

Device Model	MDT2051	MDT10P61	MDT10P62	MDT10P621	MDT10P622
ROM Size	1.0K X 14	1.0K X 14	2.0K X 14	4.0K X 14	3.0K X 14
RAM Size	68 bytes	68 bytes	128 bytes	192 bytes	160 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5
Operating Freq.(Hz)	DC~20 M	DC~20 M	DC~20 M	DC~20 M	DC~20 M
I/O Pin	13	13	22	22	12 / 16 / 23
Input Pin Only	---	---	---	---	---
Stack Level	8	8	8	8	8
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes
OST	0 / 80 ms	0 / 80 ms	0 / 80 ms	0 / 80 ms	0 / 80 ms
Oscillator Type	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT
Sleep Current (WDT / PRD DIS.)	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V
Interrupt	4	3	7	7	4
A/D Channel	Yes (8-bit, 4 Channels)	---	---	---	---
Comparator	---	---	---	---	Yes (4 Channels)
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Timer / CCP	1 / No	1 / No	3 / 1	3 / 1	2 / 1
PRD	Yes	Yes	Yes	Yes	No
SCM / USART	---	---	Yes / No	Yes / No	---
Pin Count	18 / 20	18 / 20	28	28	18 / 22 / 28
Package Type	PDIP, SOP, SSOP	PDIP, SOP, SSOP	SKINNY, SOP, SSOP	SKINNY, SOP, SSOP	SKINNY, SOP, SSOP
Mask Type Device	MDT1051	MDT10C61	MDT10C62	MDT10C621	---

Device Model	MDT10P64	MDT10P65	MDT10P651	MDT10P712	MDT10P716
ROM Size	2.0K X 14	4.0K X 14	4.0K X 14	1.0K X 14	2.0K X 14
RAM Size	128 bytes	192 bytes	192 bytes	128 bytes	128 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5
Operating Freq.(Hz)	DC~20 M	DC~20 M	DC~20 M	DC~20 M	DC~20 M
I/O Pin	33	35	33	13	13
Input Pin Only	---	---	---	---	---
Stack Level	8	8	8	8	8
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes
OST	0 / 80 ms	0 / 80ms	0 / 80 ms	0 / 80 ms	0 / 80 ms
Oscillator Type	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT
Sleep Current (WDT / PRD DIS.)	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V
Interrupt	8	5	11	7	7
A/D Channel	---	---	---	Yes (8-bit, 4 Channels)	Yes (8-bit, 4 Channels)
Comparator	---	---	---	---	---
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Timer / CCP	3 / 1	2 / 0	3 / 2	3 / 1	3 / 1
PRD	Yes	---	Yes	Yes	Yes
SCM / USART	Yes / No	---	Yes / Yes	---	---
Pin Count	40 / 44	42 / 44	40 / 44	18/20	18/20
Package Type	PDIP, PLCC, QFP	PDIP, QFP	PDIP, PLCC, QFP	PDIP, SOP, SSOP	PDIP, SOP, SSOP
Mask Type Device	---	MDT10C65	---	MDT10C712	MDT10C716

Device Model	MDT10P72	MDT10P721	MDT10P7212	MDT10P73	MDT10P74
ROM Size	2.0K X 14	4.0K X 14	4.0K X 14	4.0K X 14	4.0K X 14
RAM Size	128 bytes	192 bytes	192 bytes	192 bytes	192 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5
Operating Freq.(Hz)	DC~20 M	DC~20 M	DC~20 M	DC~20 M	DC~20 M
I/O Pin	22	22	20/22	22	33
Input Pin Only	---	---	---	---	---
Stack Level	8	8	8	8	8
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes
OST	0 / 80 ms	0 / 80 ms	0 / 80 ms	0 / 80 ms	0 / 80 ms
Oscillator Type	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HEXT INRC 8MHz	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT
Sleep Current (WDT / PRD DIS.)	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V	<1.0 μ A @5V
Interrupt	8	8	7	11	12
A/D Channel	Yes (8-bit, 5 Channels)	Yes (8-bit, 5 Channels)	Yes (10-bit, 8 Channels)	Yes (8-bit, 5 Channels)	Yes (8-bit, 8 Channels)
Comparator	---	---	---	---	---
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Timer / CCP	3 / 1	3 / 1	3 / 1	3 / 2	3 / 2
PRD	Yes	Yes	Yes	Yes	Yes
SCM / USART	Yes / No	Yes / No	---	Yes / Yes	Yes / Yes
Pin Count	28	28	24	28	40 / 44
Package Type	SKINNY, SOP, SSOP	SKINNY, SOP, SSOP	SKINNY, SOP	SKINNY, SOP, SSOP	PDIP, PLCC, QFP
Mask Type Device	MDT10C72	MDT10C721		---	---

Device Model	MDT10P7301	MDT10P7401
ROM Size	4.0K X 14	4.0K X 14
RAM Size	192 bytes	192 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 5.5
Operating Freq.(Hz)	DC~20 M	DC~20 M
I/O Pin	22	33
Input Pin Only	---	---
Stack Level	8	8
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes
OST	0 / 80 ms	0 / 80 ms
Oscillator Type	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT
Sleep Current (WDT / PRD DIS.)	<1.0 μ A @5V	<1.0 μ A @5V
Interrupt	11	12
A/D Channel	Yes (10-bit, 5 Channels)	Yes (10-bit, 8 Channels)
Comparator	---	---
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C
Timer / CCP	3 / 2	3 / 2
PRD	Yes	Yes
SCM / USART	Yes / Yes	Yes / Yes
Pin Count	28	40 / 44
Package Type	SKINNY, SOP, SSOP	PDIP, PLCC, QFP
Mask Type Device	---	---

Device Model	MDT2005	MDT2010	MDT2020	MDT10P22	MDT10P23
	MDT10P05	MDT10P10	MDT10P20		
ROM Size	0.5K X 14	1.0K X 14	2.0K X 14	1.0K X 14	2.0K X 14
RAM Size	25 bytes	25 bytes	72 bytes	72 bytes	72 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5	2.3 ~ 5.5
Operating Freq.(Hz)	DC~20 M	DC~20 M	DC~20 M	DC~20 M	DC~20 M
I/O Pin	12	12	20	12 / 14 / 16 / 16	12 / 14 / 16 / 16
Input Pin Only	1 (RTCC)	1 (RTCC)	1 (RTCC)	1 (RTCC)	1 (RTCC)
Stack Level	2	2	2	2	2
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / Yes
OST	150μs, 20 / 40 / 80 ms	150μs, 20 / 40 / 80 ms	150μs, 20 / 40 / 80 ms	150μs, 20 / 40 / 80 ms	150μs, 20 / 40 / 80 ms
Oscillator Type	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT	RC, LFXT, XTAL, HFXT
Sleep Current (WDT / PRD DIS.)	<1.0μA @5V	<1.0μA @5V	<1.0μA @5V	<1.0μA @5V	<1.0μA @5V
Interrupt	---	---	---	---	---
A/D Channel	---	---	---	---	---
Comparator	---	---	---	Yes (4 Channels)	Yes (4 Channels)
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Timer / CCP	1 / No	1 / No	1 / No	1 / No	1 / No
PRD	---	---	---	---	---
SCM / USART	---	---	---	---	---
Pin Count	18 / 20	18 / 20	28	18 / 20 / 22 / 24	18 / 20 / 22 / 24
Package Type	PDIP, SOP, SSOP	PDIP, SOP, SSOP	PDIP, SOP, SSOP	PDIP, SOP, SKINNY	PDIP, SOP, SKINNY
Mask Type Device	MDT1005	MDT1010	MDT1020	MDT10C22	MDT10C23

Device Model	MDT2030	MDT10P41A1	MDT10P43
ROM Size	2.0K X 14	1.0 K X 14	0.5 K X 14
RAM Size	73 bytes	25 bytes	24 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 4.5(AD) / 2.3~5.5(BC)	2.3 ~ 5.5
Operating Freq.(Hz)	DC~20 M	7 M	455 K
I/O Pin	12	12	8 (Output Only)
Input Pin Only	1 (RTCC)	0	6 / 8
Stack Level	2	2	2
WDT / PED / POR	Yes / Yes / Yes	No / No / Yes	No / Yes / Yes
OST	150μs, 20 / 40 / 80 ms	16 ms	18 ms
Oscillator Type	RC, LFXT, XTAL, HFXT	Internal RC 7 M	XTAL Only
Sleep Current (WDT / PRD DIS.)	<1.0μA @5V	<1.0μA @5V	<1.0μA @5V
Interrupt	---	---	---
A/D Channel	---	---	---
Comparator	---	---	---
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Timer / CCP	1 / No	---	---
PRD	---	---	---
SCM / USART	---	---	---
Pin Count	18 / 20	16	18 / 20
Package Type	PDIP, SOP, SSOP	PDIP, SOP	PDIP, SOP
Mask Type Device	MDT1030	MDT10C41A1	MDT10C43

Device Model	MDT90P01
ROM Size	0.5Kx11
RAM Size	24 nibbles
Operating Voltage (V)	2.5~5.5
Operating Freq.(Hz)	4M/8M
I/O Pin	4
Stack Level	2
WDT / PED / POR	Yes/Yes/Yes
OST	20ms
Oscillator Type	INRC (4MHz / 8MHz)
Sleep Current (WDT / PRD DIS.)	<1uA@5V
Interrupt	1 (3 Pins change reset)
A/D Channel	---
Operating Temp.	-40°C ~ 80°C
Timer / CCP	1/ No
PRD	---
SCM / USART	---
Pin Count	6
Package Type	SOT-26
Mask Type Device	---

Device Model	MDT75C271	MDT75C273	MDT75C275	MDT75C277
Operating Voltage (V)	3 ~ 12V	3 ~ 12V	3 ~ 12V	3 ~ 12V
Input Keys	4	4	4	4
Address Codes	1048576	1048576	1048576	1048576
Preamble	4+124 CLK	4+124 CLK	4+124 CLK	4+124 CLK
KEY/DATA	One to One Mapping	Combination	One to One Mapping	One to One Mapping
Operating Current (Max)	1mA	1mA	1mA	1mA
Standby Current	1μA	1μA	1μA	1μA
Auto_sleep Mode	Yes(6~10 sec)	Yes(6~10 sec)	No sleep mode	Yes (3~5 sec.)
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Pin Count	8	8	8	8
Package Type	PDIP, SOP	PDIP, SOP	PDIP, SOP	PDIP, SOP

Device Model	MDT10F630	MDT10F6301
ROM Size	Flash 1.0K X 14 EEPROM 128 bytes	Flash 2.0K X 14 EEPROM 128 bytes
RAM Size	64 bytes	96 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 5.5
Operating Freq.(Hz)	DC ~ 20 M	DC ~ 20 M
I/O Pin	9 ~ 11	11~13
Input Pin Only	1	1
Stack Level	8	8
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes
OST	0ms / 80ms	0ms / 80ms
Oscillator Type	INT. RC(4 M) , LFXT, XTAL, HFXT, RC	INT. RC(4 M) , LFXT, XTAL, HFXT, RC
Sleep Current (WDT / PRD DIS.)	< 1.0 μ A @ 5V	< 1.0 μ A @ 5V
Interrupt	6	6
A/D Channel	---	---
Comparator	Yes (1 Channel)	Yes (1 Channel)
Operating Temp.	- 40°C ~ 80°C	- 40°C ~ 80°C
Timer / CCP	2 / No	2 / No
PRD	---	---
SCM / USART	---	---
Pin Count	14	16
Package Type	PDIP, SOP	PDIP, SOP
Mask Type Device	---	---

Step-up DC/DC Converter With Voltage Detector

Device Model	MDT7733	MDT7730	MDT7727	MDT7822	MDT7820
Input Voltage (V)(Max)	6	6	6	6	6
Output Voltage (V)	3.3	3.0	2.7	---	---
Start-up Voltage (V)	0.75	0.75	0.75	---	---
Efficiency (Typical)	80% ~ 85%	80% ~ 85%	80% ~ 85%	---	---
Quiescent Current(μA)Typical	20	20	20	20	20
Internal Frequency (KHz)	200	200	200	---	---
External Switch	---	---	---	---	---
Chip Enable	---	---	---	---	---
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Voltage Detect(V)(Hi to Low)	---	---	---	2.2	2.0
Pin Count	3	3	3	3	3
Package Type	SOT-89 , SOT-23	SOT-89 , SOT-23	SOT-89 , SOT-23	SOT-89 , SOT-23	SOT-89 , SOT-23

Device Model	MDT763320	MDT763020	MDT762720
Input Voltage (V)(Max)	6	6	6
Output Voltage (V)	3.3	3.0	2.7
Start-up Voltage (V)	0.75	0.75	0.75
Efficiency (Typical)	80% ~ 85%	80% ~ 85%	80% ~ 85%
Quiescent Current(μA)Typical	20	20	20
Internal Frequency (KHz)	200	200	200
External Switch	Yes	Yes	Yes
Chip Enable	Yes	Yes	Yes
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C	-40°C ~ 80°C
Voltage Detect(V)(Hi to Low)	2.0	2.0	2.0
Pin Count	8	8	8
Package Type	PDIP , SOP	PDIP , SOP	PDIP , SOP

Device Model	MDT11P0122
ROM Size	4.0K X 14
RAM Size	176 bytes
Operating Voltage (V)	2.5 ~ 5.5
Operating Freq.(Hz)	DC~20 M
I/O Pin	25
Input Pin Only	27
Stack Level	8
WDT / PED / POR	Yes / Yes / Yes
OST	0 / 80 ms
Oscillator Type	RC, LFXT, XTAL, HFXT
Sleep Current (WDT / PRD DIS)	< 1.0 μ A @ 5V
Interrupt	6
Comparator	Yes (2 Channels)
Operating Temp.	- 40°C ~ 80°C
Timer / Compare	2(8-bits x1 & 16-bits x 1)
LCD Dots	4*27(LQFP) 4*29 (Die)
LCD Duty_Cycle	2 / 3 / 4
Pin Count / Dice pad	64 / 65
Package Type	LQFP/ Die
Mask Type Device	---

Device Model	MDT10P55B	MDT10P57
ROM Size	1.0K X 14	1.0K X 14
RAM Size	72 bytes	128 bytes
Operating Voltage (V)	2.3 ~ 5.5	2.3 ~ 5.5
Operating Freq.(Hz)	DC~20 M	DC~20 M
I/O Pin	11	11
Input Pin Only	1 (PB3)	1 (PA3)
Stack Level	2	8
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes
OST	20 / 40 / 80 ms	0 / 80 ms
Oscillator Type	INT RC (4MHz), LFXT, XTAL, HFXT, RC	INT RC (4MHz), LFXT, XTAL, HFXT, RC
Sleep Current (WDT / PRD DIS.)	<1.0 μ A @5V	<1.0 μ A @5V
Interrupt	1 (4 Pins Change Reset)	4
A/D Channel	---	Yes (8-bit, 4 Channels)
Comparator	---	---
Operating Temp.	-40°C ~ 80°C	-40°C ~ 80°C
Timer / CCP	1 / No	1 / No
PRD	---	---
SCM / USART	---	---
Pin Count	14	14
Package Type	PDIP, SOP	PDIP, SOP
Mask Type Device	MDT10C55B	---

Device Model	MDT13P02	MDT13P11
ROM Size	2.5 K X 14	6.0 K X 14
RAM Size	80 bytes	160 bytes
Operating Voltage (V)	4.0 ~ 5.25	4.0 ~ 5.25
Operating Freq.(Hz)	6 / 18 / 24 M	6 / 12 M
I/O Pin	12 / 14 / 16	34 / 35
Input Pin Only	---	---
Stack Level	8	8
WDT / PED / POR	Yes / Yes / Yes	Yes / Yes / Yes
OST	0 / 75 ms	0 / 75 ms
Oscillator Type	XTAL, HFXT	XTAL
Sleep Current (WDT / PRD DIS.)	<12 μ A @5V	<12 μ A @5V
Interrupt	2	4
A/D Channel	---	---
Comparator	---	---
Operating Temp.	-40 $^{\circ}$ C ~ 80 $^{\circ}$ C	-40 $^{\circ}$ C ~ 80 $^{\circ}$ C
Timer / CCP	1 / No	1 / No
PRD	---	---
SCM / USART	---	---
Pin Count	16 / 18/ 20	40 / 42 / 44 / 48
Package Type	PDIP, SOP,SSOP	PDIP, SSOP, QFP
Mask Type Device	MDT13C02 Serials	MDT13C11 Serials

Device Model	MDT80C06
Work with Optical sensor	ADNS-2610, ADNS-2620, ADNS-2051 , PAN101B
Operating temperature	-40°C ~ 80°C
Pin count	16
Package type	DIP, SOP