



DIMITTECH

DTX2-4105C

ICeemite

PIC32 Processing Module Maximite-Compatible

DATA SHEET

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1. Overview

Feature Highlights

68-pin device in standard PLCC68 package; three possible ways of mounting
Wide range 4-20V DC power supply
Fully self-contained – does not need any external components to run
32-bit architecture; 80MHz operation
Fully compatible on software level with the popular Maximize computer (see <http://geoffg.net/MonoMaximize.html> for more details)
Additional real-time clock on board
microSD card connector on board
Two built-in LEDs for easier indications and debugging
Two built-in buttons
RoHS compliant

Typical Applications

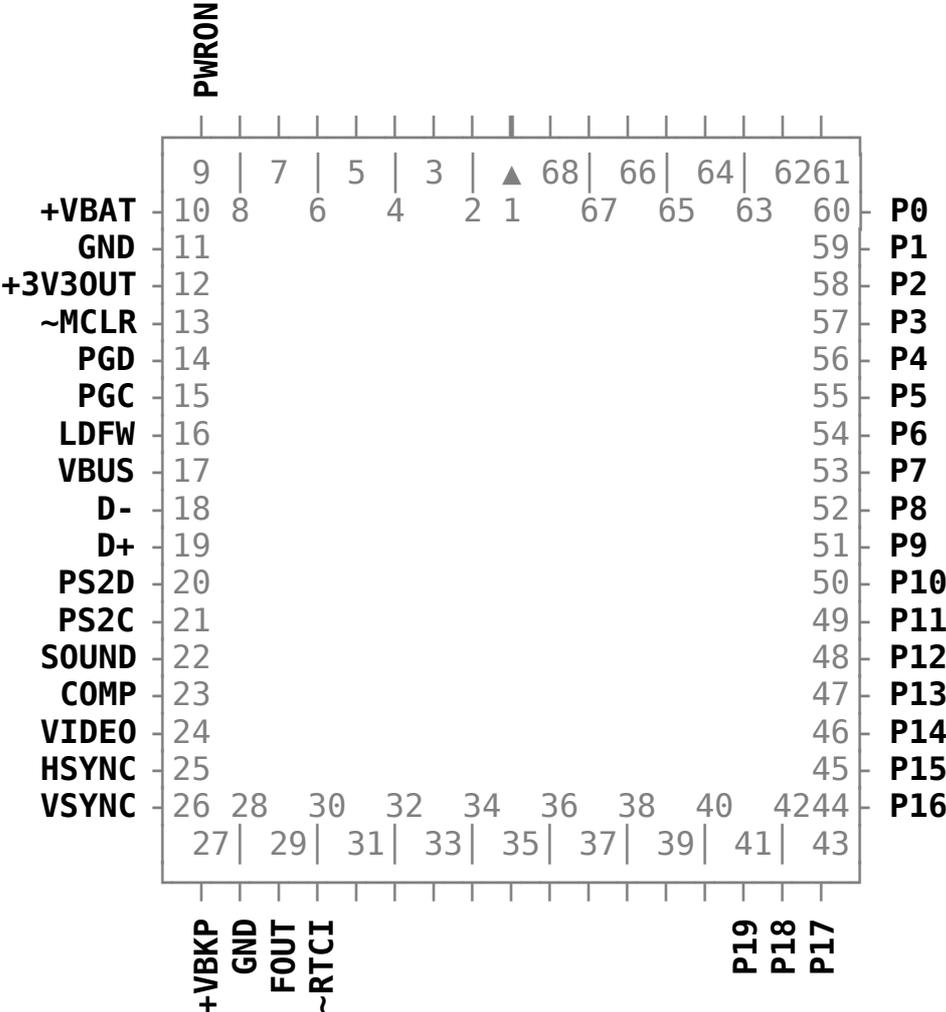
- Hobby and academic projects
- Robotics and various toys
- Automotive and industrial automation devices
- Portable electronics
- Data logging

Ordering Codes

Device	Flash	RAM	Pre-loaded programming shell
DTX2-4105C	512k	128k	None
DTX2-4105C-B	512k	128k	MMBasic for DTX2-4105C
DTX2-4105C-U	512k	128k	RetroBSD UNIX OS*

** Third-party software; may change without notice. For more details, please check the developer's websites*

2. Pinout



Pinout Summary

Pin	Name	Type	Description
1			No connection
2			No connection
3			No connection
4			No connection
5			No connection
6			No connection
7			No connection
8			No connection

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
13	~MCLR	I	PIC32's $\overline{\text{MCLR}}$ line; internally biased to +3.3V
14	PGD	A,I,O,OD	PIC32's PGED1 line; if not used for firmware programming it can serve as a general A/I/O port RB0
15	PGC	A,I,O,OD	PIC32's PGEC1 line; if not used for firmware programming it can serve as a general A/I/O port RB1
16	LDFW	I	Bootloader activation; must be supported by firmware; active high
17	VBUS	I	USB Vbus power detection input
18	D-	I,O	USB D- line
19	D+	I,O	USB D+ line
20	PS2D	I,O	PS/2 keyboard data
21	PS2C	O	PS/2 keyboard clock
22	SOUND	O	Sound channel output
23	COMP	I	Composite video selection; active high
24	VIDEO	O	Video signal output
25	HSYNC	O	Video signal horizontal synchronisation
26	VSYNC	O	Video signal vertical synchronisation
27	+VBKP	P	RTC backup battery input (typically 3V coin battery); optional
28	GND	P	Ground
29	FOUT	O	Frequency out (see RX-4571LC's datasheet for more details)
30	~RTCI	OD	RTC interrupt request (see RX-4571LC's datasheet for more details); internally biased to +3.3V
31			No connection
32			No connection
33			No connection
34			No connection
35			No connection
36			No connection

37			No connection
38			No connection
39			No connection
40			No connection
41	P19	I,O,OD,5V	RE7; 'Pin20' in Maximite's convention
42	P18	I,O,OD,5V	RE6; 'Pin19' in Maximite's convention
43	P17	I,O,OD,5V	RE5; 'Pin18' in Maximite's convention
44	P16	I,O,OD,5V	RE4; 'Pin17' in Maximite's convention
45	P15	I,O,OD,5V	RE3; 'Pin16' in Maximite's convention
46	P14	I,O,OD,5V	RE2; 'Pin15' in Maximite's convention
47	P13	I,O,OD,5V	RD11; 'Pin14' in Maximite's convention
48	P12	I,O,OD,5V	RD10; 'Pin13' in Maximite's convention
49	P11	I,O,OD,5V	RD9; 'Pin12' in Maximite's convention
50	P10	I,O,OD,5V	RD8; 'Pin11' in Maximite's convention
51	P9	A,I,O,OD	RB15; 'Pin10' in Maximite's convention
52	P8	A,I,O,OD	RB13; 'Pin9' in Maximite's convention
53	P7	A,I,O,OD	RB12; 'Pin8' in Maximite's convention
54	P6	A,I,O,OD	RB11; 'Pin7' in Maximite's convention
55	P5	A,I,O,OD	RB10; 'Pin6' in Maximite's convention
56	P4	A,I,O,OD	RB9; 'Pin5' in Maximite's convention
57	P3	A,I,O,OD	RB7; 'Pin4' in Maximite's convention
58	P2	A,I,O,OD	RB6; 'Pin3' in Maximite's convention
59	P1	A,I,O,OD	RB3; 'Pin2' in Maximite's convention
60	P0	A,I,O,OD	RB4; 'Pin1' in Maximite's convention
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
A – analogue input

O – digital output
P – power pin

5V – 5 volt tolerant pin
OD – open drain output

3. Electrical Parameters

ABSOLUTE MAXIMUM RATINGS:

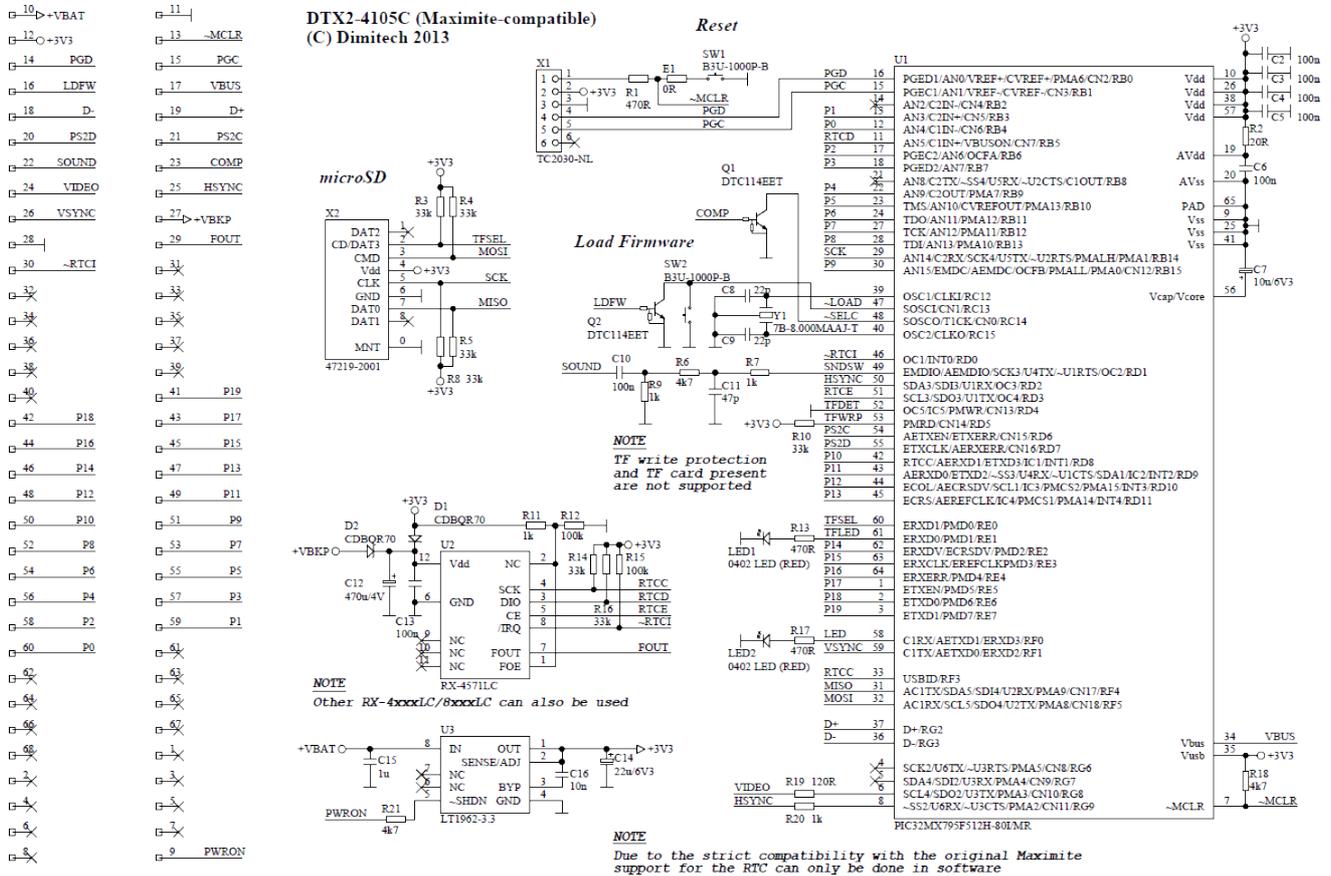
Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied.

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
Voltage on pin +VBKP with respect to pin GND	2.5	3	3.7	V
Voltage on PWRON and LDFW pins with respect to GND	-0.3		20	V
Safe load on +3V3OUT pin			50	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

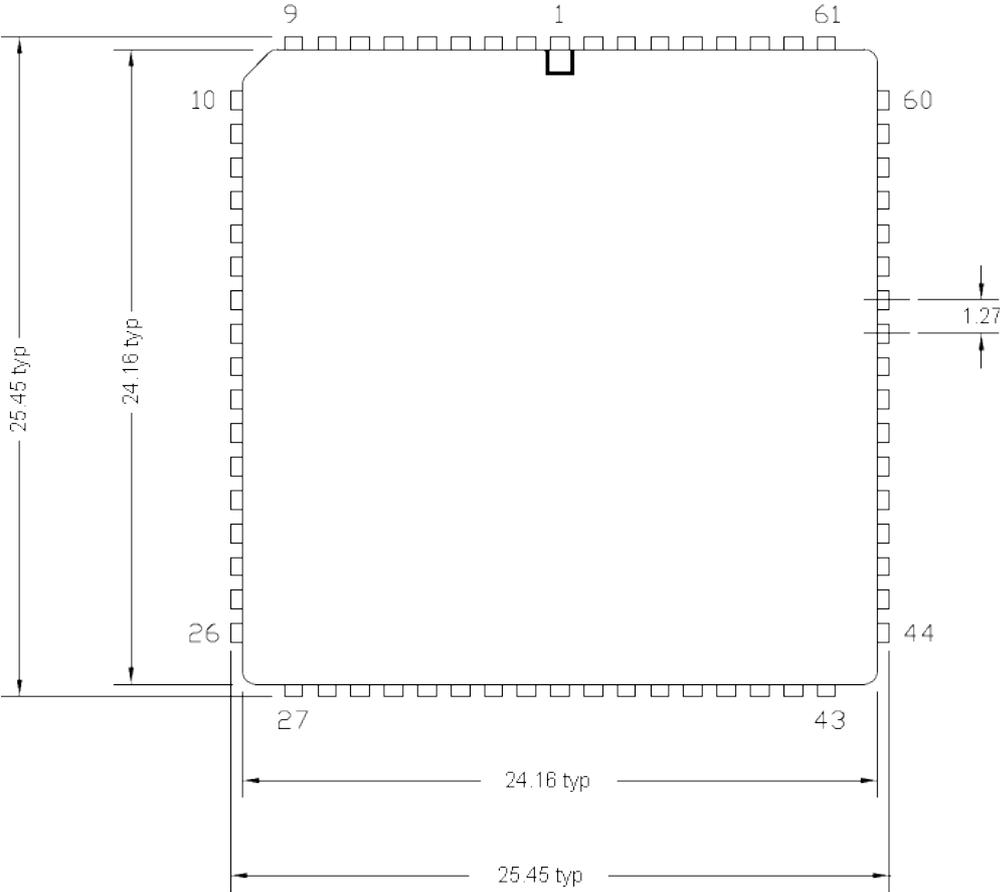
4. Internal Schematic

Note: Dimitech Pty Ltd reserves the rights to make further adjustments in this circuit without prior notifications



5. 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/>.