DTX2-4100C

Microkite

PIC32 Processing Module

DATA SHEET

1. Overview

Feature Highlights

68-pin device in standard PLCC68 package; three possible ways of PCB mounting
DTX bus pin-compatible
Wide range input 4-20V DC power supply with capability of provision to external circuit
Fully self-contained – does not need any external components to run
32-bit architecture
Extended clone of the popular Micromite MMBasic® available for easy development[1]
Up to 33 I/O lines
microSD card connector on board
Three built-in LEDs, one of which accessible by software
Tag-Connect® pads on board for easy firmware programming
RoHS compliant

Typical Applications

- Hobby and academic projects
- Robotics and various toys
- Automotive and industrial automation devices
- Portable electronics
- Data logging

1. *planned functionality*

2. Pinout
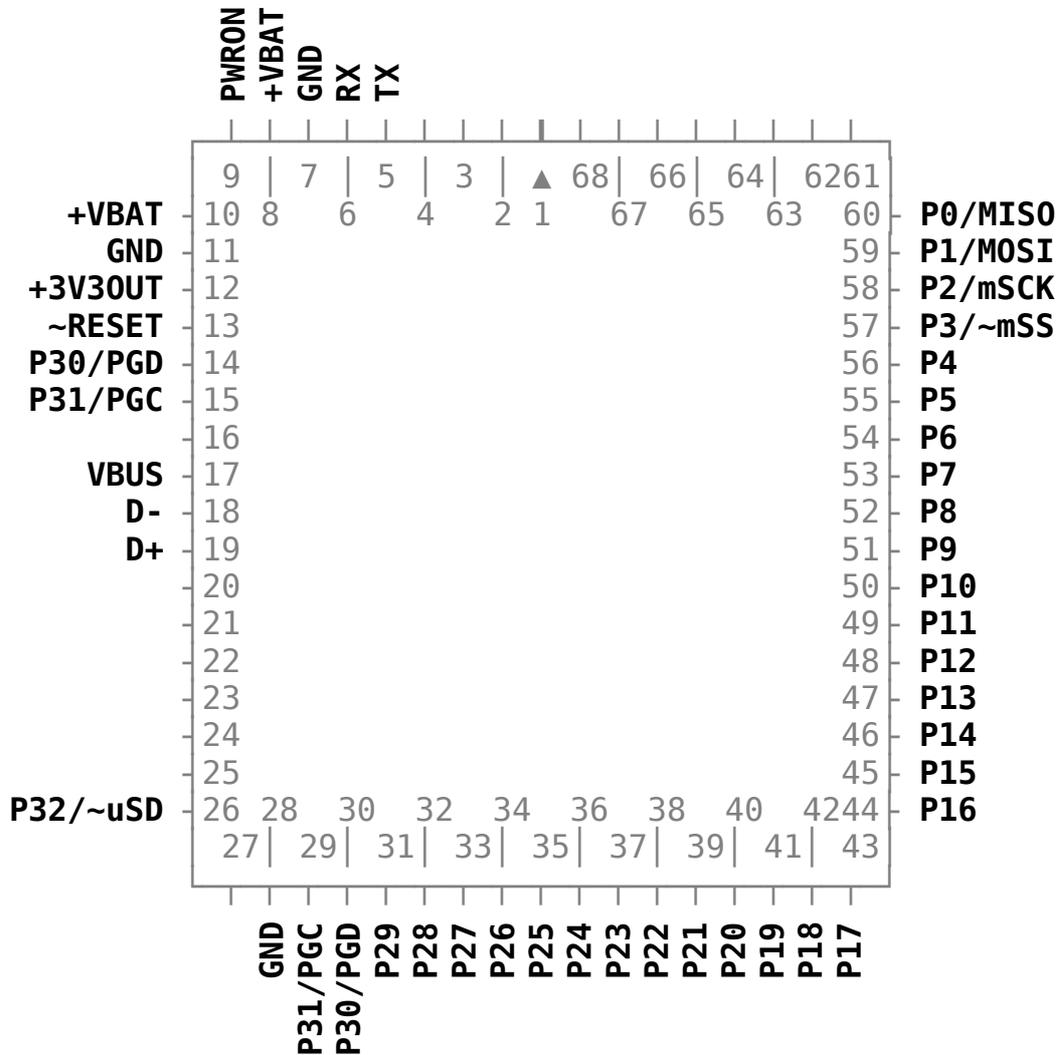
Pinout Summary

Pin	Name	Type	Description
1			No connection
2			No connection
3			*No connection*
4			No connection
5	TX	O	Console "*data transmit*" line
6	RX	I	Console "*data receive*" line
7	GND	P	Ground

8	+VBAT	P	Positive power lead
9	PWRON	I	Power enabling input (can be connected directly to +VBAT); active high
10	+VBAT	P	Positive power lead
11	GND	P	Ground
12	+3V3OUT	P	+3.3V output from the internal regulator; can be used to supply power to external components and circuits
13	~RESET	I,5V	$\overline{\text{RESET}}$ line; internally biased to +3.3V
14	P30/PGD	I,O,5V	MCU programming data line *(shared with P30)*
15	P31/PGC	I,5V	MCU programming clock line *(shared with P31)*
16			No connection
17	VBUS	I,5V	I/O port or USB Vbus power detection input
18	D-	I,O	I/O port or USB D- line
19	D+	I,O	I/O port or USB D+ line
20			No connection
21			No connection
22			No connection
23			No connection
24			No connection
25			No connection
26	P32/~uSD	I,O,OD	General purpose I/O port *(shared with microSD card selection line)*
27			No connection
28	GND	P	Ground
29	P31/PGC	I,O,OD,5V	General purpose I/O port *(shared with MCU programming clock)*
30	P30/PGD	I,O,OD,5V	General purpose I/O port *(shared with MCU programming data)*
31	P29	I,O,OD,5V	General purpose I/O port
32	P28	A,I,O,OD	General purpose I/O port
33	P27	A,I,O,OD	General purpose I/O port
34	P26	A,I,O,OD	General purpose I/O port
35	P25	A,I,O,OD	General purpose I/O port
36	P24	A,I,O,OD	General purpose I/O port *(PWM2B)*
37	P23	A,I,O,OD	General purpose I/O port *(PWM2A)*
38	P22	A,I,O,OD	General purpose I/O port

			(PWM1C)
39	P21	A,I,O,OD	General purpose I/O port (PWM1B)
40	P20	A,I,O,OD	General purpose I/O port (PWM2B)
41	P19	I,O,OD	General purpose I/O port (TX2)
42	P18	I,O,OD	General purpose I/O port (RX2)
43	P17	I,O,OD,5V	General purpose I/O port (counter input)
44	P16	A,I,O,OD	General purpose I/O port (RS485 data enable output)
45	P15	I,O,OD,5V	General purpose I/O port (TX1 or interrupt input)
46	P14	I,O,OD,5V	General purpose I/O port (RX1 or interrupt input)
47	P13	I,O,OD,5V	General purpose I/O port (IR data or interrupt input) (wakeup from sleep input) (built-in pull-up resistor)
48	P12	I,O,OD,5V	General purpose I/O port (I^2C SCL or counter input) (built-in pull-up resistor)
49	P11	I,O,OD,5V	General purpose I/O port (I^2C SDA or counter input or interrupt input) (built-in pull-up resistor)
50	P10	I,O,OD,5V	General purpose I/O port (built-in pull-up resistor)
51	P9	I,O,OD,5V	General purpose I/O port
52	P8	I,O,OD,5V	General purpose I/O port
53	P7	A,I,O,OD	General purpose I/O port (interrupt input)
54	P6	A,I,O,OD,5V	General purpose I/O port (interrupt input)
55	P5	A,I,O,OD,5V	General purpose I/O port (interrupt input)
56	P4	A,I,O,OD,5V	General purpose I/O port (interrupt input)
57	P3/~mSS	A,I,O,OD,5V	General purpose I/O port (SPI/mSPI ~SS line) (interrupt input)
58	P2/mSCK	A,I,O,OD	General purpose I/O port (SPI/mSPI SCK line) (interrupt input)

59	P1/MOSI	A,I,O,OD	General purpose I/O port *(SPI/mSPI MOSI line)* *(interrupt input)*	
60	P0/MISO	I,O,OD,5V	General purpose I/O port *(SPI/mSPI MISO line)* *(interrupt input)*	
61			No connection	
62			No connection	
63			No connection	
64			No connection	
65			No connection	
66			No connection	
67			No connection	
68			No connection	

Legend:

|		
I – input with CMOS level	**O** – digital output	**5V** – 5 volt tolerant pin
A – analogue input	**P** – power pin	**OD** – open drain output

3. Electrical Parameters

ABSOLUTE MAXIMUM RATINGS:

Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

parameter	min	typ	max	units
Power supply voltage range, pin +VBAT with respect to pin GND	3.5	9	20	V
Safe load on +3V3OUT pin			300	mA
Parameters of all other functional pins	According to function and IC manufacturer's recommendation			
Operating free-air temperature range	-20		+85	°C
Storage temperature range	-40		+90	°C

4. Mechanical Parameters

Note: *All dimensions are given in millimetres*
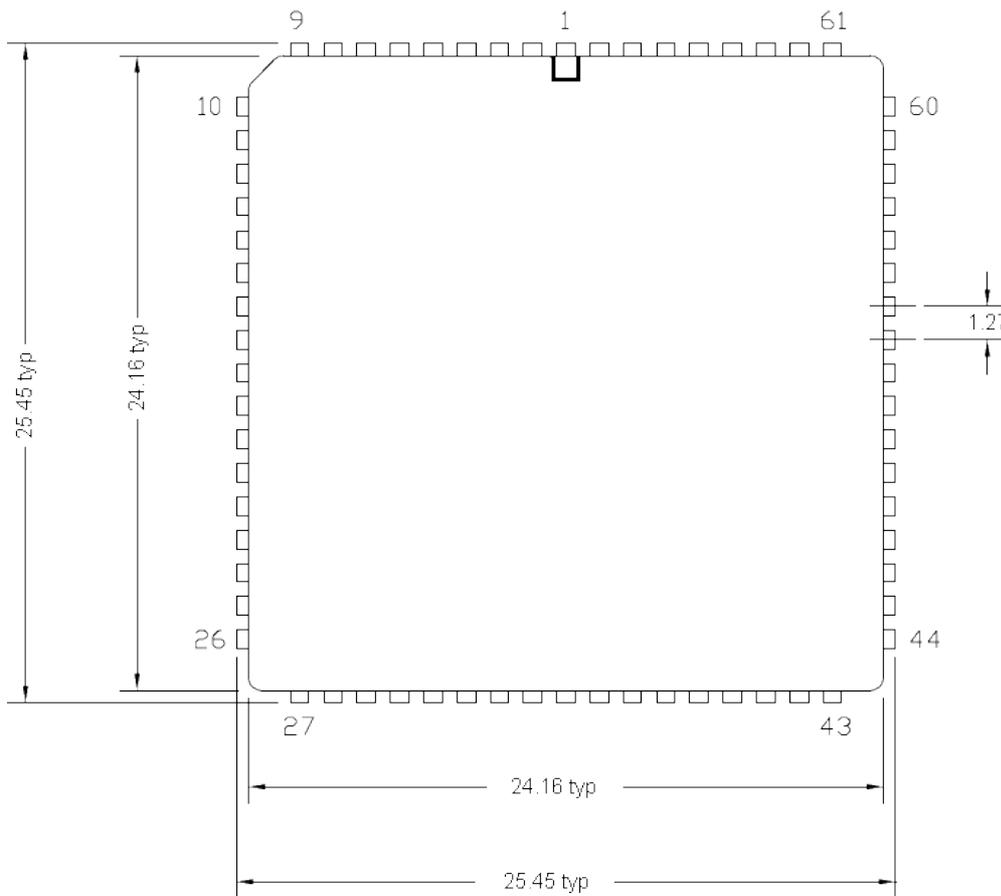
Dimitech Pty Ltd provides CAD schematic symbols and PCB footprints for the DTX series modules.
For more information please visit our website: http://www.dimitech.com/.