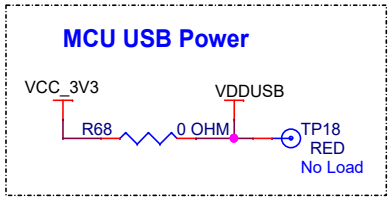
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Page Title : KitProg3 Power and Headers				
Size: A4	Document Number: 630-60552-01	Drawn By: TARE	Approved By: RKAD	Rev: 05
Date: Wednesday, September 18, 2019		Sheet 7 of 13		

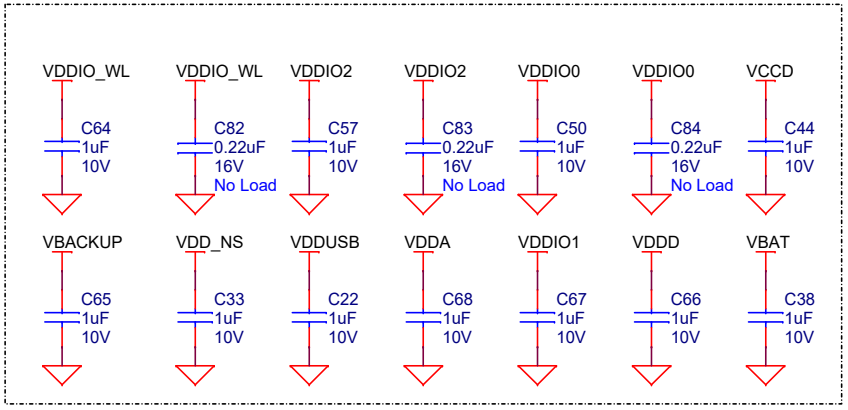












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Page Title : Accessories				
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Date: Thursday, December 05, 2019		Sheet 8 of 13		

Carrier Module Signals

MOD1B

VREF

P6_I2C_SCL	136	I2C_SCL	CSX_TX	124	PAD_CS_TX	
P6_I2C_SDA	133	I2C_SDA				
	53	ARD_AREF	CSB_0	33	PAD_CSB0	
			CSB_1	31	PAD_CSB1	
ARD_A0	52	ARD_A0	CSS_0	36	PAD_CSS0	
ARD_A1	60	ARD_A1	CSS_1	34	PAD_CSS1	
ARD_A2	59	ARD_A2	CSS_2	32	PAD_CSS2	
ARD_A3	58	ARD_A3	CSS_3	38	PAD_CSS3	
ARD_A4	62	ARD_A4	CSS_4	37	PAD_CSS4	
ARD_A5	63	ARD_A5				
ARD_A6	61	ARD_A6	CSD_SHIELD	98	PAD_CAP_SH	
ARD_A7	64	ARD_A7				
			FRAM_SSEL	71		FRAM_SS_L
TRACE_CLK	44	ETM_CLK	FLASH_SSEL	72		FLASH_SS_L
			QSPI_CLK	66	R119 22E	QSPI_SCK
PAD_A8	46	ARD_A8	QSPI_DATA0	70	R118 22E	QSPI_IO0
PAD_A9	48	ARD_A9	QSPI_DATA1	74	R121 22E	QSPI_IO1
PAD_A10	49	ARD_A10	QSPI_DATA2	65	R120 22E	QSPI_IO2
PAD_A11	45	ARD_A11	QSPI_DATA3	73	R122 22E	QSPI_IO3
A12	50	ARD_A12				
A13	56	ARD_A13	SD_CMD	79		SD_CMD
A14	57	ARD_A14	SD_CLK	80		SD_CLK
A15	51	ARD_A15	SD_DATA0	88		SD_DAT0
			SD_DATA1	86		SD_DAT1
ARD_D0	2	ARD_D0	SD_DATA2	85		SD_DAT2
ARD_D1	3	ARD_D1	SD_DATA3	87		SD_DAT3
ARD_D2	4	ARD_D2	SD_CD_L	97		PAD_SD_CD_L
ARD_D3	6	ARD_D3				
ARD_D4	5	ARD_D4	MCU_USBDP	92		P6_USB_DP
ARD_D5	9	ARD_D5	MCU_USBDM	91		P6_USB_DM
ARD_D6	7	ARD_D6				
ARD_D7	8	ARD_D7	USB_VBUS_DET	134		USB_VBUS_DET
			USB_INT	135		USB_INT_L
ARD_D8	23	ARD_D8	USB_HOST_EN	127		USB_HOST_EN
ARD_D9	25	ARD_D9				
ARD_D10	78	ARD_D10	RGB_R	123		RGB_R_LED_L
ARD_D11	76	ARD_D11	RGB_G	132		RGB_G_LED_L
ARD_D12	75	ARD_D12	RGB_B	26		RGB_B_LED_L
ARD_D13	77	ARD_D13				
			LED_1	126		O_LED_L
USER_BTN_1	130	BUTTON_1	LED_2	69		R_LED_L
USER_BTN_2	125	BUTTON_2				
			MCU_IO_0	129		IO0
			MCU_IO_1	131		IO1
XRES_L_MCU	39	MCU_XRES_L	MCU_IO_2	128		IO2
TDO_SWO	40	MCU_TDO	MCU_IO_3	24		IO3
TDI	43	MCU_TDI	MCU_IO_4	35		IO4
TMS_SWDIO	41	MCU_TMS_SWDIO	MCU_IO_5	95		IO5
TCLK_SWCLK	42	MCU_TCLK_SWCLK	MCU_IO_6	96		IO6

Carrier_Module

Reset Button

XRES_L_MCU — SW1 EVQ-PE105K

Carrier Module Signals

MOD1C

	100	WL_SDIO_DATA0	BT_UART_TXD	108	BT_UART_TXD
	101	WL_SDIO_DATA1	BT_UART_RXD	106	BT_UART_RXD
	102	WL_SDIO_DATA2	BT_UART_CTS	107	BT_UART_CTS
	104	WL_SDIO_DATA3	BT_UART_RTS	109	BT_UART_RTS
	103	WL_SDIO_CMD			
	99	WL_SDIO_CLK	BT_HOST_WAKE	122	
			BT_DEV_WAKE	120	
	14	WL_HOST_WAKE	BT_REG_ON	121	
	15	WL_DEV_WAKE			
	16	WL_REG_ON	BT_I2S_CLK	112	BT_I2S_CLK
			BT_I2S_WS	111	BT_I2S_WS
WL_UART_TX	11	WL_UART_TX	BT_I2S_DO	114	BT_I2S_DO
WL_UART_RX	12	WL_UART_RX	BT_I2S_DI	113	BT_I2S_DI
WL_GPIO_1	13	WL_IO_1			
WL_GPIO_2	10	WL_IO_2	BT_IO_2	116	BT_GPIO_2
			BT_IO_3	117	BT_GPIO_3
WL_JTAG_TCLK	20	WL_JTAG_TCK	BT_IO_4	119	BT_GPIO_4
WL_JTAG_TMS	19	WL_JTAG_TMS	BT_IO_5	118	BT_GPIO_5
WL_JTAG_TRST_L	21	WL_JTAG_TRST_L			
WL_JTAG_TDI	18	WL_JTAG_TDI	RFU_1	27	
WL_JTAG_TDO	17	WL_JTAG_TDO	RFU_2	105	
WL_JTAG_SEL	22	WL_JTAG_SEL			
			LPO_IN	110	

Carrier_Module

CapSense Multiplexed Pins

PAD_CS_TX	R33 2K	R145 0 OHM No Load	CS_RX_TX	IO7
PAD_CSB0	R24 2K	R144 0 OHM No Load	CS_BTN_0	IO8
PAD_CSB1	R25 2K	R143 0 OHM No Load	CS_BTN_1	IO9
PAD_CSS0	R28 560 OHM	R142 0 OHM No Load	CS_SLD_0	IO10
PAD_CSS1	R29 560 OHM	R152 0 OHM No Load	CS_SLD_1	IO11
PAD_CSS2	R30 560 OHM	R153 0 OHM No Load	CS_SLD_2	IO12
PAD_CSS3	R31 560 OHM	R151 0 OHM No Load	CS_SLD_3	IO13
PAD_CSS4	R32 560 OHM	R149 0 OHM No Load	CS_SLD_4	IO14
PAD_CAP_SH	No Load R38 0 OHM	R155 0 OHM	CS_CAP_SH	IO15

TRACE Multiplexed Pins

PAD_A11	R117 0 OHM	R129 0 OHM No Load	A11	TRACEDATA_0
PAD_A10	R123 0 OHM	R128 0 OHM No Load	A10	TRACEDATA_1
PAD_A9	R124 0 OHM	R127 0 OHM No Load	A9	TRACEDATA_2
PAD_A8	R125 0 OHM	R126 0 OHM No Load	A8	TRACEDATA_3

P6_USB_ID

IO2 — R174 0 OHM — P6_USB_ID

Card Detect Multiplexing

ARD_D12	R159 0 OHM	No Load		
PAD_SD_CD_L	R161 0 OHM	R160 0 OHM No Load	SD_CD_L	IO16

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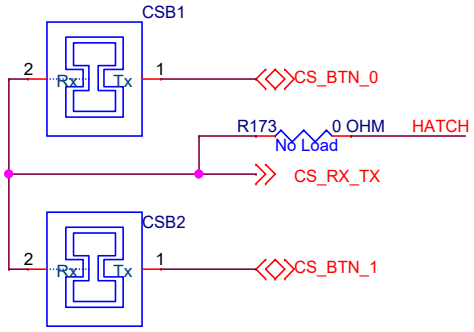
SCH Title : CYW9-BASE-01 Pioneer Baseboard

Page Title : PSoC 6 Module Signals

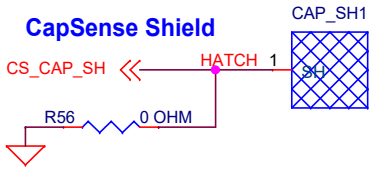
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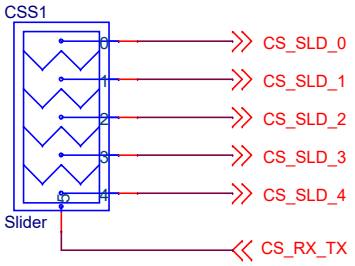
CapSense Buttons



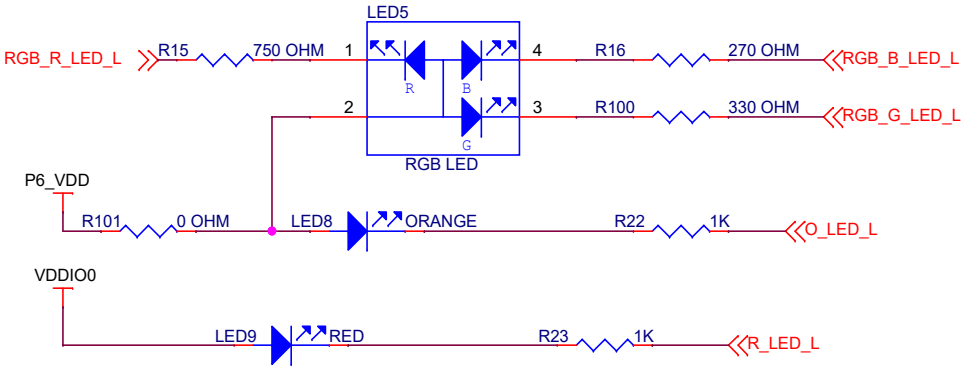
CapSense Shield



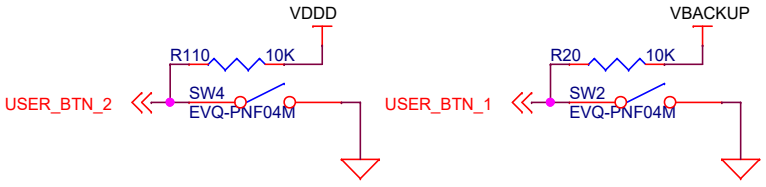
CapSense Slider



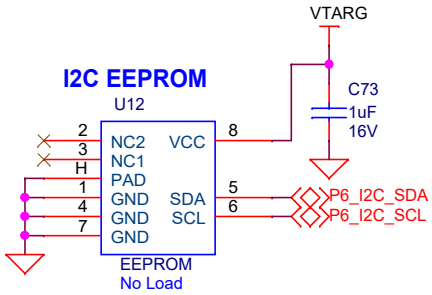
User LEDs



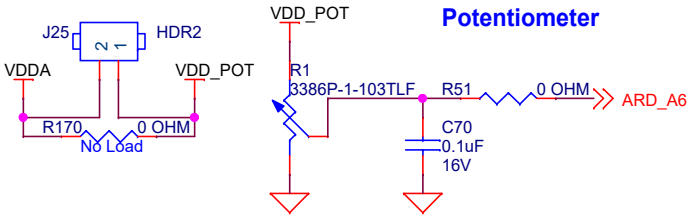
User Button / Hibernate Wakeup



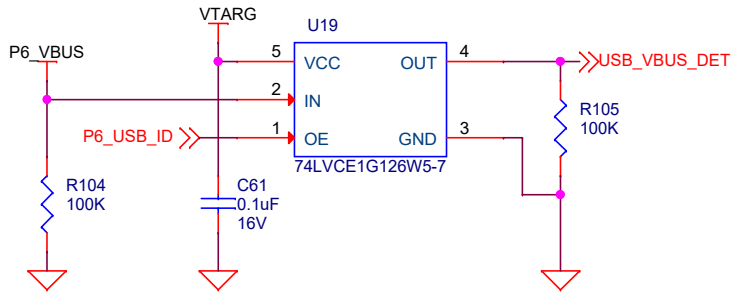
I2C EEPROM



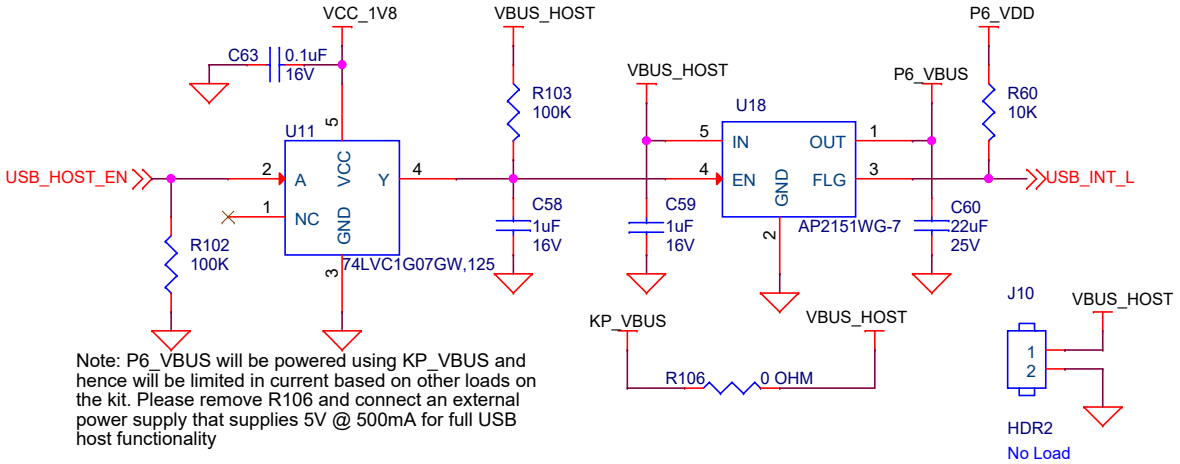
Potentiometer



USB Device Port VBUS Detect



USB Host VBUS Enable



Note: P6_VBUS will be powered using KP_VBUS and hence will be limited in current based on other loads on the kit. Please remove R106 and connect an external power supply that supplies 5V @ 500mA for full USB host functionality

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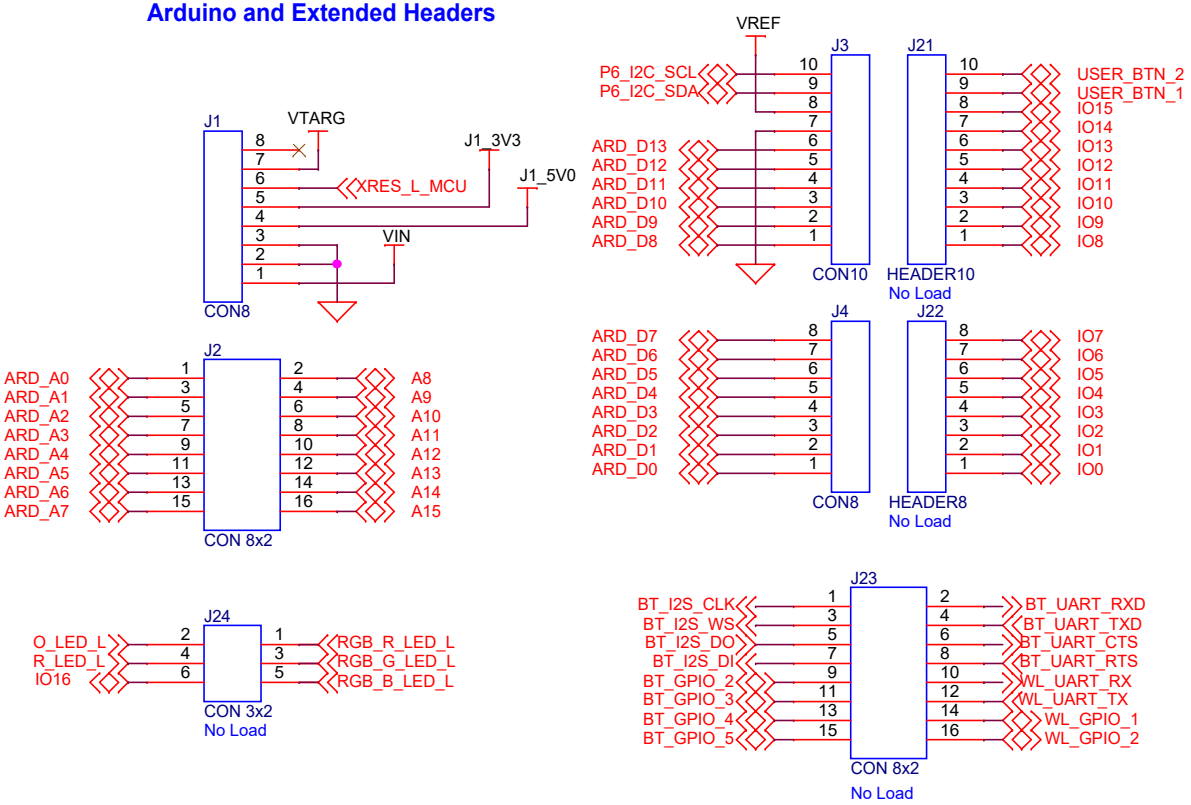
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Page Title :	Peripherals

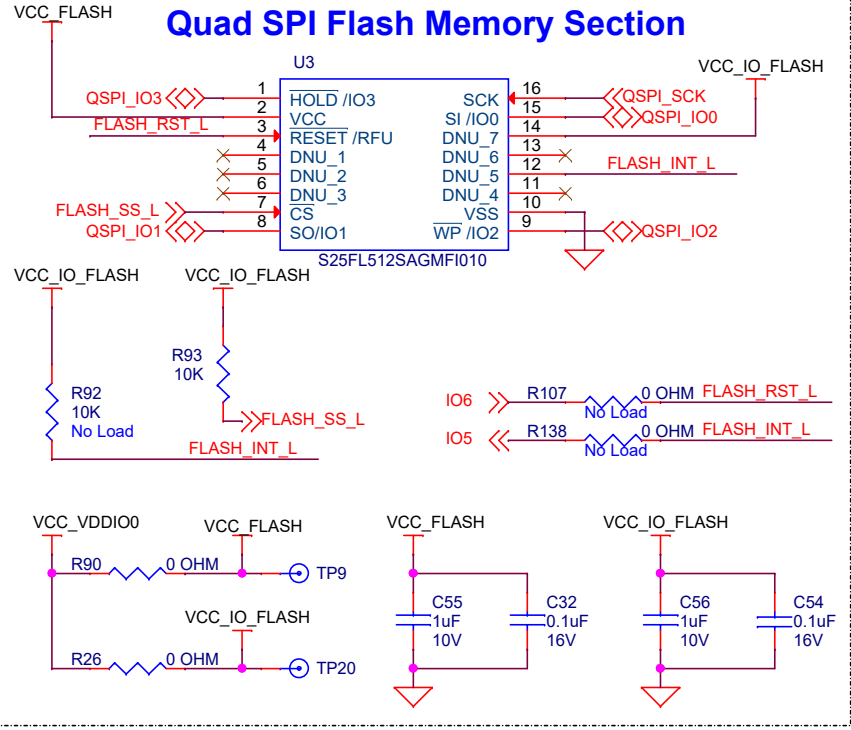
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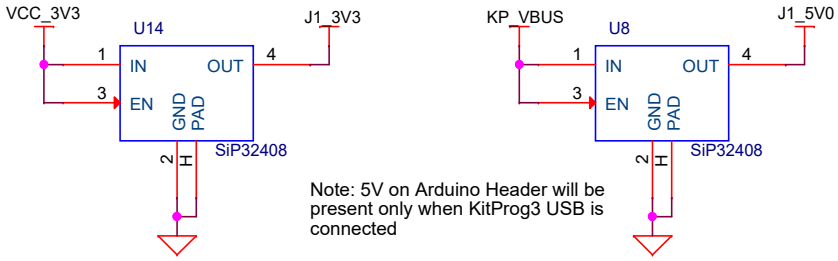
Arduino and Extended Headers



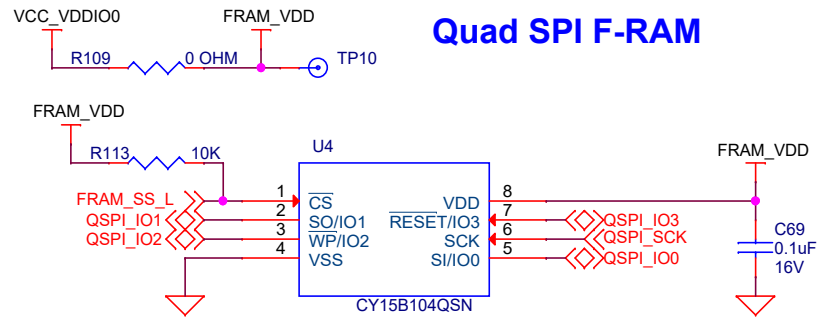
Quad SPI Flash Memory Section



Arduino Header O/P



Quad SPI F-RAM

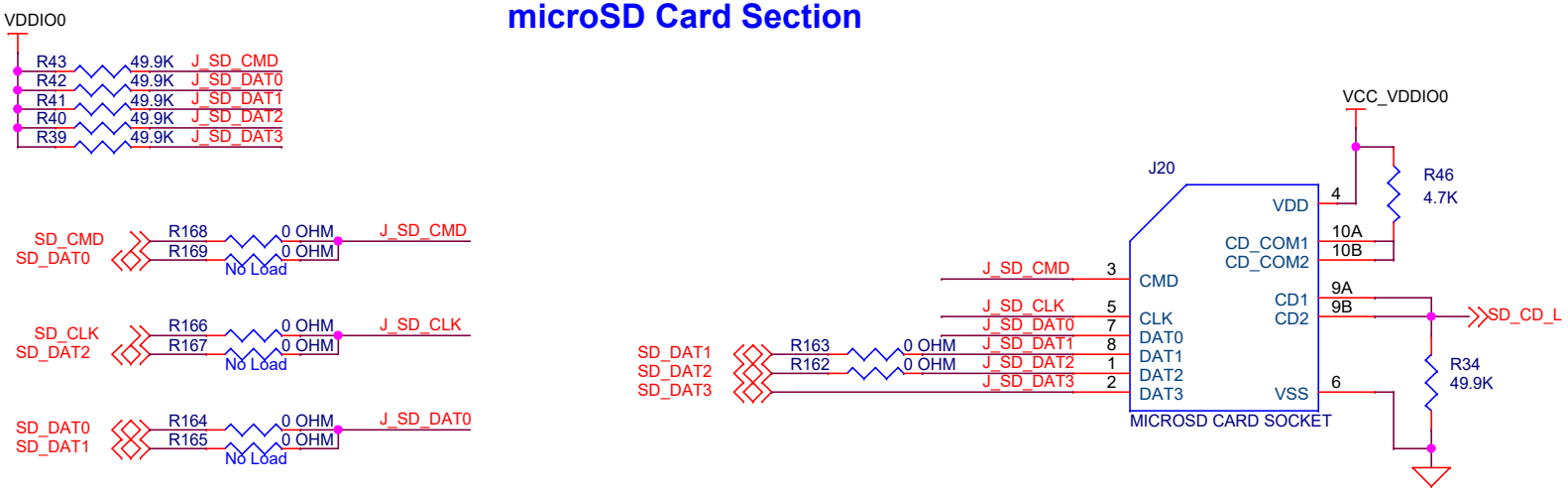


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Page Title : Expansion Headers & Memory				
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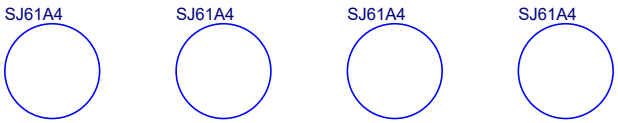
microSD Card Section

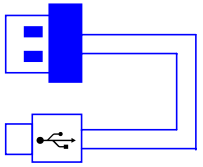


Note: Load R165, R167 and R169 and remove R162, R163, R164, R166 and R168 to change from SDHC to SPI interface for microSD card

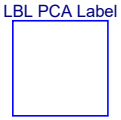
Accessories

Cylindrical Bumper

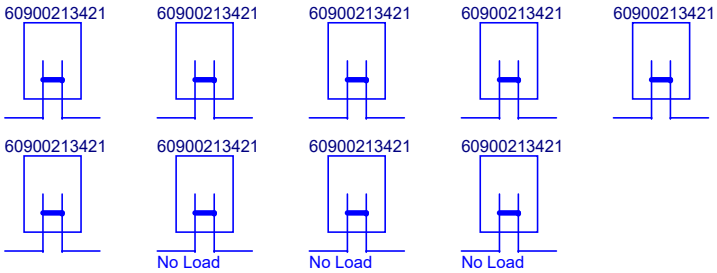




PCBA label



Jumper Shunt



Acrylic Overlay

Overlay

Color: Clear, Transparent
Finish: Matt

Dimensions:
45.21mm - length
36.93mm - height
1mm - thickness

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REVISION HISTORY

REV	DESCRIPTION OF CHANGE	DATE
01	Initial Internal Release	2019/05/13
02	Internal Release	2019/05/21
03	Internal Release	2019/07/23
04	Internal Release	2019/08/08
05	Initial Release	2019/09/18

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