

微控制器

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LAPIS Technology的微控制器凭借多年积累的先进低功耗技术, 持续实现了行业优异¹的低功耗。

这种微控制器广泛应用于以高性能数字钟表为代表的电池驱动小型仪表、家电产品、工业设备、社会基础设施等多种用途。

此外, 产品阵容中还新增了车载微控制器, 使得LAPIS Technology的微控制器在车载设备领域也大显身手。

今后, LAPIS Technology将继续致力于为用户提供并改进低功耗微控制器。

*1 据LAPIS Technology调查

*2 HQ-ADPCM是“Ky's”的高音质语音压缩技术。“Ky's”是国立大学法人九州工业大学的注册商标。

*3 HLC即“Hardware Linkage Controller”的缩写, 是不使用LAPIS Technology独特CPU实现外设电路间协同动作的功能。

产品阵容丰富, 搭载安全功能

通用微控制器(16bit) ML62Q1000系列(搭载U16 Core^{*1})

标准型 ML62Q1300组 ROM容量: 16KB to 64KB 引脚个数: 16pin to 32pin(工业设备用)

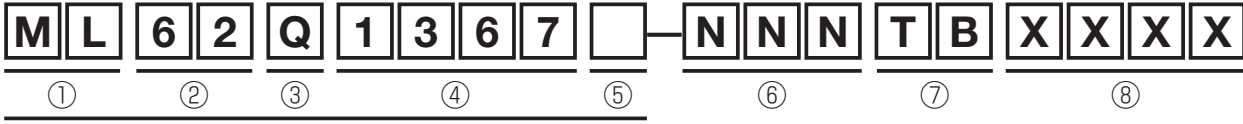
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)
						Input	Output	Input/Output	High Speed	Low Speed			
ML62Q1323	1.6 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
ML62Q1324			24K										
ML62Q1325			32K										
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
ML62Q1334			24K										
ML62Q1335			32K										
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
ML62Q1346			48K										
ML62Q1347			64K										
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
ML62Q1366			48K										
ML62Q1367			64K										

*1 U16 Core: RISC方式的LAPIS Technology先进的16bit CPU nX-U16/100核

*2 带无卤素标记✓, 表示备有无卤素产品。详细内容请咨询销售人员。

*3 工业设备用途的详情请垂询本公司。

ML62Q1000系列品名构成说明



品名编号

- ① 元器件类型
ML: 逻辑产品
- ② CPU内核类型
62: 16bit CPU nX-U16/100
- ③ ROM类型
Q: 闪存ROM
- ④ 型号代码
- ⑤ 选项代码
None ~x: 对每个产品进行设定
- ⑥ ROM代码
NNN : 留空
001 ~xxx : 定制代码
- ⑦ 封装代码
GD: WQFN
MB: SSOP
TD: TSSOP
TB: TQFP
GA: QFP
- ⑧ LAPIS Technology公司内部代码

- ④ 型号代码
 - 13xx: ML62Q1300组
 - 2x: 16针
 - 3x: 20针
 - 4x: 24针
 - 6x: 32针
 - x3: ROM 16KB
 - x4: ROM 24KB
 - x5: ROM 32KB
 - x6: ROM 48KB
 - x7: ROM 64KB
 - 15xx: ML62Q1500组
 - 3x: 48针
 - 4x: 52针
 - 5x: 64针
 - 6x: 80针
 - 7x: 100针
 - x0: ROM 32KB
 - x1: ROM 48KB
 - x2: ROM 64KB
 - x3: ROM 96KB
 - x4: ROM 128KB
 - x5: ROM 160KB
 - x6: ROM 192KB
 - x7: ROM 256KB
 - 17xx: ML62Q1700组 (内置LCD驱动器)
 - 0x: 48针
 - 1x: 52针
 - 2x: 64针
 - 3x: 80针
 - 4x: 100针
 - x0: ROM 32KB
 - x1: ROM 48KB
 - x2: ROM 64KB
 - x3: ROM 96KB
 - x4: ROM 128KB
 - x5: ROM 160KB
 - x6: ROM 192KB
 - x7: ROM 256KB
 - x8: ROM 384KB
 - x9: ROM 512KB
 - 18xx: ML62Q1800组
 - 5x: 64针
 - 6x: 80针
 - 7x: 100针
 - x8: ROM 384KB
 - x9: ROM 512KB

(LAPIS Technology产品)

	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Notes	Package	Chip Support	Halogen Free Support*2	Industrial Grade*3
						PC	SSIO	UART									
	4 (8bitx8)	4 (TMR, PWM, IGBT, 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 P-WQFN16-0404-0.50-63	-	✓	✓
	4 (8bitx8)	4 (TMR, PWM, IGBT, 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 P-SSOP20-44-0.65-TK6 P-TSSOP20-0225-0.65-TK6 P-SSOP20-44-0.65-TK6	-	✓	✓
	6 (8bitx12)	4 (TMR, PWM, IGBT, 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 P-WQFN24-0404-0.50-A63	-	✓	✓
	6 (8bitx12)	4 (TMR, PWM, IGBT, 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 P-TQFP32-0707-0.80-ZK6 P-WQFN32-0505-0.50-A63 P-TQFP32-0707-0.80-ZK6 P-WQFN32-0505-0.50-A63 P-TQFP32-0707-0.80-ZK6	-	✓	✓

产品阵容丰富，搭载安全功能

通用微控制器(16bit) ML62Q1000系列(搭载U16 Core*1)

标准型 ML62Q1500组 ROM容量：32KB to 256KB 引脚个数：48pin to 100pin(工业设备用)

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)
						Input	Output	Input/Output	High Speed	Low Speed			
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
ML62Q1531			48K										
ML62Q1532			64K										
ML62Q1533			96K										
ML62Q1534			128K										
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
ML62Q1541			48K										
ML62Q1542			64K										
ML62Q1543			96K										
ML62Q1544			128K										
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
ML62Q1551			48K										
ML62Q1552			64K										
ML62Q1553			96K										
ML62Q1554			128K	16K	2	-	58	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	
ML62Q1555			160K										
ML62Q1556			192K										
ML62Q1557			256K										
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
ML62Q1564			128K										
ML62Q1565			160K										
ML62Q1566			192K										
ML62Q1567			256K										
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
ML62Q1574			128K										
ML62Q1575			160K										
ML62Q1576			192K										
ML62Q1577			256K										
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
ML62Q1544C			128K										
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
ML62Q1554C			128K										
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
ML62Q1564C			128K										

标准型 ML62Q1800组 ROM容量：384KB to 512KB 引脚个数：64pin to 100pin(工业设备用)

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)
						Input	Output	Input/Output	High Speed	Low Speed			
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
ML62Q1859			512K										
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
ML62Q1869			512K										
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
ML62Q1879			512K										

*1 U16 Core : RISC方式的LAPIS Technology先进的16bit CPU nX-U16/100核
 *2 带无卤素标记，表示备有无卤素产品。详细内容请咨询销售人员。
 *3 工业设备用途的详情请垂询本公司。

	16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Notes	Package	Chip Support	Halogen Free Support*2	Industrial Grade*3
						I ² C	SSIO	UART									
	6 (8bitx12)	6 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-TQFP48-0707-0.50-ZK6	-	✓	✓	
													P-TQFP48-0707-0.50-ZK6	-	✓	✓	
													P-TQFP48-0707-0.50-ZK6	-	✓	✓	
	6 (8bitx12)	6 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-TQFP52-1010-0.65-ZK6	-	✓	✓	
													P-TQFP52-1010-0.65-ZK6	-	✓	✓	
													P-TQFP52-1010-0.65-ZK6	-	✓	✓	
	6 (8bitx12)	6 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP64-1414-0.80-ZK6	-	✓	✓	
													P-TQFP64-1010-0.50-ZK6	-	✓	✓	
													P-QFP64-1414-0.80-ZK6	-	✓	✓	
													P-TQFP64-1010-0.50-ZK6	-	✓	✓	
													P-QFP64-1414-0.80-ZK6	-	✓	✓	
													P-TQFP64-1010-0.50-ZK6	-	✓	✓	
													P-QFP64-1414-0.80-ZK6	-	✓	✓	
													P-TQFP64-1010-0.50-ZK6	-	✓	✓	
													P-QFP64-1414-0.80-ZK6	-	✓	✓	
	8 (8bitx16)	8 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP80-1414-0.65-ZK6	-	✓	✓	
													P-QFP80-1414-0.65-ZK6	-	✓	✓	
													P-QFP80-1414-0.65-ZK6	-	✓	✓	
	8 (8bitx16)	8 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP100-1420-0.65-BK6	-	✓	✓	
													P-TQFP100-1414-0.50-ZK6	-	✓	✓	
													P-QFP100-1420-0.65-BK6	-	✓	✓	
													P-TQFP100-1414-0.50-ZK6	-	✓	✓	
	6 (8bitx12)	6 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-TQFP52-1010-0.65-ZK6	-	✓	✓	
	6 (8bitx12)	6 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP64-1414-0.80-ZK6	-	✓	✓	
													P-TQFP64-1010-0.50-ZK6	-	✓	✓	
	6 (8bitx12)	6 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP80-1414-0.65-ZK6	-	✓	✓	
	6 (8bitx12)	6 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP64-1414-0.80-ZK6	-	✓	✓	
													P-TQFP64-1010-0.50-ZK6	-	✓	✓	
	8 (8bitx16)	8 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP80-1414-0.65-ZK6	-	✓	✓	
	8 (8bitx16)	8 (TMR, PWM, IGBT, 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	-	✓	✓	
													P-QFP100-1420-0.65-BK6	-	✓	✓	

微控制器

产品阵容丰富，搭载安全功能

通用微控制器(16bit) ML62Q1000系列(搭载U16 Core*1)

搭载LCD驱动器型 ML62Q1700组 ROM容量：32KB to 512KB 引脚个数：48pin to 100pin(工业设备用)

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)
						Input	Output	Input/Output	High Speed	Low Speed			
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
ML62Q1701			48K										
ML62Q1702			64K										
ML62Q1703			96K										
ML62Q1704			128K										
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
ML62Q1711			48K										
ML62Q1712			64K										
ML62Q1713			96K										
ML62Q1714			128K										
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
ML62Q1721			48K										
ML62Q1722			64K										
ML62Q1723			96K										
ML62Q1724			128K										
ML62Q1725			160K	16K	32K							6.0/4.5µA (Internal RC oscillation/ Crystal oscillation)	
ML62Q1726			192K										
ML62Q1727			256K										
ML62Q1728			384K										
ML62Q1729			512K										
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
ML62Q1734			128K										
ML62Q1735			160K										
ML62Q1736			192K	8K	32K							6.0/4.5µA (Internal RC oscillation/ Crystal oscillation)	
ML62Q1737			256K										
ML62Q1738			384K										
ML62Q1739			512K										
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
ML62Q1744			128K										
ML62Q1745			160K										
ML62Q1746			192K	8K	32K							6.0/4.5µA (Internal RC oscillation/ Crystal oscillation)	
ML62Q1747			256K										
ML62Q1748			384K										
ML62Q1749			512K										
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
ML62Q1714C			128K										
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
ML62Q1724C			128K										
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
ML62Q1734C			128K										

*1 U16 Core : RISC方式的LAPIS Technology先进的16bit CPU nX-U16/100核

*2 带无因素标记✓, 表示备有因素产品。详细内容请咨询销售人员。

*3 工业设备用途的详细请垂询本公司。

16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Notes	Package	Chip Support	Halogen Free Support*2	Industrial Grade*3
					I ² C	SSIO	UART									
6 (8bitx12)	6 (TMR, PWM, IGBT, Capture)	1	10bitx12 (SA type)	8bitx1	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx2	VLSx1	Max 192dot 24segx 8com	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-TQFP48-0707-0.50-ZK6	-	✓	✓	
												P-TQFP48-0707-0.50-ZK6	-	✓	✓	
												P-TQFP48-0707-0.50-ZK6	-	✓	✓	
												P-TQFP48-0707-0.50-ZK6	-	✓	✓	
												P-TQFP48-0707-0.50-ZK6	-	✓	✓	
6 (8bitx12)	6 (TMR, PWM, IGBT, Capture)	1	10bitx12 (SA type)	8bitx1	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx2	VLSx1	Max 216dot 27segx 8com	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-TQFP52-1010-0.65-ZK6	-	✓	✓	
												P-TQFP52-1010-0.65-ZK6	-	✓	✓	
												P-TQFP52-1010-0.65-ZK6	-	✓	✓	
												P-TQFP52-1010-0.65-ZK6	-	✓	✓	
												P-TQFP52-1010-0.65-ZK6	-	✓	✓	
6 (8bitx12)	6 (TMR, PWM, IGBT, Capture)	1	10bitx12 (SA type)	8bitx1	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx2	VLSx1	Max 280dot 35segx 8com	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-TQFP64-1010-0.50-ZK6	-	✓	✓	
												P-QFP64-1414-0.80-ZK6	-	✓	✓	
												P-TQFP64-1010-0.50-ZK6	-	✓	✓	
												P-QFP64-1414-0.80-ZK6	-	✓	✓	
												P-TQFP64-1010-0.50-ZK6	-	✓	✓	
												P-QFP64-1414-0.80-ZK6	-	✓	✓	
												P-TQFP64-1010-0.50-ZK6	-	✓	✓	
												P-QFP64-1414-0.80-ZK6	-	✓	✓	
												P-TQFP64-1010-0.50-ZK6	-	✓	✓	
												P-QFP64-1414-0.80-ZK6	-	✓	✓	
												P-TQFP64-1010-0.50-ZK6	-	✓	✓	
												P-QFP64-1414-0.80-ZK6	-	✓	✓	
												P-TQFP64-1010-0.50-ZK6	-	✓	✓	
8 (8bitx16)	8 (TMR, PWM, IGBT, Capture)	1	10bitx16 (SA type)	8bitx2	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx6	VLSx1	Max 360dot 45segx 8com	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-QFP80-1414-0.65-ZK6	-	✓	✓	
												P-QFP80-1414-0.65-ZK6	-	✓	✓	
												P-QFP80-1414-0.65-ZK6	-	✓	✓	
												P-QFP80-1414-0.65-ZK6	-	✓	✓	
												P-QFP80-1414-0.65-ZK6	-	✓	✓	
												P-QFP80-1414-0.65-ZK6	-	✓	✓	
												P-QFP80-1414-0.65-ZK6	-	✓	✓	
8 (8bitx16)	8 (TMR, PWM, IGBT, Capture)	1	10bitx16 (SA type)	8bitx2	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx6	VLSx1	Max 480dot 60segx 8com	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-TQFP100-1414-0.50-ZK6	-	✓	✓	
												P-QFP100-1420-0.65-BK6	-	✓	✓	
												P-TQFP100-1414-0.50-ZK6	-	✓	✓	
												P-QFP100-1420-0.65-BK6	-	✓	✓	
												P-TQFP100-1414-0.50-ZK6	-	✓	✓	
												P-QFP100-1420-0.65-BK6	-	✓	✓	
												P-TQFP100-1414-0.50-ZK6	-	✓	✓	
P-QFP100-1420-0.65-BK6	-	✓	✓													
6 (8bitx12)	6 (TMR, PWM, IGBT, Capture)	1	10bitx12 (SA type)	8bitx1	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx3	VLSx1	Max 216dot 27segx 8com	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-TQFP52-1010-0.65-ZK6	-	✓	✓	
												P-TQFP52-1010-0.65-ZK6	-	✓	✓	
6 (8bitx12)	6 (TMR, PWM, IGBT, Capture)	1	10bitx12 (SA type)	8bitx1	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx4	VLSx1	Max 280dot 35segx 8com	10	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-TQFP64-1010-0.50-ZK6	-	✓	✓	
												P-QFP64-1414-0.80-ZK6	-	✓	✓	
6 (8bitx12)	6 (TMR, PWM, IGBT, Capture)	1	10bitx12 (SA type)	8bitx1	Master/ Slavex1, Masterx2	UART Full Duplex/ SSIOx4	VLSx1	Max 360dot 45segx 8com	12	Safety function, Multiplier/Divider, Comparatorx2, DMA	-	P-QFP80-1414-0.65-ZK6	-	✓	✓	
												P-QFP80-1414-0.65-ZK6	-	✓	✓	

微控制器

行业优异的功耗(HALT电流 0.6μA)

通用微控制器(16bit) ML62Q2000系列/ML62Q2500

标准型 ML62Q2500组 ROM容量：64KB to 128KB 引脚个数：32pin to 48pin(工业设备用)

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)
						Input	Output	Input/Output	High Speed	Low Speed			
New 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
New ML62Q2504			128K										
New 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
New ML62Q2524			128K										
New 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
New ML62Q2534			128K										

*1 U16 Core : RISC方式的LAPIS Technology先进的16bit CPU nX-U16/100核
 *2 HALT-D模式时。
 *3 带无卤素标记✓, 表示备有无卤素产品。详细内容请咨询销售人员。
 *4 工业设备用途的详情请垂询本公司。

搭载语音播放硬件引擎、LCD驱动器

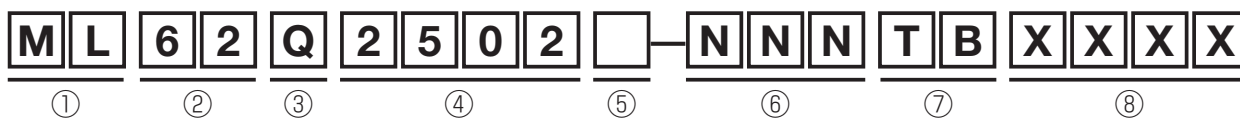
通用微控制器(16bit) ML62Q2000系列/ML62Q2700

搭载LCD驱动器型 ML62Q2700组 ROM容量：64KB to 256KB 引脚个数：48pin to 100pin(工业设备用)

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)
						Input	Output	Input/Output	High Speed	Low Speed			
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
New ML62Q2726			192K										
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
New ML62Q2736			192K										
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
New ML62Q2746			192K										
New ML62Q2747			256K										
☆ 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	(TBD)	-40 to +105
☆ ML62Q2703			96K										
☆ 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	(TBD)	-40 to +105
☆ ML62Q2713			96K										
☆ 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	(TBD)	-40 to +105
☆ ML62Q2723			96K										

*1 U16 Core : RISC方式的LAPIS Technology先进的16bit CPU nX-U16/100核
 *2 HALT-D模式时。
 *3 带无卤素标记✓, 表示备有无卤素产品。详细内容请咨询销售人员。
 *4 工业设备用途的详情请垂询本公司。
 ☆ : 开发中。本目录中的信息, 如遇产品更新等其他原因而发生变更, 恕不另行通知。

ML62Q2000系列品名构成说明



品名编号

- ① 元器件类型
ML: 逻辑产品
- ② CPU内核类型
62: 16bit CPU nX-U16/100
- ③ ROM类型
Q: 闪存ROM
- ④ 型号代码
25xx: ML62Q2500组
0x: 32针
2x: 40针
3x: 48针

x2: ROM 64KB
x4: ROM 128KB
- ⑤ 选项代码
None ~x: 对每个产品进行设定
- ⑥ ROM代码
NNN : 留空
001 ~xxx: 定制代码
- ⑦ 封装代码
GD: WQFN
TB: TQFP
GA: QFP
- ⑧ LAPIS Technology公司内部代码

组(搭载U16 Core*1)

(LAPIS Technology产品)

16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Notes	Package	Chip Support	Halogen Free Support*3	Industrial Grade*4
					I ² C	SSIO	UART									
6	2 (TMR, PWM, IGBT, Capture)	1	12bitx14 (SA type)	-	Master/Slavex1, Masterx1	2	Full Duplex x3	VLSx1	-	8	Safety function, Multiplier/Divider	-	P-TQFP32-0707-0.80-ZK6	-	✓	✓
													P-WQFN32-0505-0.50-A63	-	✓	✓
													P-WQFN32-0707-0.80-ZK6	-	✓	✓
6	2 (TMR, PWM, IGBT, Capture)	1	12bitx14 (SA type)	-	Master/Slavex1, Masterx1	2	Full Duplex x3	VLSx1	-	8	Safety function, Multiplier/Divider	-	P-WQFN40-0606-0.50-63	-	✓	✓
													P-WQFN40-0606-0.50-63	-	✓	✓
													P-TQFP48-0707-0.50-ZK6	-	✓	✓
6	2 (TMR, PWM, IGBT, Capture)	1	12bitx14 (SA type)	-	Master/Slavex1, Masterx1	2	Full Duplex x3	VLSx1	-	8	Safety function, Multiplier/Divider	-	P-WQFN48-0707-0.50-63	-	✓	✓
													P-TQFP48-0707-0.50-ZK6	-	✓	✓
													P-WQFN48-0707-0.50-63	-	✓	✓

组(搭载U16 Core*1)

(LAPIS Technology产品)

16bit Timer	16bit Multi Functions Timer	WDT	ADC (method)	DAC	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Notes	Package	Chip Support	Halogen Free Support*3	Industrial Grade*4
					I ² C	SSIO	UART									
8	8 (TMR, PWM, IGBT, Capture)	1	12bitx16 (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	-	✓	✓
													P-TQFP64-1010-0.50-ZK6	-	✓	✓
													P-TQFP64-1010-0.50-ZK6	-	✓	✓
8	8 (TMR, PWM, IGBT, 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	-	✓	✓
													P-QFP80-1414-0.65-ZK6	-	✓	✓
													P-QFP80-1414-0.65-ZK6	-	✓	✓
8	8 (TMR, PWM, IGBT, 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	-	✓	✓
													P-TQFP100-1414-0.50-ZK6	-	✓	✓
													P-QFP100-1420-0.65-BK6	-	✓	✓
8	8 (TMR, PWM, IGBT, Capture)	1	12bitx12 (SA type)	-	Master/Slavex1, Masterx2	2	Full Duplex x2	VLSx1	Max 192dot 24segx 8com	TBD	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	-	P-TQFP48-0707-0.50-ZK6	-	✓	✓
													P-WQFN48-0707-0.50-63	-	✓	✓
													P-TQFP48-0707-0.50-ZK6	-	✓	✓
8	8 (TMR, PWM, IGBT, Capture)	1	12bitx12 (SA type)	-	Master/Slavex1, Masterx2	2	Full Duplex x2	VLSx1	Max 216dot 27segx 8com	TBD	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	-	P-TQFP52-1010-0.65-ZK6	-	✓	✓
													P-TQFP52-1010-0.65-ZK6	-	✓	✓
													P-TQFP52-1010-0.65-ZK6	-	✓	✓
8	8 (TMR, PWM, IGBT, Capture)	1	12bitx12 (SA type)	-	Master/Slavex1, Masterx2	2	Full Duplex x2	VLSx1	Max 280dot 35segx 8com	TBD	Safety function, Multiplier/Divider, Speech playback function/ADPCM2 decoder	-	P-QFP64-1414-0.80-ZK6	-	✓	✓
													P-TQFP64-1010-0.50-ZK6	-	✓	✓
													P-QFP64-1414-0.80-ZK6	-	✓	✓

微控制器

搭载可实现高品质、高压缩的独特算法“HQ-ADPCM”

语音播放微控制器(8bit) ML610Q300(搭载U8 Core*1)

标准型 ROM容量：96KB to 256KB 引脚个数：32pin to 64pin(工业设备用)

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)
							Input	Output	Input/Output	High Speed	Low Speed			
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
ML610Q306														
New 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
New 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
New ML610Q339														

© Ky's Technology HQ-ADPCM是“Ky's”的高音质语音压缩技术。“Ky's”是国立大学法人九州工业大学的注册商标。

*1 U8 Core：RISC方式的LAPIS Technology先进的8bit CPU nX-U8/100核

*2 带无卤素标记✓，表示备有无卤素产品。详细内容请咨询销售人员。

*3 工业设备用途的详情请垂询本公司。

非常适合USB数据记录仪

USB、安全微控制器(32bit) ML630Q400

搭载LCD驱动器型 ROM容量：64KB to 128KB 引脚个数：100pin(工业设备用)

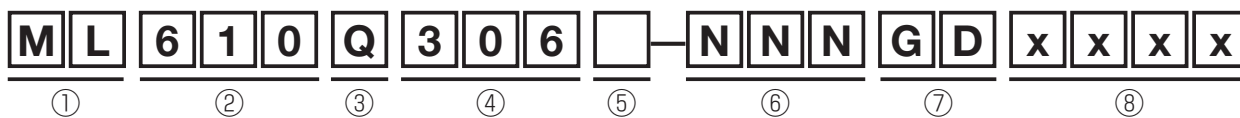
Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port			Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	Co-processor for Multiplication and Division	8bit Timer	16bit Multi-Functions Timer
						Input	Output	Input/Output	High Speed	Low Speed						
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
ML630Q466			128K		16K											

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*1 带无卤素标记✓，表示备有无卤素产品。详细内容请咨询销售人员。

*2 工业设备用途的详情请垂询本公司。

ML610Q/ML630Q系列品名构成说明



品名编号

①元件类型

ML: 逻辑产品

②CPU内核类型

610: 8bit CPU nX-U8/100

630: 32bit CPU Arm® Cortex®-M0+

③ROM类型

Q: 闪存ROM

④型号代码

3xx: Built-in Speech Playback function

4xx: Low Power

⑤选项代码

None ~ x: 对每个产品进行设定

⑥ROM代码

NNN: 留空

001 ~ xxx: 定制代码

⑦封装代码

GD: WQFN

TB: TQFP

⑧LAPIS Technology公司内部代码

代码

(LAPIS Technology产品)

	8bit Timer	PWM	WDT	ADC (method)	Serial Port			Supply Voltage Detection	LCD Driver	External Interrupt Sources	SP Amp Output (W)/ Class	Others	Notes	Package	Chip Support	Halogen Free Support*2	Industrial Grade*3
					I ² C	SSIO	UART										
	4 (16bit×2)	—	1	10bit×3 (SA type)	Master/ Slave x1	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	—	✓	✓
				P-TQFP32-0707-0.80-ZK6										P-WQFN36-0606-0.50-A63			
	4 (16bit×2)	3	1	10bit×8 (SA type)	Master/ Slave x1	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	—	✓	✓
	4 (16bit×2)	3	1	10bit×8 (SA type)	Master/ Slave x1	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	—	✓	✓
														P-TQFP64-1010-0.50-ZK6			

(搭载Arm® Cortex®-M0+)

(LAPIS Technology产品)

	PWM	Capture	WDT	ADC (method)	Serial Port				Supply Voltage Detection	LCD Driver	External Interrupt Sources	Others	Notes	Package	Chip Support	Halogen Free Support*1	Industrial Grade*2
					I ² C	SSIO (SPI)	UART	USB									
	16bit×4 (use 16bit Timer)	16bit×4 (use 16bit Timer)	1	24bit×2 (RC type)	Master/ Slave x2	2	Full Duplex x2	1	VLSx1, LLDx1	Max 400dot 50seg× 8com	8	AES 128bit HW accelerator (CBC, CTR, CTR), Random generator, DMA, RTC, Analog comparatorx2, 1kHz Timer	—	P-TQFP100-1414-0.50-ZK6	—	✓	✓
				12bit×12 (SA type)										P-TQFP100-1414-0.50-ZK6			

通过搭载HLC^{*1}，可无需软件控制实现外设电路的协同动作

车载微控制器(32bit) ML63Q8000系列(搭载Arm® Core)

传感器、执行机构用型 ML63Q8000组(搭载Cortex®-M0+) ROM容量：128KB to 480KB

Part No.	Operating Voltage (V)	ROM type	ROM Capacity (Byte)	Data Flash Capacity (Byte)	RAM Capacity (Byte)	Port (Max)	Operating Frequency (Max)		Minimum Instruction Execution Time	Current Consumption (Typ@HALT)	Operating Temperature (°C)	16bit Timer	32bit Timer
							High Speed	Low Speed					
New ML63Q8034	2.7 to 5.5	Flash	128K	8K	16K	37	48MHz	256kHz	20.8ns	(TBD)	-40 to +125	17 (TMR, PWM, Capture)	4
New ML63Q8036			256K	16K	32K								
New ML63Q8037			480K										
New ML63Q8054	2.7 to 5.5	Flash	128K	8K	16K	53	48MHz	256kHz	20.8ns	(TBD)	-40 to +125	17 (TMR, PWM, Capture)	4
New ML63Q8056			256K	16K	32K								
New ML63Q8057			480K										

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*1 HLC即“Hardware Linkage Controller”的缩写，是不使用LAPIS Technology独特CPU实现外设电路间协同动作的功能。

*2 带无卤素标记✓，表示备有无卤素产品。详细内容请咨询销售人员。

*3 工业设备用途的详情请垂询本公司。

(LAPIS Technology产品)

引脚个数：48pin to 64pin

	ADC (method)	DAC	Analog Comparator	Serial Port				CAN	LIN	Supply Voltage Detection	External Interrupt Sources	Others	Notes	Package	Chip Support	Halogen Free Support*2	Automotive Grade*3	Functional safety Support
				IC	SSIO (SPI)	UART	FS											
	12bit×16 (SA type)	12bit×1	1ch×5	Master/ Slavex2	4	Full Duplex x2	Masterx1	1	Master/ Slavex2	LVDx1	8	HLC*1, WDT, RTC, DMA, CRC, Clock Monitor	-	P-TQFP48-0707-0.50-ZK6	-	✓	YES	✓
P-TQFP48-0707-0.50-ZK6														-	✓	YES	✓	
P-TQFP48-0707-0.50-ZK6														-	✓	YES	✓	
	12bit×16 (SA type)	12bit×1	1ch×5	Master/ Slavex2	4	Full Duplex x2	Masterx1	1	Master/ Slavex2	LVDx1	8	HLC*1, WDT, RTC, DMA, CRC, Clock Monitor	-	P-TQFP64-1010-0.50-ZK6	-	✓	YES	✓
P-TQFP64-1010-0.50-ZK6														-	✓	YES	✓	
P-TQFP64-1010-0.50-ZK6														-	✓	YES	✓	