

Microcontrollers

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Microcontrollers (MCUs)

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*1 U16: 16bit RISC CPU nX-U16/100 Core
*2 U8: 8bit RISC CPU nX-U8/100 Core

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General-Purpose MCUs (16bit)

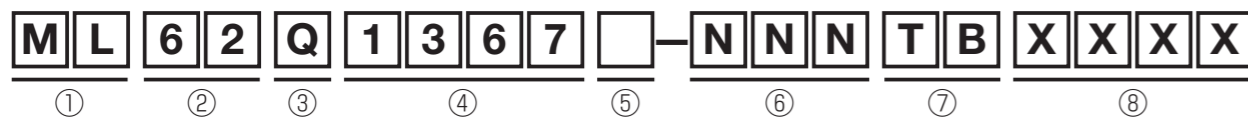
For Multiple Uses ML62Q1000 series (U16*)

(LAPIS Technology products)

Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade*2
						Input	Output	Input/Output	High Speed	Low Speed									IC	SSIO	UART						
ML62Q1323	1.6 to 5.5	Flash	16K	2K	2K	-	-	12	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	41ns/30.5µs	4.3µA (Internal RC oscillation)	-40 to +105	4 (8bitx8)	4 (TMR, PWM, Capture)	1	10bitx6 (SA type)	-	Master/Slavex1, Masterx1	UART Full Duplex/SSIOx2	VLSx1	-	8	Safety function, Multiplier/Divider, Comparatorx1, DMA	P-SSOP16-0225-0.65-TK6	✓	
24K			P-SSOP16-0225-0.65-TK6																						✓		
32K			P-SSOP16-0225-0.65-TK6																						✓		
ML62Q1333	1.6 to 5.5	Flash	16K	2K	2K	-	-	16	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	41ns/30.5µs	4.3µA (Internal RC oscillation)	-40 to +105	4 (8bitx8)	4 (TMR, PWM, Capture)	1	10bitx8 (SA type)	-	Master/Slavex1, Masterx1	UART Full Duplex/SSIOx2	VLSx1	-	8	Safety function, Multiplier/Divider, Comparatorx1, DMA	P-TSSOP20-0225-0.65-TK6	✓	
24K			P-TSSOP20-0225-0.65-TK6																						✓		
32K			P-TSSOP20-0225-0.65-TK6																						✓		
ML62Q1345	1.6 to 5.5	Flash	32K	2K	4K	-	-	20	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	41ns/30.5µs	4.3µA (Internal RC oscillation)	-40 to +105	6 (8bitx12)	4 (TMR, PWM, Capture)	1	10bitx8 (SA type)	8bitx1	Master/Slavex1, Masterx1	UART Full Duplex/SSIOx2	VLSx1	-	8	Safety function, Multiplier/Divider, Comparatorx1, DMA	P-WQFN24-0404-0.50-A63	✓	
48K			P-WQFN24-0404-0.50-A63																						✓		
64K			P-WQFN24-0404-0.50-A63																						✓		
ML62Q1365	1.6 to 5.5	Flash	32K	2K	4K	-	-	28	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	41ns/30.5µs	4.3µA (Internal RC oscillation)	-40 to +105	6 (8bitx12)	4 (TMR, PWM, Capture)	1	10bitx8 (SA type)	8bitx1	Master/Slavex1, Masterx1	UART Full Duplex/SSIOx2	VLSx1	-	8	Safety function, Multiplier/Divider, Comparatorx1, DMA	P-WQFN32-0505-0.50-A63	✓	
48K			P-WQFN32-0505-0.50-A63																						✓		
64K			P-WQFN32-0505-0.50-A63																						✓		

*1 U16: 16bit RISC CPU nX-U16/100 Core
*2 For use of industrial equipment, please inquire to the sales.

ML62Q1000 series Part Number Explanation



Part Number

- ① Device type
ML: Bipolar Logic
- ② CPU Core type
62: 16bit CPU nX-U16/100
- ③ ROM type
Q: Flash ROM
- ④ Part Code
13xx: ML62Q1300 group
2x: 16pin
3x: 20pin
4x: 24pin
6x: 32pin
15xx: ML62Q1500 group
3x: 48pin
4x: 52pin
5x: 64pin
6x: 80pin
7x: 100pin
17xx: ML62Q1700 group (Built-in LCD Driver)
0x: 48pin
1x: 52pin
2x: 64pin
3x: 80pin
4x: 100pin
18xx: ML62Q1800 group
5x: 64pin
6x: 80pin
7x: 100pin
x8: ROM 384KB
x9: ROM 512KB
- ⑤ Option Code
None to x: Set for Product
- ⑥ ROM Code
NNN : Blank
001 to xxx: Custom Code Number
- ⑦ Package Code
GD: WQFN
MB: SSOP
TD: TSSOP
TB: TQFP
GA: QFP
- ⑧ Company's Code

General-Purpose MCUs (16bit)

For Multiple Uses ML62Q1000 series (U16*1)

(LAPIS Technology products)

ML62Q1500 group ROM Capacity: 32KB to 256KB Pin Number: 48pin to 100pin																											
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade*2
						Input	Output	Input/Output	High Speed	Low Speed									I ² C	SSIO	UART						
ML62Q1530	1.6 to 5.5	Flash	32K	4K	8K	2	-	42	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.7/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx2	VLSx1	-	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1531			48K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1532			64K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1533			96K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1534			128K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1540	1.6 to 5.5	Flash	32K	4K	8K	2	-	46	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.7/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx2	VLSx1	-	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1541			48K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1542			64K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1543			96K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1544			128K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1550	1.6 to 5.5	Flash	32K	4K	8K	2	-	58	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.7/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx2	VLSx1	-	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1551			48K																						P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1552			64K																						P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1553			96K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1554			128K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1555			160K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1556			192K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1557	256K	P-TQFP64-1010-0.50-ZK6	✓																								
ML62Q1563	1.6 to 5.5	Flash	96K	4K	16K	2	-	72	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	5.5/4.5µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	8 (8bitx16)	8 (TMR, PWM, Capture)	1	10bitx16 (SA type)	8bitx2	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx6	VLSx1	-	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-QFP80-1414-0.65-ZK6	✓	
ML62Q1564			128K																						P-QFP80-1414-0.65-ZK6	✓	
ML62Q1565			160K																						P-QFP80-1414-0.65-ZK6	✓	
ML62Q1566			192K																						P-QFP80-1414-0.65-ZK6	✓	
ML62Q1567			256K																						P-QFP80-1414-0.65-ZK6	✓	
ML62Q1573	1.6 to 5.5	Flash	96K	4K	16K	2	-	92	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	5.5/4.5µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	8 (8bitx16)	8 (TMR, PWM, Capture)	1	10bitx16 (SA type)	8bitx2	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx6	VLSx1	-	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1574			128K																						P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1575			160K																						P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1576			192K																						P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1577			256K																						P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1543C	1.6 to 5.5	Flash	96K	4K	8K	2	-	46	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.3/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx3	VLSx1	-	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1544C			128K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1553C	1.6 to 5.5	Flash	96K	4K	8K	2	-	58	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.3/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx4	VLSx1	-	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1554C			128K																						P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1563C	1.6 to 5.5	Flash	96K	4K	8K	2	-	74	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.3/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx4	VLSx1	-	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-QFP80-1414-0.65-ZK6	✓	
ML62Q1564C			128K																						P-QFP80-1414-0.65-ZK6	✓	

*1 U16: 16bit RISC CPU nX-U16/100 Core
 *2 For use of industrial equipment, please inquire to the sales.

General-Purpose MCUs (16bit)

For Multiple Uses ML62Q1000 series (U16*1)

(LAPIS Technology products)

Built-In LCD Driver ML62Q1700 group ROM Capacity: 32KB to 512KB Pin Number: 48pin to 100pin																											
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade*2
						Input	Output	Input/Output	High Speed	Low Speed									I ² C	SSIO	UART						
ML62Q1700	1.6 to 5.5	Flash	32K	4K	8K	2	-	37	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.9/3.3µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx2	VLSx1	Max 192dot 24segx 8com	10	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1701			48K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1702			64K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1703			96K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1704			128K																						P-TQFP48-0707-0.50-ZK6	✓	
ML62Q1710	1.6 to 5.5	Flash	32K	4K	8K	2	-	41	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.9/3.3µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx2	VLSx1	Max 216dot 27segx 8com	10	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1711			48K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1712			64K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1713			96K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1714			128K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1720	1.6 to 5.5	Flash	32K	4K	8K	2	-	53	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.9/3.3µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx2	VLSx1	Max 280dot 35segx 8com	10	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1721			48K																						P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1722			64K																						P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1723			96K																						P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1724			128K																						P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1725			160K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1726			192K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1727			256K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1728			384K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1729			512K	P-TQFP64-1010-0.50-ZK6	✓																						
ML62Q1733	1.6 to 5.5	Flash	96K	4K	16K	2	-	67	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	5.7/4.5µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	8 (8bitx16)	8 (TMR, PWM, Capture)	1	10bitx16 (SA type)	8bitx2	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx6	VLSx1	Max 360dot 45segx 8com	12	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-QFP80-1414-0.65-ZK6	✓	
ML62Q1734			128K																						P-QFP80-1414-0.65-ZK6	✓	
ML62Q1735			160K																						P-QFP80-1414-0.65-ZK6	✓	
ML62Q1736			192K	P-QFP80-1414-0.65-ZK6	✓																						
ML62Q1737			256K	P-QFP80-1414-0.65-ZK6	✓																						
ML62Q1738			384K	P-QFP80-1414-0.65-ZK6	✓																						
ML62Q1739			512K	P-QFP80-1414-0.65-ZK6	✓																						
ML62Q1743	1.6 to 5.5	Flash	96K	4K	16K	2	-	87	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	5.7/4.5µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	8 (8bitx16)	8 (TMR, PWM, Capture)	1	10bitx16 (SA type)	8bitx2	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx6	VLSx1	Max 480dot 60segx 8com	12	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1744			128K																						P-QFP100-1420-0.65-BK6	✓	
ML62Q1745			160K																						P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1746			192K	P-TQFP100-1414-0.50-ZK6	✓																						
ML62Q1747			256K	P-QFP100-1420-0.65-BK6	✓																						
ML62Q1748			384K	P-TQFP100-1414-0.50-ZK6	✓																						
ML62Q1749	512K	P-QFP100-1420-0.65-BK6	✓																								
ML62Q1713C	1.6 to 5.5	Flash	96K	4K	8K	2	-	41	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.3/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx3	VLSx1	Max 216dot 27segx 8com	10	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1714C			128K																						P-TQFP52-1010-0.65-ZK6	✓	
ML62Q1723C	1.6 to 5.5	Flash	96K	4K	8K	2	-	53	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.3/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx4	VLSx1	Max 280dot 35segx 8com	10	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1724C			128K																						P-QFP64-1414-0.80-ZK6	✓	
ML62Q1733C	1.6 to 5.5	Flash	96K	4K	8K	2	-	69	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	4.3/3.0µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx4	VLSx1	Max 360dot 45segx 8com	12	Safety function, Multiplier/Divider, Comparatrx2, DMA	P-QFP80-1414-0.65-ZK6	✓	
ML62Q1734C			128K																						P-QFP80-1414-0.65-ZK6	✓	

*1 U16: 16bit RISC CPU nX-U16/100 Core
*2 For use of industrial equipment, please inquire to the sales.

General-Purpose MCUs (16bit)

For Multiple Uses **ML62Q1000 series (U16*1)**

(LAPIS Technology products)

ML62Q1800 group ROM Capacity: 384KB to 512KB Pin Number: 64pin to 100pin																											
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade*2
						Input	Output	Input/Output	High Speed	Low Speed									I ² C	SSIO	UART						
ML62Q1858	1.6 to 5.5	Flash	384K	8K	32K	2	-	58	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	6.0/4.5µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	6 (8bitx12)	6 (TMR, PWM, Capture)	1	10bitx12 (SA type)	8bitx1	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx2	VLSx1	-	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP64-1010-0.50-ZK6	✓	
ML62Q1859			512K																						P-QFP64-1414-0.80-ZK6	✓	
ML62Q1868	1.6 to 5.5	Flash	384K	8K	32K	2	-	72	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	6.0/4.5µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	8 (8bitx16)	8 (TMR, PWM, Capture)	1	10bitx16 (SA type)	8bitx2	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx6	VLSx1	-	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-QFP80-1414-0.65-ZK6	✓	
ML62Q1869			512K																						P-QFP80-1414-0.65-ZK6	✓	
ML62Q1878	1.6 to 5.5	Flash	384K	8K	32K	2	-	92	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	6.0/4.5µA (Internal RC oscillation/ Crystal oscillation)	-40 to +105	8 (8bitx16)	8 (TMR, PWM, Capture)	1	10bitx16 (SA type)	8bitx2	Master/Slavex1, Masterx2	UART Full Duplex/SSIOx6	VLSx1	-	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	P-TQFP100-1414-0.50-ZK6	✓	
ML62Q1879			512K																						P-QFP100-1420-0.65-BK6	✓	

*1 U16: 16bit RISC CPU nX-U16/100 Core
 *2 For use of industrial equipment, please inquire to the sales.

General-Purpose MCUs (16bit)

Low Power Consumption ML62Q2000 series/ML62Q2500

group (U16*1)

(LAPIS Technology products)

ROM Capacity: 64KB to 128KB Pin Number: 32pin to 48pin																											
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT*2)	Operating Temperature (°C)	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade*3
						Input	Output	Input/Output	High Speed	Low Speed									IC	SSIO	UART						
ML62Q2502	1.8 to 5.5	Flash	64K	4K	8K	3	-	24	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ External oscillation)	41ns/30.5µs	0.6µA (Internal RC oscillation)	-40 to +105	6	2 (TMR, PWM, Capture)	1	12bitx14 (SA type)	-	Master/Slavex1, Masterx1	2	Full Duplex x3	VLSx1	-	8	Safety function, Multiplier/Divider	P-TQFP32-0707-0.80-ZK6	✓
ML62Q2504			128K						P-WQFN32-0505-0.50-A63	✓																	
ML62Q2522	1.8 to 5.5	Flash	64K	4K	8K	3	-	32	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ External oscillation)	41ns/30.5µs	0.6µA (Internal RC oscillation)	-40 to +105	6	2 (TMR, PWM, Capture)	1	12bitx14 (SA type)	-	Master/Slavex1, Masterx1	2	Full Duplex x3	VLSx1	-	8	Safety function, Multiplier/Divider	P-WQFN40-0606-0.50-63	✓
ML62Q2524			128K						P-WQFN40-0606-0.50-63	✓																	
ML62Q2532	1.8 to 5.5	Flash	64K	4K	8K	3	-	40	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ External oscillation)	41ns/30.5µs	0.6µA (Internal RC oscillation)	-40 to +105	6	2 (TMR, PWM, Capture)	1	12bitx14 (SA type)	-	Master/Slavex1, Masterx1	2	Full Duplex x3	VLSx1	-	8	Safety function, Multiplier/Divider	P-TQFP48-0707-0.50-ZK6	✓
ML62Q2534			128K						P-WQFN48-0707-0.50-63	✓																	

*1 U16: 16bit RISC CPU nX-U16/100 Core
 *2 HALT-D mode.
 *3 For use of industrial equipment, please inquire to the sales.

General-Purpose MCUs (16bit)

Build-in Speech Playback Function ML62Q2000 series/

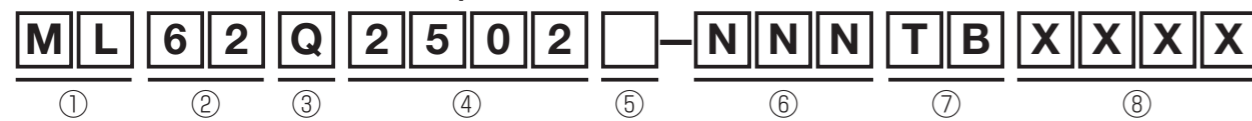
ML62Q2700 group (U16*1)

(LAPIS Technology products)

Built-In LCD Driver ROM Capacity: 64KB to 256KB Pin Number: 48pin to 100pin																													
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT*2)	Operating Temperature (°C)	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade*3		
						Input	Output	Input/Output	High Speed	Low Speed									IC	SSIO	UART								
New ML62Q2702	1.8 to 5.5	Flash	64K	4K	8K	3	-	35	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	0.7µA (Internal RC oscillation)	-40 to +105	6	6 (TMR, PWM, Capture)	1	12bitx12 (SA type)	-	Master/Slavex1, Masterx2	3	Full Duplex x2	VLSx1	Max 192dot 24segx 8com	9	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	P-TQFP48-0707-0.50-ZK6	✓		
New ML62Q2703			96K						P-WQFN48-0707-0.50-63	✓																			
New ML62Q2712	1.8 to 5.5	Flash	64K	4K	8K	3	-	39	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	0.7µA (Internal RC oscillation)	-40 to +105	6	6 (TMR, PWM, Capture)	1	12bitx12 (SA type)	-	Master/Slavex1, Masterx2	3	Full Duplex x2	VLSx1	Max 216dot 27segx 8com	9	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	P-TQFP52-1010-0.65-ZK6	✓		
New ML62Q2713			96K						P-TQFP52-1010-0.65-ZK6	✓																			
New ML62Q2722	1.8 to 5.5	Flash	64K	4K	8K	3	-	51	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	0.7µA (Internal RC oscillation)	-40 to +105	6	6 (TMR, PWM, Capture)	1	12bitx12 (SA type)	-	Master/Slavex1, Masterx2	3	Full Duplex x2	VLSx1	Max 280dot 27segx 8com	9	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	P-QFP64-1414-0.80-ZK6	✓		
New ML62Q2723			96K						P-TQFP64-1010-0.50-ZK6	✓																			
New ML62Q2725	1.8 to 5.5	Flash	160K	4K	16K	3	-	51	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	0.9µA (Internal RC oscillation)	-40 to +105	8	8 (TMR, PWM, Capture)	1	12bitx12 (SA type)	-	Master/Slavex1, Masterx2	7	Full Duplex x6	VLSx1	Max 280dot 35segx 8com	9	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	P-QFP64-1414-0.80-ZK6	✓		
New ML62Q2726			192K						P-TQFP64-1010-0.50-ZK6	✓																			
New ML62Q2727			256K																										
New ML62Q2735	1.8 to 5.5	Flash	160K	4K	16K	3	-	65	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	0.9µA (Internal RC oscillation)	-40 to +105	8	8 (TMR, PWM, Capture)	1	12bitx16 (SA type)	-	Master/Slavex1, Masterx2	7	Full Duplex x6	VLSx1	Max 360dot 45segx 8com	9	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	P-QFP80-1414-0.65-ZK6	✓		
New ML62Q2736			192K						P-QFP80-1414-0.65-ZK6	✓																			
New ML62Q2737			256K																										
New ML62Q2745	1.8 to 5.5	Flash	160K	4K	16K	3	-	85	24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41ns/30.5µs	0.9µA (Internal RC oscillation)	-40 to +105	8	8 (TMR, PWM, Capture)	1	12bitx16 (SA type)	-	Master/Slavex1, Masterx2	7	Full Duplex x6	VLSx1	Max 480dot 60segx 8com	9	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	P-QFP100-1420-0.65-BK6	✓		
New ML62Q2746			192K						P-QFP100-1414-0.50-ZK6	✓																			
New ML62Q2747			256K																										

*1 U16: 16bit RISC CPU nX-U16/100 Core
 *2 HALT-D mode.
 *3 For use of industrial equipment, please inquire to the sales.

ML62Q2000 series Part Number Explanation



- Part Number**
- ① Device type
ML: Bipolar Logic
 - ② CPU Core type
62: 16bit CPU nX-U16/100
 - ③ ROM type
Q: Flash ROM
 - ④ Part Code
25xx: ML62Q2500 group
0x: 32pin
2x: 40pin
3x: 48pin
x2: ROM 64KB
x4: ROM 128KB
 - ⑤ Option Code
None to x: Set for Product
 - ⑥ ROM Code
NNN : Blank
001 to xxx: Custom Code Number
 - ⑦ Package Code
GD: WQFN
TB: TQFP
GA: QFP
 - ⑧ Company's Code
- 27xx: ML62Q2700 group (Built-in LCD Driver)
 0x: 48pin
 1x: 52pin
 2x: 64pin
 3x: 80pin
 4x: 100pin
 x2: ROM 64KB
 x3: ROM 96KB
 x5: ROM 160KB
 x6: ROM 192KB
 x7: ROM 256KB

Switching Power Supply Control MCUs (16bit)

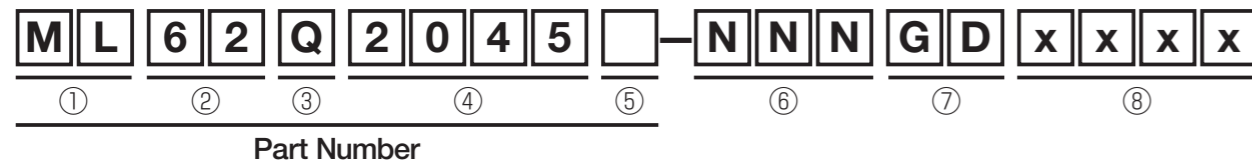
For Power Supply Control ML62Q20xx group (U16*1)

(LAPIS Technology products)

ROM Capacity: 16KB to 48KB Pin Number: 20pin to 48pin																												
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature*2 (°C)	16bit Timer	Operational timer (16bit timer)	Operational timer (8bit timer)	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade*3
						Input	Output	Input/Output	High Speed	Low Speed										PC	SSIO	UART						
New ML62Q2033	4.5 to 5.5	Flash	16K	4K	2K	1	-	16	16MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	62.5ns/30.5µs	90µA (Internal RC oscillation)	-40 to +115	1	CH: 6/ OUTPUT: 10 (PWM, Capture)	-	1	12bitx5 (SA type)	8bitx2	Master/Slavex1	-	Full Duplex/ Half Duplex2	LLDx1	-	4	Safety function, Multiplier/Divider, Programable-Gain-Ampx1, Analog comparatorx3	P-TSSOP20-0225-0.65-TK6	✓
New ML62Q2035			32K																								P-TSSOP20-0225-0.65-TK6	✓
New ML62Q2043	4.5 to 5.5	Flash	16K	4K	2K	1	-	20	16MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	62.5ns/30.5µs	90µA (Internal RC oscillation)	-40 to +115	1	CH: 6/ OUTPUT: 13 (PWM, Capture)	-	1	12bitx5 (SA type)	8bitx2	Master/Slavex1	-	Full Duplex/ Half Duplex2	LLDx1	-	4	Safety function, Multiplier/Divider, Programable-Gain-Ampx1, Analog comparatorx3	P-WQFN24-0404-0.50-A63	✓
New ML62Q2045			32K																								P-WQFN24-0404-0.50-A63	✓
☆ML62Q2055	4.5 to 5.5	Flash	32K	8K	4K	1	-	28	16MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	62.5ns/30.5µs	TBD (Internal RC oscillation)	-40 to +125	1	CH: 6/ OUTPUT: 13 (PWM, Capture)	CH: 6/ OUTPUT: 15 (PWM, Capture)	1	12bitx13 (SA type)	8bitx2 9bitx2	Master/Slavex1	-	Full Duplex/ Half Duplex3	LLDx1	-	6	Safety function, Multiplier/Divider, Programable-Gain-Ampx2, Analog comparatorx4	P-TQFP32-0707-0.80-ZK6	✓
☆ML62Q2056			48K																								P-TQFP32-0707-0.80-ZK6	✓
☆ML62Q2065	4.5 to 5.5	Flash	32K	8K	4K	1	-	44	16MHz (PLL oscillation)	32.768kHz (Internal RC oscillation)	62.5ns/30.5µs	TBD (Internal RC oscillation)	-40 to +125	1	CH: 6/ OUTPUT: 20 (PWM, Capture)	CH: 6/ OUTPUT: 24 (PWM, Capture)	1	12bitx13 (SA type)	8bitx2 9bitx2	Master/Slavex1	-	Full Duplex/ Half Duplex3	LLDx1	-	6	Safety function, Multiplier/Divider, Programable-Gain-Ampx2, Analog comparatorx4	P-TQFP48-0707-0.50-ZK6	✓
☆ML62Q2066			48K																								P-TQFP48-0707-0.50-ZK6	✓

*1 U16: 16bit RISC CPU nX-U16/100 Core
 *2 Operating temperature (Chip-Junction)
 *3 For use of industrial equipment, please inquire to the sales.
 ☆: Under Development. The contents are subject to change without notice for improvement.

Switching Power Supply Control MCUs (16bit) Part Number Explanation



- ① Device type
ML: Bipolar Logic
- ② CPU Core type
62: 16bit CPU nX-U16/100
- ③ ROM type
Q: Flash ROM
- ④ Part Code
20xx: ML62Q20xx group

3x: 20pin x3: ROM 16KB
4x: 24pin x5: ROM 32KB
5x: 32pin x6: ROM 48KB
6x: 48pin
- ⑤ Option Code
None to x: Set for Product
- ⑥ ROM Code
NNN: Blank
001 to xxx: Custom Code Number
- ⑦ Package Code
GD: WQFN
TD: TSSOP
TB: TQFP
- ⑧ Company's Code

Speech Playback MCUs (8bit)

Build-in High-Output Speaker Amplifier ML610Q300

group (U8*1)

(LAPIS Technology products)

ROM Capacity: 96KB to 256KB Pin Number: 32pin to 64pin																												
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	Memory for Sound	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	8bit Timer	PWM	WDT	ADC (method)	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	SP Amp Output (W)/ Class	Others	Package	Industrial Grade*2
							Input	Output	Input/Output	High Speed	Low Speed								I ² C	SSIO	UART							
ML610Q305	2.0 to 5.5	Flash	96K	2K	Flash ROM	1K	1	3	12	8.192MHz	32.768kHz (Internal RC oscillation)	0.122µs/30.5µs	2.0µA	-40 to +85	4 (16bitx2)	-	1	10bitx3 (SA type)	Master/Slavex1	2	Half Duplex x1	LLDx1	-	9	1.0 (@5V)/D class	Speech playback function/ADPCM2 HQ-ADPCM decoder/Built-in speaker Amplifier	P-WQFN32-0505-0.50-A63	✓
ML610Q306									15									10bitx4 (SA type)									P-TQFP32-0707-0.80-ZK6	✓
ML610Q327	2.0 to 5.5	Flash	192K	2K	Flash ROM	4K	-	6	26	8.192MHz	32.768kHz (Internal RC oscillation)	0.122µs/30.5µs	2.0µA	-40 to +85	4 (16bitx2)	3	1	10bitx8 (SA type)	Master/Slavex1	2	Half Duplex x2	LLDx1	-	8	1.0 (@5V)/D class	Speech playback function/ADPCM2 HQ-ADPCM decoder/Built-in speaker Amplifier	P-TQFP48-0707-0.50-ZK6	✓
ML610Q338	2.0 to 5.5	Flash	256K	2K	Flash ROM	4K	-	6	30	8.192MHz	32.768kHz (Internal RC oscillation)	0.122µs/30.5µs	2.0µA	-40 to +85	4 (16bitx2)	3	1	10bitx8 (SA type)	Master/Slavex1	2	Half Duplex x2	LLDx1	-	8	1.0 (@5V)/D class	Speech playback function/ADPCM2 HQ-ADPCM decoder/Built-in speaker Amplifier	P-TQFP52-1010-0.65-ZK6	✓
ML610Q339									42									10bitx8 (SA type)									P-TQFP64-1010-0.50-ZK6	✓

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 *1 U8: 8bit RISC CPU nX-U8/100 Core
 *2 For use of industrial equipment, please inquire to the sales.

ML610Q300 group Part Number Explanation



Part Name

- ① Device type
ML: Bipolar Logic
- ② CPU Core type
610: 8bit CPU nX-U8/100
- ③ ROM type
Q: Flash ROM
- ④ Part Code
3xx: Built-in Speech Playback function
- ⑤ Option Code
None to x: Set for Product
- ⑥ ROM Code
NNN: Blank
001 to xxx: Custom Code Number
- ⑦ Package Code
GD: WQFN
TB: TQFP
- ⑧ Company's Code

USB/Security MCUs (32bit)

For USB Data Loggers ML630Q400 group

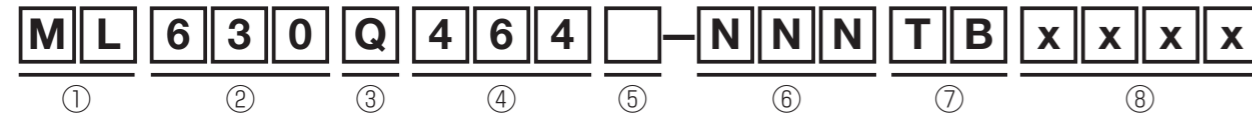
(Arm® Cortex®-M0+)

(LAPIS Technology products)

Built-In LCD Driver ROM Capacity: 64KB to 128KB Pin Number: 100pin																														
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	Co-processor for Multiplication and Division	8bit Timer	16bit Multi-Functions Timer	PWM	Capture	WDT	ADC (method)	Serial Port				Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Package	Industrial Grade**
						Input	Output	Input/Output	High Speed	Low Speed											FC	SSIO (SPI)	UART	USB						
ML630Q464	1.8 to 3.6	Flash	64K	2K	8K	-	-	38	16MHz (Internal RC oscillation) 24MHz (PLL oscillation)	32.768kHz (Internal RC oscillation/ Crystal oscillation)	41.7ns/ 30.5µs	0.8µA (Crystal oscillation)	-40 to +85	32bit multiplier	8 (16bitx4)	4	16bitx4 (use 16bit Timer)	16bitx4 (use 16bit Timer)	1	24bitx2 (RC type) 12bitx12 (SA type)	Master/Slave x2	2	Full Duplex x2	1	VLSx1, LLDx1	Max 400dot 50segx8com	8	AES 128bit HW accelerator (CBC, CTR, CTR), Random generator, DMA, RTC, Analog comparatorx2, 1kHz Timer	P-TQFP100-1414-0.50-ZK6	✓
ML630Q466			128K		16K				P-TQFP100-1414-0.50-ZK6	✓																				

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** For use of industrial equipment, please inquire to the sales.

ML630Q400 group Part Number Explanation



Part Name

- ① Device type
ML: Bipolar Logic
- ② CPU Core type
630: 32bit CPU Arm® Cortex®-M0+
- ③ ROM type
Q: Flash ROM
- ④ Part Code
4xx: Low Power
- ⑤ Option Code
None to x: Set for Product
- ⑥ ROM Code
NNN: Blank
001 to xxx: Custom Code Number
- ⑦ Package Code
TB: TQFP
- ⑧ Company's Code