

语音合成LSI

车载用 语音合成LSI	P.98	长时间播放 语音合成LSI	P.99
短时间播放 语音合成LSI	P.99	支持外挂存储器 语音合成LSI	P.99

LAPIS Technology的语音合成LSI拥有约40年的丰富业绩,可用于从住宅到家电、车载用途的各类生活场景,能立即在客户的设备上实现高品质语音解决方案。

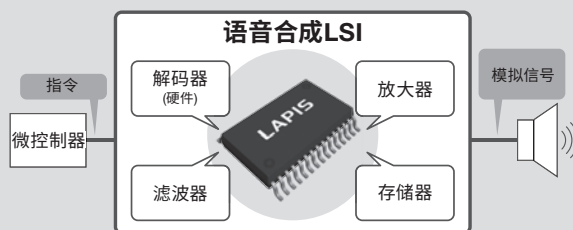
该语音合成LSI采用一体化结构,将所需功能集成于1枚芯片,只需直接连接扬声器发送简单的指令,即可播放高品质语音。

而且,从“声音制作”阶段开始就可提供支持,长年受到客户好评。

通过提供产品和支持,用“声音”回应客户“提高产品价值”的愿望。

特点

- 简单**..... 直接连接扬声器,只需从微控制器发送指令即可播放语音
- 音质高**..... 确立以ADPCM方式为核心的音频技术
- 多功能**..... 搭载多语音同时发声功能、故障检测功能等多种功能
- 减少元件个数**..... 内置功放、内存、振荡电路等必要部件
- 声音制作支持**..... 可为从录音棚、播音员的安排到录制音源的分析、编辑、语音代码数据的制作等提供一贯支持



车载用 语音合成LSI

(LAPIS Technology产品)

存储器内置型														
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Oscillator	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time	CPU I/F	SP Amplifier Output (W)/ Class	Number of Mixing (Internal) (ch)	Others	Package	Automotive Grade	AEC-Q100 standard
ML22Q532	2.7 to 3.6 or 3.3 to 5.5	4.096 or 4.000	Built-in External	-40 to +105	Flash 2M	4,096	99sec*1	I ² C/ Clock synchronous serial	1.0/ AB-class	4	Rewrite Flash from MCU*/Serial Audio Interface/ Failure detection	P-TQFP48 -0707-0.50-Z6K6-MC	YES	✓
ML22Q533					Flash 4M		202sec*1					P-TQFP48 -0707-0.50-Z6K6-MC	YES	✓
ML22Q274	2.0 to 5.5	4.096	Built-in	-40 to +105	Flash 692K*5	30/62	28sec*2	Clock synchronous serial	1.0/ D-class	1	Disconnection and short circuit detection function	P-TSSOP20 -0225-0.65-TK6	YES	✓
ML22Q284						30		Stand-alone				P-TSSOP20 -0225-0.65-TK6	YES	✓
ML22Q294						30/62		I ² C				P-TSSOP20 -0225-0.65-TK6	YES	✓
存储器外挂型														
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Oscillator	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time	CPU I/F	SP Amplifier Output (W)/ Class	Number of Mixing (Internal) (ch)	Others	Package	Automotive Grade	AEC-Q100 standard
ML22530	2.7 to 3.6 or 3.3 to 5.5	4.096 or 4.000	Built-in External	-40 to +105	External maximum 128M	4,096	109min*3	I ² C/ Clock synchronous serial	1.0/ AB-class	4	Rewrite Flash from MCU*/Serial Audio Interface/Failure detection	P-TQFP48 -0707-0.50-Z6K6	YES	✓

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*1 用HQ-ADPCM取样, 频率为6.4kHz时的最长播放时间

*2 用ADPCM2取样, 频率为6.4kHz时的最长播放时间

*3 使用外挂存储器(Max 128Mbit)时, 用HQ-ADPCM取样, 频率为6.4kHz时的最长播放时间

*4 使用时钟同步串行时


*5 选择30个短语和选择62个短语时为688Kbit

长时间播放 语音合成LSI

(LAPIS Technology产品)

Flash存储器内置型															
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Oscillator	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time	CPU I/F	SP Amplifier Output (W)/ Class	Number of Mixing (Internal) (ch)	Others	Package	Automotive Grade	Industrial Grade	
ML22Q623	2.7 to 3.6 or 3.3 to 5.5	4.096 or 4.000	Built-in External	-40 to +70	Flash 4M	4,096	202sec*3	Clock synchronous serial	1.0/ AB-class, D-class	4	Rewrite Flash from MCU/ Failure detection	P-TQFP32 -0707-0.80-Z6K6-MC	-	✓	
ML22Q624					Flash 8M		406sec*3					P-WQFN32 -0505-0.50-A63-MC			
ML22Q625					Flash 16M		14min*3					P-TQFP32 -0707-0.80-Z6K6-MC			
ML22Q626					Flash 32M		27min*3					P-WQFN32 -0505-0.50-A63-MC			
ML22Q663					Flash 4M		202sec*3	I ² C				Failure detection			P-TQFP32 -0707-0.80-Z6K6-MC
ML22Q664					Flash 8M		406sec*3								P-WQFN32 -0505-0.50-A63-MC
ML22Q665					Flash 16M		14min*3								P-TQFP32 -0707-0.80-Z6K6-MC
ML22Q666					Flash 32M		27min*3								P-WQFN32 -0505-0.50-A63-MC
															P-TQFP32 -0707-0.80-Z6K6-MC

P2ROM™内置型														
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Oscillator	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time	CPU I/F	SP Amplifier Output (W)/ Class	Number of Mixing (Internal) (ch)	Others	Package	Automotive Grade	Industrial Grade
ML22724	2.7 to 3.6 or 4.5 to 5.5	4.096	External	-40 to +85	P2ROM™ 8M	4,096*2	325sec*1	Clock synchronous serial	0.7/ AB-class	1	Speech-speed and pitch conversion	P-SSOP30 -56-0.65-ZK6-MC	-	✓
ML22725					P2ROM™ 16M		11min*1					P-SSOP30 -56-0.65-ZK6-MC		
ML22764					P2ROM™ 8M		325sec*1	P-SSOP30 -56-0.65-ZK6-MC						
ML22765					P2ROM™ 16M		11min*1	P-SSOP30 -56-0.65-ZK6-MC						

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 *1 用ADPCM2取样，频率为6.4kHz时的最长播放时间
 *2 1024个短语 (1Bank) ×4Bank
 *3 用HQ-ADPCM取样，频率为6.4kHz时的最长播放时间

短时间播放 语音合成LSI

(LAPIS Technology产品)

D类功放内置型														
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Oscillator	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time	CPU I/F	SP Amplifier Output (W)/ Class	Number of Mixing (Internal) (ch)	Others	Package	Automotive Grade	Industrial Grade
ML22Q234	2.0 to 5.5	8.192	Built-in	-40 to +85	Flash 676K*2	30/62	34sec*1	Clock synchronous serial	1.0/ D-class	1	Disconnection and short circuit detection function	P-TSSOP20 -0225-0.65-TK6	-	✓
ML22Q244					Flash 692K*3			Stand-alone				P-TSSOP20 -0225-0.65-TK6		
ML22Q254					Flash 676K*2			I ² C				P-TSSOP20 -0225-0.65-TK6		


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*1 用HQ-ADPCM取样，频率为6.4kHz时的最长播放时间
 *2 选择30个短语和选择62个短语时为676Kbit
 *3 选择30个短语和选择62个短语时为688Kbit

支持外挂存储器 语音合成LSI

(LAPIS Technology产品)

AB类功放/D类功放内置型														
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Oscillator	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrase	Maximum Playback Time	CPU I/F	SP Amplifier Output (W)/ Class	Number of Mixing (Internal) (ch)	Others	Package	Automotive Grade	Industrial Grade
ML22620	2.7 to 3.6 or 3.3 to 5.5	4.096 or 4.000	Built-in External	-40 to +85	External maximum 128M	4,096	109min*2	Clock synchronous serial	1.0/ AB-class, D-class	4	Rewrite Flash from MCU/ Failure detection	P-TQFP32 -0707-0.80-Z6K6	-	✓
ML22660								I ² C				Failure detection		
AB类功放内置型														
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Oscillator	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrase	Maximum Playback Time	CPU I/F	SP Amplifier Output (W)/ Class	Number of Mixing (Internal) (ch)	Others	Package	Automotive Grade	Industrial Grade
ML22420	2.7 to 5.5	4.096	External	-40 to +85	External maximum 128M	1,024	87min*1	Clock synchronous serial	0.7/ AB-class	4	-	P-SSOP30 -56-0.65-ZK6	-	✓
ML22460								I ² C				P-SSOP30 -56-0.65-ZK6		

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*1 使用外挂存储器(Max 128Mbit)时，用ADPCM2取样，频率为6.4kHz时的最长播放时间
 *2 使用外挂存储器(Max 128Mbit)时，用HQ-ADPCM取样，频率为6.4kHz时的最长播放时间