PIC32MX450/470 Plug In Module

Part No. MA320002-2

Processor Plug-In Modules are small circuit boards to be used with the various Microchip Development Boards to evaluate various MCU families. These plug into the main processor socket of the Development Boards so that different microcontrollers can be used for prototyping, demonstration or development --quickly and easily.

The capabilities of PIC32MX3/MX4 family of devices can be demonstrated using the PIC32MX450/470 PIM using Explorer 16 development board. It enables USB development with the PIC32MX4XX series.

This PIM can be used to evaluate the following MCUs:

PIC32MX470F512L
PIC32MX470F512H
PIC32MX370F512L
PIC32MX370F512H
PIC32MX450F256L
PIC32MX450F256H
PIC32MX350F256L
PIC32MX350F256H
PIC32MX450F128L
PIC32MX450F128H
PIC32MX350F128L
PIC32MX350F128H
PIC32MX430F064L
PIC32MX430F064H
PIC32MX330F064L
PIC32MX330F064H

PIC32MX450F256L 100-pin to 100-pin TQFP USB Plug-In Module (PIM) Information Sheet

OVERVIEW

The PIC32MX450F256L USB PIM is designed to demonstrate the capabilities of the PIC32MX450F256L family of devices using development boards such as the Explorer 16 Development Board, which supports 100-pin PIM interfaces.

The PIC32MX450F256L is a high performance 32-bit Microcontroller in a 100-pin TQFP package.

Table 1 shows the mapping between the 100-pin PIM interface board functions and the device pins.

Figure 1 through Figure 3 provide schematics for the device and the PIM.

TABLE 1: 100-PIN TO 100-PIN PIM

Device Pin #	PIC32MX450F256L Functional Description	PIM Pin #
1	RG15	69
2	VDD	2
3	AN22/RPE5/PMD5/RE5	3
4	AN23/PMD6/RE6	4
5	AN27/PMD7/RE7	5
6	RPC1/RC1	6
7	RPC2/RC2	7
8	RPC3/RC3	8
9	RPC4/CTED7/RC4	9, 54
10	AN16/C1IND/RPG6/SCK2/PMA5/RG6	10
11	AN17/C1INC/RPG7/PMA4/RG7	11
12	AN18/C2IND/RPG8/PMA3/RG8	12
13	$\overline{\text{MCLR}}$	13
14	AN19/C2INC/RPG9/PMA2/RG9	14
15	VSS	15
16	VDD	16
17	TMS/CTED1/RA0	17
18	RPE8/RE8	18
19	RPE9/RE9	19
20	AN5/C1INA/RPB5/VBUSON/RB5	96
21	AN4/C1INB/RB4	21
22	PGED3/AN3/C2INA/RPB3/RB3	22
23	PGEC3/AN2/C2INB/RPB2/CTED13/RB2	20
24	PGEC1/AN1/RPB1/CTED12/RB1	24
25	PGED1/AN0/RPB0/RB0	25
26	PGEC2/AN6/RPB6/RB6	26, 32
27	PGED2/AN7/RPB7/CTED3/RB7	27
28	VREF-/CVREF-/PMA7/RA9	28
29	VREF+/CVREF+/PMA6/RA10	29
30	AVDD	30
31	AVSS	31
32	AN8/RPB8/CTED10/RB8	26, 32
33	AN9/RPB9/CTED4/RB9	33
34	CVREFOUT/AN10/RPB10/CTED11/PMA13/RB10	34

Device Pin #	PIC32MX450F256L Functional Description	PIM Pin #
35	AN11/PMA12/RB11	35
36	VSS	36
37	VDD	37
38	TCK/CTED2/RA1	38
39	RPF13/RF13	39
40	RPF12/RF12	40
41	AN12/PMA11/RB12	41
42	AN13/RB13	42
43	AN14/RPB14/CTED5/ON/PMA1/RB14	43
44	AN15/RPB15/OCFB/CTED6/PMA0/RB15	44
45	VSS	45
46	VDD	46
47	RPD14/RD14	47
48	RPD15/RD15	48
49	RPF4/PMA9/RF4	49
50	RPF5/PMA8/RF5	50
51	USBID/RF3	95
52	RPF2/RF2	52
53	RPF8/RF8	51
54	VBUS	1
55	VUSB3V3	62
56	D-	89
57	D+	90
58	SCL2/RA2	58
59	SDA2/RA3	59
60	TDI/CTED9/RA4	60
61	TDO/RA5	61
62	VDD	62
63	OSC1/CLKI/RC12	63
64	OSC2/CLKO/RC15	64
65	VSS	65
66	SCL1/RPA14/RA14	57
67	SDA1/RPA15/RA15	67
68	RPD8/RTCC/RD8	68

TABLE 1: 100-PIN TO 100-PIN PIM (CONTINUED)

Device Pin #	PIC32MX450F256L Functional Description	PIM Pin #
69	RPD9/RD9	23
70	RPD10/SCK1/PMCS2/RD10	70
71	RPD11/PMCS1/RD11	71
72	RPD0/INT0/RD0	72
73	SOSCI/RPC13/RC13	73
74	SOSCO/RPC14/T1CK/RC14	74
75	VSS	75
76	AN24/RPD1/RD1	76
77	AN25/RPD2/RD2	77
78	AN26/RPD3/RD3	78
79	RPD12/PMD12/RD12	79
80	PMD13/RD13	80
81	RPD4/PMWR/RD4	81
82	RPD5/PMRD/RD5	82
83	PMD14/RD6	83
84	PMD15/RD7	84
85	VCAP	NC
86	VDD	86
87	RPF0/PMD11/RF0	87
88	RPF1/PMD10/RF1	88
89	RPG1/PMD9/RG1	NC
90	RPG0/PMD8/RG0	NC
91	TRCLK/RA6	91
92	TRD3/CTED8/RA7	92
93	PMD0/RE0	93
94	PMD1/RE1	94
95	TRD2/RG14	NC
96	TRD1/RG12	NC
97	TRD0/RG13	97
98	AN20/CTPLS/PMD2/RE2	98
99	RPE3/PMD3/RE3	99
100	AN21/PMD4/RE4	100

FIGURE 1: 100-PIN DEVICE SCHEMATIC

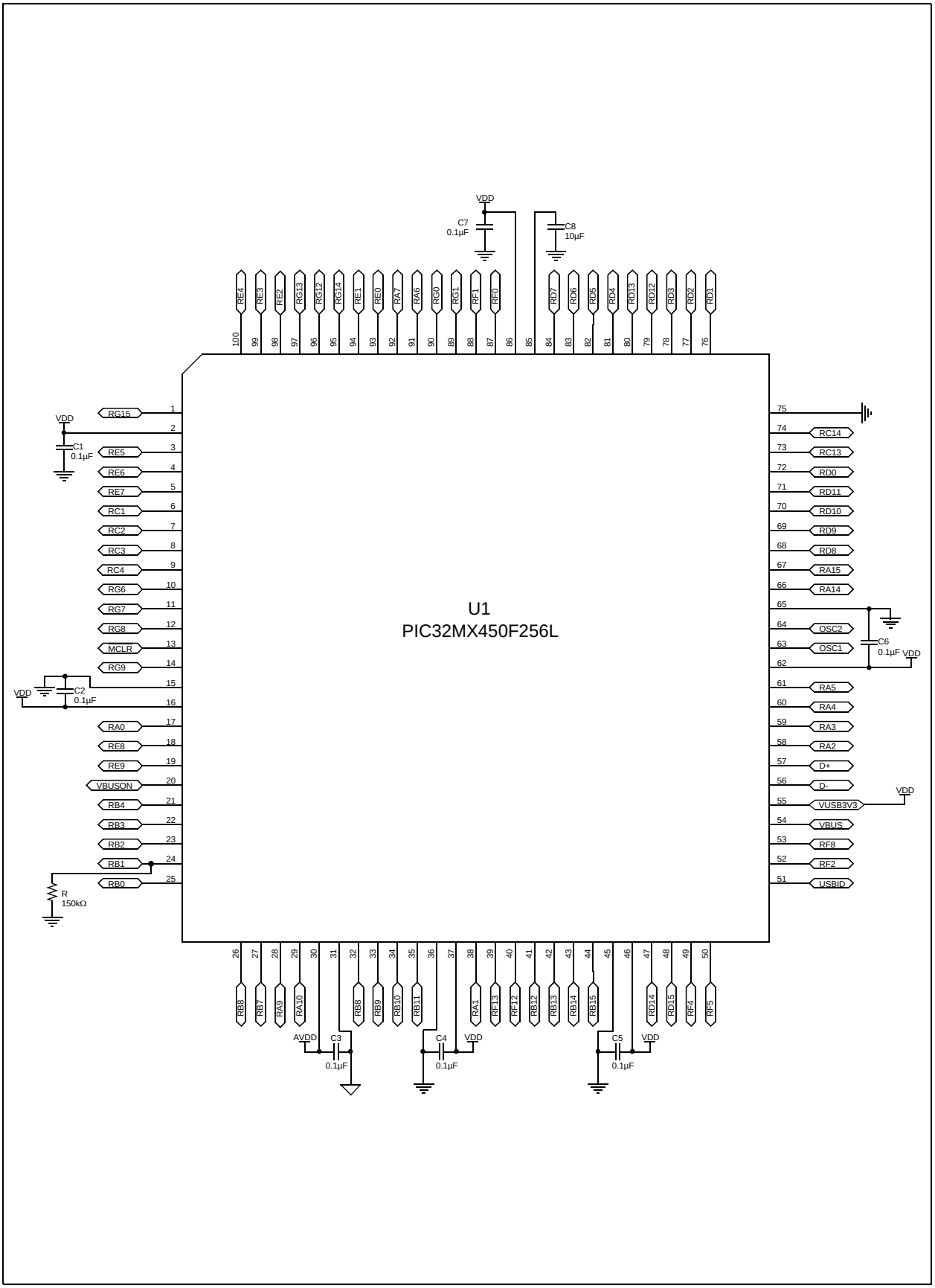


FIGURE 2: 100-PIN PIM SOCKET SCHEMATIC

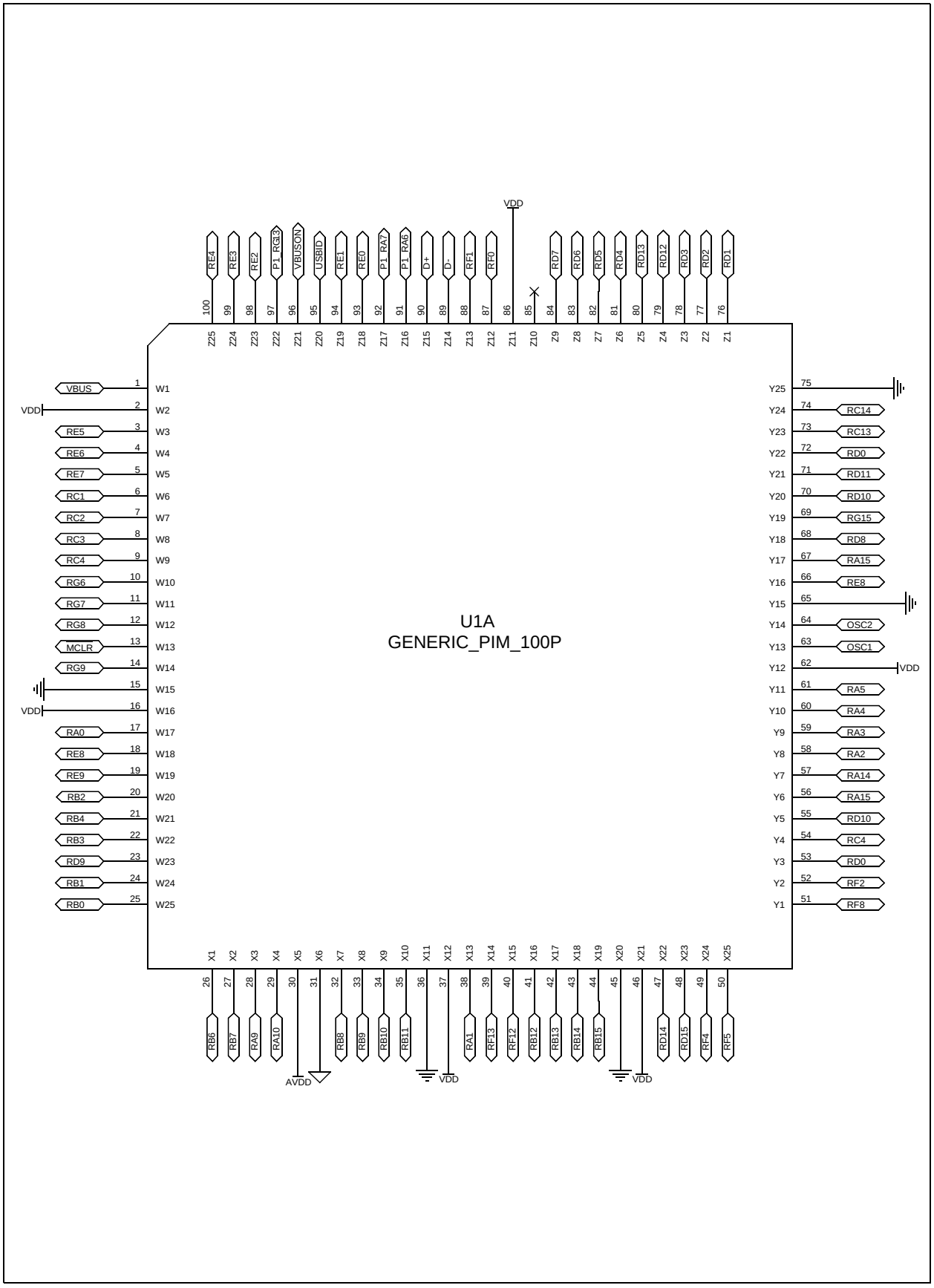
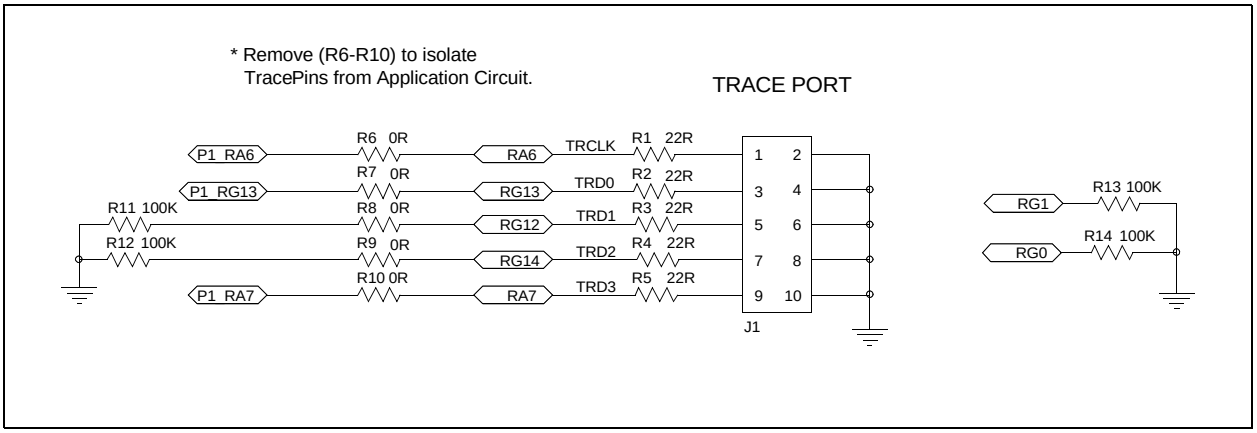


FIGURE 3: TRACE PORT SCHEMATIC



NOTES:

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- Microchip believes that its family of products is one of the most secure families of its kind on the market today, when used in the intended manner and under normal conditions.
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PIC32MX470F512L 100-pin to 100-pin TQFP USB Plug-In Module (PIM) Information Sheet

OVERVIEW

The PIC32MX470F512L USB PIM is designed to demonstrate the capabilities of the PIC32MX430/450/470F512L family of devices using development boards such as the Explorer 16 Development Board, which supports 100-pin PIM interfaces.

The PIC32MX470F512L is a high performance 32-bit Microcontroller in a 100-pin TQFP package.

Table 1 shows the mapping between the 100-pin PIM interface board functions and the device pins.

Figure 1 through Figure 3 provide schematics for the device and the PIM.

TABLE 1: 100-PIN TO 100-PIN PIM

Device Pin #	PIC32MX470F512L Functional Description	PIM Pin #
1	RG15	69
2	VDD	2
3	AN22/RPE5/PMD5/RE5	3
4	AN23/PMD6/RE6	4
5	AN27/PMD7/RE7	5
6	RPC1/RC1	6
7	RPC2/RC2	7
8	RPC3/RC3	8
9	RPC4/CTED7/RC4	9, 54
10	AN16/C1IND/RPG6/SCK2/PMA5/RG6	10
11	AN17/C1INC/RPG7/PMA4/RG7	11
12	AN18/C2IND/RPG8/PMA3/RG8	12
13	$\overline{\text{MCLR}}$	13
14	AN19/C2INC/RPG9/PMA2/RG9	14
15	VSS	15
16	VDD	16
17	TMS/CTED1/RA0	17
18	RPE8/RE8	18
19	RPE9/RE9	19
20	AN5/C1INA/RPB5/VBUSON/RB5	96
21	AN4/C1INB/RB4	21
22	PGED3/AN3/C2INA/RPB3/RB3	22
23	PGEC3/AN2/C2INB/RPB2/CTED13/RB2	20
24	PGEC1/AN1/RPB1/CTED12/RB1	24
25	PGED1/AN0/RPB0/RB0	25
26	PGEC2/AN6/RPB6/RB6	26, 32
27	PGED2/AN7/RPB7/CTED3/RB7	27
28	VREF-/CVREF-/PMA7/RA9	28
29	VREF+/CVREF+/PMA6/RA10	29
30	AVDD	30
31	AVSS	31
32	AN8/RPB8/CTED10/RB8	26, 32
33	AN9/RPB9/CTED4/RB9	33
34	CVREFOUT/AN10/RPB10/CTED11/PMA13/RB10	34

Device Pin #	PIC32MX470F512L Functional Description	PIM Pin #
35	AN11/PMA12/RB11	35
36	VSS	36
37	VDD	37
38	TCK/CTED2/RA1	38
39	RPF13/RF13	39
40	RPF12/RF12	40
41	AN12/PMA11/RB12	41
42	AN13/PMA10/RB13	42
43	AN14/RPB14/CTED5/PMA1/RB14	43
44	AN15/RPB15/OCFB/CTED6/PMA0/RB15	44
45	VSS	45
46	VDD	46
47	RPD14/RD14	47
48	RPD15/RD15	48
49	RPF4/PMA9/RF4	49
50	RPF5/PMA8/RF5	50
51	USBID/RF3	95
52	RPF2/RF2	52
53	RPF8/RF8	51
54	VBUS	1
55	VUSB3V3	62
56	D-	89
57	D+	90
58	SCL2/RA2	58
59	SDA2/RA3	59
60	TDI/CTED9/RA4	60
61	TDO/RA5	61
62	VDD	62
63	OSC1/CLKI/RC12	63
64	OSC2/CLKO/RC15	64
65	VSS	65
66	SCL1/RPA14/RA14	57
67	SDA1/RPA15/RA15	67
68	RPD8/RTCC/RD8	68

TABLE 1: 100-PIN TO 100-PIN PIM (CONTINUED)

Device Pin #	PIC32MX470F512L Functional Description	PIM Pin #
69	RPD9/RD9	23
70	RPD10/SCK1/PMCS2/RD10	70
71	RPD11/PMCS1/RD11	71
72	RPD0/INT0/RD0	72
73	SOSCI/RPC13/RC13	73
74	SOSCO/RPC14/T1CK/RC14	74
75	VSS	75
76	AN24/RPD1/RD1	76
77	AN25/RPD2/RD2	77
78	AN26/RPD3/RD3	78
79	RPD12/PMD12/RD12	79
80	PMD13/RD13	80
81	RPD4/PMWR/RD4	81
82	RPD5/PMRD/RD5	82
83	PMD14/RD6	83
84	PMD15/RD7	84
85	VCAP	NC
86	VDD	86
87	RPF0/PMD11/RF0	87
88	RPF1/PMD10/RF1	88
89	RPG1/PMD9/RG1	NC
90	RPG0/PMD8/RG0	NC
91	TRCLK/RA6	91
92	TRD3/CTED8/RA7	92
93	PMD0/RE0	93
94	PMD1/RE1	94
95	TRD2/RG14	NC
96	TRD1/RG12	NC
97	TRD0/RG13	97
98	AN20/CTPLS/PMD2/RE2	98
99	RPE3/PMD3/RE3	99
100	AN21/PMD4/RE4	100

FIGURE 1: 100-PIN DEVICE SCHEMATIC

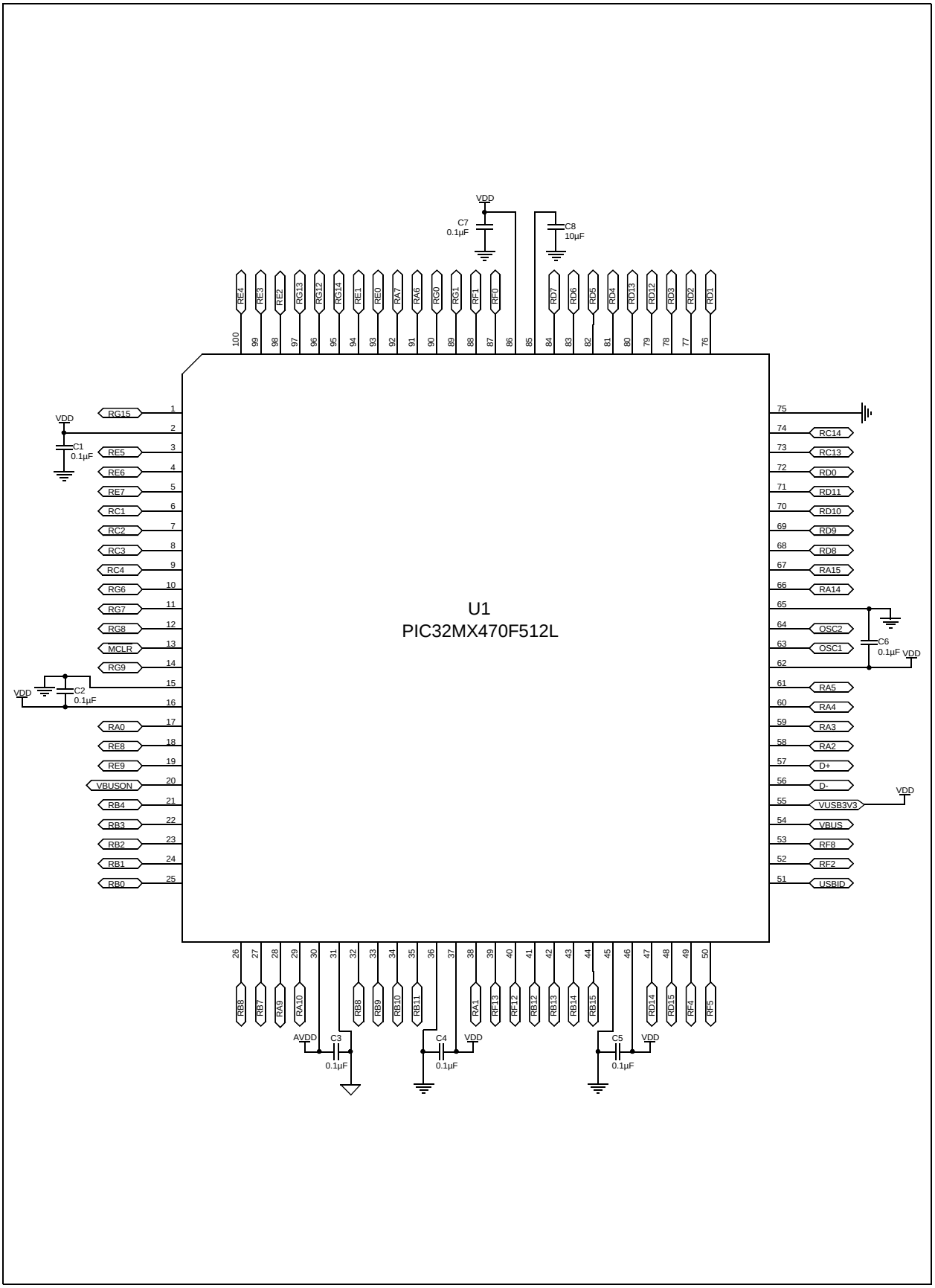


FIGURE 2: 100-PIN PIM SOCKET SCHEMATIC

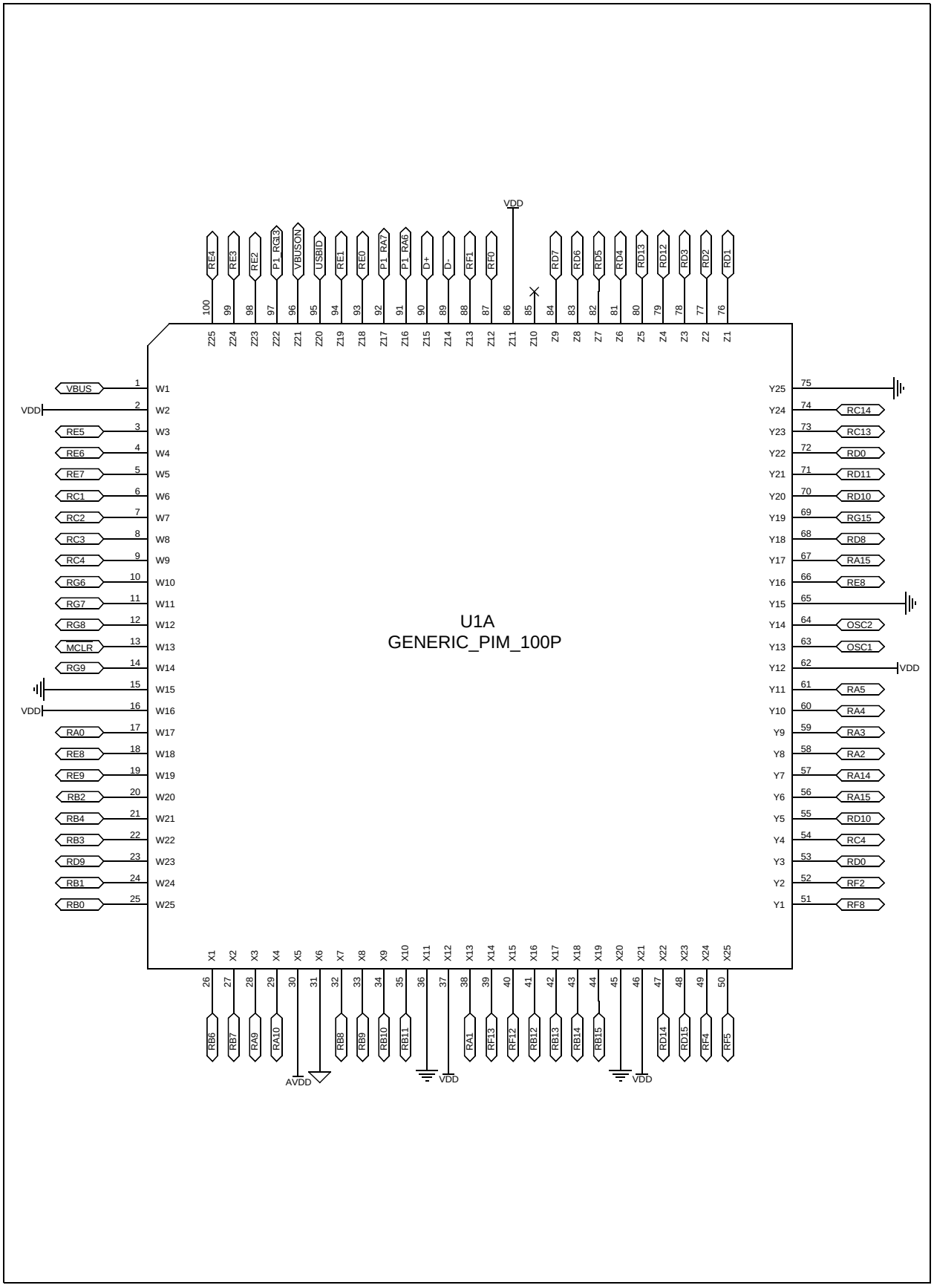
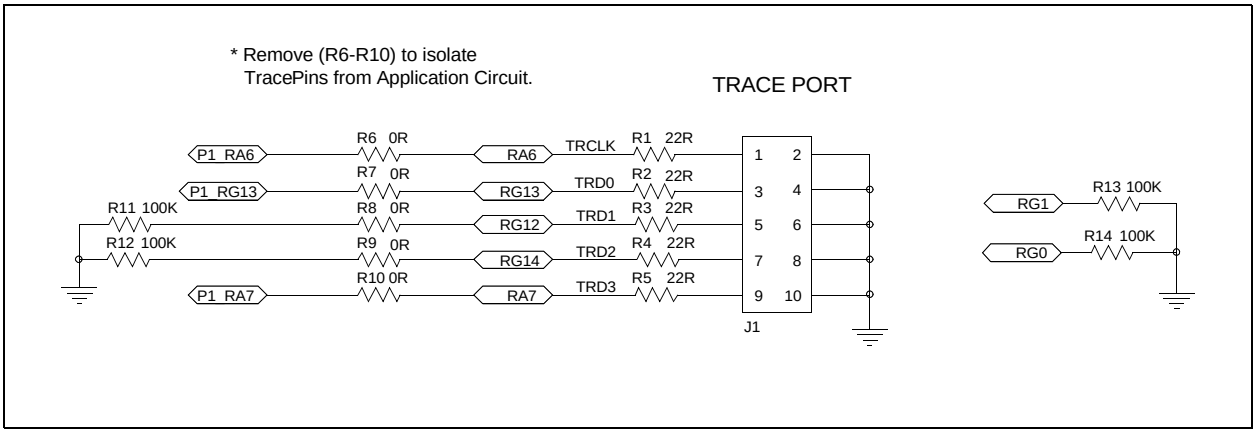


FIGURE 3: TRACE PORT SCHEMATIC



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Fax: 86-29-8833-7256

China - Xiamen
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China - Zhuhai
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ASIA/PACIFIC

India - Bangalore
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Fax: 91-80-3090-4123

India - New Delhi
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India - Pune
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Japan - Osaka
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Japan - Tokyo
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Korea - Daegu
Tel: 82-53-744-4301
Fax: 82-53-744-4302

Korea - Seoul
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Fax: 82-2-558-5932 or
82-2-558-5934

Malaysia - Kuala Lumpur
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Fax: 60-3-6201-9859

Malaysia - Penang
Tel: 60-4-227-8870
Fax: 60-4-227-4068

Philippines - Manila
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Singapore
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Taiwan - Hsin Chu
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Fax: 886-3-5770-955

Taiwan - Kaohsiung
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Taiwan - Taipei
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