

PONTTECH

Motorola EVM Breakout Board

Rev 1.0 (2002-11Nov-23)

www.pontech.com

Special Considerations When Using the EVM100

1. The FCI board stacking connectors that are on the Motorola EVM and the EVM100 are specified for only 40 insertions. Keep this in mind when deciding where to plug and unplug connectors. If it's necessary to remove the proto area for soldering or other work, I recommend disconnecting the ribbon from the proto board and leaving the EVM100 plugged into the Motorola EVM.
2. The 2mm fifty pin ribbon cable fits snugly on the headers supplied. Because of the length of the connector it is easy to create a moment that will bend it causing the ribbon retaining bar to lift off of the cable, when this happens it's quite easy for the ribbon to separate from the connector pins. It can be difficult or impossible to repair the cable if this happens. I suggest removing the cable by using small screwdriver or blade (I used a reversed x-acto blade) then gently and evenly across the length of the connector separate it from the header.
3. The EVM100 was built using the manufactures pin out for the board stacking connectors; this pin out is different from how Motorola labeled them on the 56F827EVM. Because of this the signal order coming off the header does not match that of the schematic included with the 56F827EVM. I have not yet checked if this is the case with the other EVM's this board is suppose to mate to, but I suspect it to be so. I have included a bottom view pin out of the header connector that is right reading for convenience when soldering to the header.
4. There are extra connector holes on each side of the header on the EVM100. The connector is placed correctly for a fifty pin ribbon cable, when the board was designed I had planned on using a sixty pin 2mm ribbon cable, I have yet to find a manufacture that builds one.
5. The included mating header for the proto board is not attached so that you can best decided where it would be useful for you. The connector pins and the 2mm holes in the vector board make a tight fit, you may need to rock or even use a little force to get the connector flush to the proto board. I have placed the connector in the vector board where I like to use is just to make sure that it can be inserted.

Jacob Christ
ProLinear/PONTECH

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Peripheral Port Connector**

827			827			
		CLKO	2	1	PB0	
		PB3	4	3	PF0	TA0
		PB5	6	5	PF2	TA2
	SRD	PC0	8	7	ANA0	
	SCLK	PF4	10	9	PC1	SRFS
	MOSI	PF5	12	11	ANA2	
		ANA4	14	13	PF6	MISO
	SRCK	PC2	16	15	PF7	/SS
	/RESET	/RESET	18	17	PC4	STFS
	STD	PC3	20	19	ANA6	
		/IRQB	22	21	PC5	STCK
		+3.3V	24	23	/IRQA	
		GND	26	25	ANA8	
		PB2	28	27	PB1	
		PB4	30	29	PF1	TA1
		PB6	32	31	PF3	TA3
		PB7	34	33	ANA1	
		PD1	36	35	PD0	
		PD2	38	37	ANA3	
		ANA5	40	39	PD3	
		PD5	42	41	PD4	
		PD7	44	43	PD6	
	RXD1	/SS0	46	45	ANA7	
	RXD0	MOSI0	48	47	MISO0	TXD1
		+3.3V	50	49	SLK0	TXD0

51 ANA9

MISSING

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Address/Data Connector**

827			827			
	A9	PA9	2	1	A10	PA10
	A7	PA7	4	3	A8	PA8
		/WR	6	5	GND	
	D1	PG1	8	7	D0	PG0
		GND	10	9	D2	PG2
	D4	PG4	12	11	D3	PG3
	D6	PG6	14	13	D5	PG5
	D7	PG7	16	15	PCS6	
	A0	PA0	18	17	/PS	/CS0
	PCS4		20	19	A1	PA1
	A3	PA3	22	21	A2	PA2
		+3.3V	24	23	PCS3	
		GND	26	25	GND	
		/DS	28	27	PA11	A11
	PA14	A14	30	29	PA15	A15
	PA13	A13	32	31	PCS7	
	PG8	D8	34	33	PA12	A12
		GND	36	35	PG9	D9
	PG11	D11	38	37	PG10	D10
	PG13	D13	40	39	PG12	D12
	PG14	D14	42	41	PCS5	
		/RD	44	43	PG15	D15
		GND	46	45	PA6	A6
	PA4	A4	48	47	PA5	A5
		+3.3V	50	49	PCS2	

51 GND

MISSING

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Peripheral Port Connector**

826			826			
		CLKO	2	1	PB0	
		PB3	4	3	PF0	TA0
		PB5	6	5	PF2	TA2
	SRD	PC0	8	7	GND	
	SCLK	PF4	10	9	PC1	SRFS
	MOSI	PF5	12	11	GND	
		GND	14	13	PF6	MISO
	SRCK	PC2	16	15	PF7	/SS
	/RESET	/RESET	18	17	PC4	STFS
	STD	PC3	20	19	GND	
		/IRQB	22	21	PC5	STCK
		+3.3V	24	23	/IRQA	
		GND	26	25	GND	
		PB2	28	27	PB1	
		PB4	30	29	PF1	TA1
		PB6	32	31	PF3	TA3
		PB7	34	33	GND	
		PD1	36	35	PD0	
		PD2	38	37	GND	
		GND	40	39	PD3	
		PD5	42	41	PD4	
		PD7	44	43	PD6	
	RXD1	/SS0	46	45	GND	
	RXD0	MOSI0	48	47	MISO0	TXD1
		+3.3V	50	49	SLK0	TXD0

51 GND

MISSING

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Address/Data Connector**

826			826			
	A9	PA9	2	1	A10	PA10
	A7	PE7	4	3	A8	PA8
		/WR	6	5	GND	
	D1	PG1	8	7	D0	PG0
		GND	10	9	D2	PG2
	D4	PG4	12	11	D3	PG3
	D6	PG6	14	13	D5	PG5
	D7	PG7	16	15	GND	
	A0	PE0	18	17	/PS	/CS0
	GND		20	19	A1	PE1
	A3	PE3	22	21	A2	PE2
		+3.3V	24	23	GND	
		GND	26	25	GND	
		/DS	28	27	PA11	A11
	PA14	A14	30	29	PA15	A15
	PA13	A13	32	31	GND	
	PG8	D8	34	33	PA12	A12
		GND	36	35	PG9	D9
	PG11	D11	38	37	PG10	D10
	PG13	D13	40	39	PG12	D12
	PG14	D14	42	41	GND	
		/RD	44	43	PG15	D15
		GND	46	45	PE6	A6
	PE4	A4	48	47	PE5	A5
		+3.3V	50	49	GND	

51 GND

MISSING

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Peripheral Port Connector**

852				852			
		A20	2	1	/CS0		
		GND	4	3	A17		
		GND	6	5	GND		
		SRXD	8	7	GND		
		SCK	10	9	MOSI		
		MOSI	12	11	GND		
		GND	14	13	MISO		
		MISO	16	15	/SS		
		/RESET	18	17	/SS		
		STXD	20	19	GND		
		/IRQB	22	21	SCK		
		+3.3V	24	23	/IRQA		
		+5.0V	26	25	GND		
		/CS2	28	27	/CS1		
		GND	30	29	A18		
		GND	32	31	GND		
		/CS0	34	33	GND		
		/CS2	36	35	/CS1		
		GND	38	37	GND		
		GND	40	39	GND		
		GND	42	41	GND		
		GND	44	43	GND		
		GND	46	45	GND		
		RXD	48	47	GND		
		+3.3V	50	49	TXD		

51 GND

MISSING

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Address/Data Connector**

852				852			
		A9	2	1	A10		
		A7	4	3	A8		
		/WR	6	5	A20		
		D1	8	7	D0		
		GND	10	9	D2		
		D4	12	11	D3		
		D6	14	13	D5		
		D7	16	15	A18		
		A0	18	17	/CS0	/PS	
		A16	20	19	A1		
		A3	22	21	A2		
		+3.3V	24	23	A19	/CS3	
		+5.0V	26	25	GND		
	/DS	/CS1	28	27	A11		
		A14	30	29	A15		
		A13	32	31	A19		
		D8	34	33	A12		
		GND	36	35	D9		
		D11	38	37	D10		
		D13	40	39	D12		
		D14	42	41	A17		
		/RD	44	43	D15		
		GND	46	45	A6		
		A4	48	47	A5		
		+3.3V	50	49	/CS2		

51 GND

MISSING

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Peripheral Port Connector**

858				858			
		CLKO	2	1	/CS0		
		/CS3	4	3	TIO0		
			6	5	TIO2		
		SRD0	8	7	GND		
		SCK	10	9	SC01		
		MOSI	12	11	GND		
		GND	14	13	MISO		
		SC00	16	15	/SS		
		/RESET	18	17	SC02		
		STD0	20	19	GND		
		/IRQB	22	21	SCK0		
		+3.3V	24	23	/IRQA		
		+5.0V	26	25	GND		
		/CS2	28	27	/CS1		
		/RSTOUT	30	29	TIO1		
			32	31	TIO3		
		SRD1	34	33	GND		
		SCK1	36	35	SC11		
		SC10	38	37	GND		
		GND	40	39	SC12		
		MODA	42	41	STD1		
		MODC	44	43	MODB		
		RXD1	46	45	GND		
		RXD0	48	47	TXD1		
		+3.3V	50	49	TXD0		

51 GND

MISSING

**Bottom View from 2mm DIP Header on VECTOR CIRCBOARD
Address/Data Connector**

858			858		
		A9	2	1	A10
		A7	4	3	A8
		/WR	6	5	A20
		D1	8	7	D0
		GND	10	9	D2
		D4	12	11	D3
		D6	14	13	D5
		D7	16	15	A18
		A0	18	17	/CS0 /PS
		A16	20	19	A1
		A3	22	21	A2
		+3.3V	24	23	/CS3
		+5.0V	26	25	GND
	/DS	/CS1	28	27	A11
		A14	30	29	A15
		A13	32	31	A19
		D8	34	33	A12
		GND	36	35	D9
		D11	38	37	D10
		D13	40	39	D12
		D14	42	41	A17
		/RD	44	43	D15
		GND	46	45	A6
		A4	48	47	A5
		+3.3V	50	49	/CS2

51 GND

MISSING

56F827 128 pin device

PIN	NAME	ALT	NET
70	ANA0	ANALOG	
71	ANA1	ANALOG	
72	ANA2	ANALOG	
73	ANA3	ANALOG	
74	ANA4	ANALOG	
75	ANA5	ANALOG	
76	ANA6	ANALOG	
77	ANA7	ANALOG	
78	ANA8	ANALOG	
79	ANA9	ANALOG	
62	VDDA	ANALOG	
69	VDDA_ADC	ANALOG	
67	VREFHI	ANALOG	
64	VREFLO	ANALOG	
68	VREFMID	ANALOG	
66	VREFN	ANALOG	
65	VREFP	ANALOG	
61	VSSA	ANALOG	
63	VSSA_ADC	ANALOG	
17	DS\	BUS	
39	EXTBOOT	BUS	
84	PCS2\	BUS	
85	PCS3\	BUS	
86	PCS4\	BUS	
87	PCS5\	BUS	
88	PCS6\	BUS	
89	PCS7\	BUS	
18	PS\	BUS	
15	RD\	BUS	
42	RESET\	BUS	
16	WR\	BUS	
57	CLKO	CLOCK	
59	EXTAL	CLOCK	
60	XTAL	CLOCK	
21	A0	GPIOA00	
22	A1	GPIOA01	
23	A2	GPIOA02	
24	A3	GPIOA03	
25	A4	GPIOA04	
26	A5	GPIOA05	
27	A6	GPIOA06	
28	A7	GPIOA07	
31	A8	GPIOA08	
32	A9	GPIOA09	
33	A10	GPIOA10	
34	A11	GPIOA11	
35	A12	GPIOA12	
36	A13	GPIOA13	
37	A14	GPIOA14	

56F827 128 pin device

PIN	NAME	ALT	NET
38	A15	GPIOA15	
124	GPIOB0	GPIOB0	
123	GPIOB1	GPIOB1	
122	GPIOB2	GPIOB2	
121	GPIOB3	GPIOB3	
120	GPIOB4	GPIOB4	
119	GPIOB5	GPIOB5	
118	GPIOB6	GPIOB6	
117	GPIOB7	GPIOB7	
55	SRD	GPIOC0	
54	SRFS	GPIOC1	
53	SRCK	GPIOC2	
52	STD	GPIOC3	
51	STFS	GPIOC4	
50	STCK	GPIOC5	
104	TXD2	GPIOC6	
103	RXD2	GPIOC7	
98	GPIOD0	GPIOD0	
97	GPIOD1	GPIOD1	
96	GPIOD2	GPIOD2	
95	GPIOD3	GPIOD3	
94	GPIOD4	GPIOD4	
93	GPIOD5	GPIOD5	
92	GPIOD6	GPIOD6	
91	GPIOD7	GPIOD7	
112	TA0	GPIOF0	
111	TA1	GPIOF1	
110	TA2	GPIOF2	
109	TA3	GPIOF3	
102	SCLK	GPIOF4	
101	MOSI	GPIOF5	
100	MISO	GPIOF6	
99	SS\	GPIOF7	
125	D0	GPIOG0	
126	D1	GPIOG01	
127	D2	GPIOG02	
128	D3	GPIOG03	
1	D4	GPIOG04	
2	D5	GPIOG05	
3	D6	GPIOG06	
6	D7	GPIOG07	
7	D8	GPIOG08	
8	D9	GPIOG09	
9	D10	GPIOG10	
10	D11	GPIOG11	
11	D12	GPIOG12	
12	D13	GPIOG13	
13	D14	GPIOG14	
14	D15	GPIOG15	

56F827 128 pin device

PIN	NAME	ALT	NET
40	IRQA\	IRQ	
49	IRQB\	IRQ	
41	DE\	JTAG	
44	TCK	JTAG	
48	TDI	JTAG	
47	TDO	JTAG	
46	TMS	JTAG	
45	TRST\	JTAG	
90	VPP	NC	
19	VDD	POWER	
81	VDD	POWER	
116	VDD	POWER	
4	VDDIO	POWER	
29	VDDIO	POWER	
56	VDDIO	POWER	
82	VDDIO	POWER	
113	VDDIO	POWER	
20	VSS	POWER	
80	VSS	POWER	
115	VSS	POWER	
43	VSS / TCS	POWER	
5	VSSIO	POWER	
30	VSSIO	POWER	
58	VSSIO	POWER	
83	VSSIO	POWER	
114	VSSIO	POWER	
107	RXD0 MOSI0	SCI0/SPI	
108	TXD0 SCLK0	SCI0/SPI	
105	RXD1 SS0\	SCI1/SPI	
106	TXD1 MISI0	SCI1/SPI	