



ICs

Speech Synthesis LSI

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Speech Synthesis LSI

Speech Synthesis LSI with Built-in Large-capacity P2ROM™ (LAPIS Semiconductor products)

I ² C Interface 2ch Simultaneous Playback Speaker Amplifier Installed														
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time(sec.) ^{*1}	CPU I/F	SP Amplifier Output(W)/Class	Number of Mixing (Internal)(ch)	DAC (bit)	Others	Package	Halogen Free Support ^{*5}	Automotive Grade
ML22863	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 4M	4096*2	258	I ² C	0.7/AB-class	2	16	—	P-SSOP30-56-0.65	✓	—
ML22864	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 8M	4096*2	520	I ² C	0.7/AB-class	2	16	—	P-SSOP30-56-0.65	✓	—
ML22865	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 16M	4096*2	1044	I ² C	0.7/AB-class	2	16	—	P-SSOP30-56-0.65	✓	—
I ² C Interface Speech-speed and Pitch Conversion Function Installed Speaker Amplifier Installed														
ML22763	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 4M	4096*2	258	I ² C	0.7/AB-class	1	16	Speech-speed and pitch conversion	P-SSOP30-56-0.65	✓	—
ML22764	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 8M	4096*2	520	I ² C	0.7/AB-class	1	16	Speech-speed and pitch conversion	P-SSOP30-56-0.65	✓	—
ML22765	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 16M	4096*2	1044	I ² C	0.7/AB-class	1	16	Speech-speed and pitch conversion	P-SSOP30-56-0.65	✓	—
Clock Synchronous Serial Interface 2ch Simultaneous Playback Speaker Amplifier Installed														
ML22823	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 4M	4096*2	258	Clock synchronous serial	0.7/AB-class	2	16	—	P-SSOP30-56-0.65	✓	—
ML22824	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 8M	4096*2	520	Clock synchronous serial	0.7/AB-class	2	16	—	P-SSOP30-56-0.65	✓	—
ML22825	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 16M	4096*2	1044	Clock synchronous serial	0.7/AB-class	2	16	—	P-SSOP30-56-0.65	✓	—
Clock Synchronous Serial Interface Speech-speed and Pitch Conversion Function Installed Speaker Amplifier Installed														
ML22723	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 4M	4096*2	258	Clock synchronous serial	0.7/AB-class	1	16	Speech-speed and pitch conversion	P-SSOP30-56-0.65	✓	—
ML22724	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 8M	4096*2	520	Clock synchronous serial	0.7/AB-class	1	16	Speech-speed and pitch conversion	P-SSOP30-56-0.65	✓	—
ML22725	2.7 to 3.6 or 4.5 to 5.5	4.096	-40 to +85	P2ROM™ 16M	4096*2	1044	Clock synchronous serial	0.7/AB-class	1	16	Speech-speed and pitch conversion	P-SSOP30-56-0.65	✓	—
Clock Synchronous Interface														
ML22802	2.7 to 3.6	4.096	-20 to +85	P2ROM™ 2M	512*3	131	Clock synchronous serial	—	1	12	—	P-SSOP30-56-0.65	✓	—
ML22804	2.7 to 3.6	4.096	-20 to +85	P2ROM™ 4M	1024*4	262	Clock synchronous serial	—	1	12	—	P-SSOP30-56-0.65	✓	—
ML22808	2.7 to 3.6	4.096	-20 to +85	P2ROM™ 8M	1024*4	524	Clock synchronous serial	—	1	12	—	P-SSOP30-56-0.65	✓	—

*1: Maximum playback time when the sampling frequency is 4kHz in ADPCM2. *2: 1024 phrases (1 bank) × 4 banks. *3: 256 phrases (1 bank) × 2 banks. *4: 256 phrases (1 bank) × 4 banks. *5: A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales.

Speech Synthesis LSI with Built-in Medium/Small-capacity Flash/Mask ROM (LAPIS Semiconductor products)

Clock Synchronous Serial Interface 4ch Simultaneous Playback Speaker Amplifier Installed(Industrial Grade)															
Part No.	Operating Voltage (V)	Operating Frequency	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time(sec.)	CPU I/F	SP Amplifier Output(W)/Class	Number of Mixing (Internal)(ch)	DAC	Others	Package	Halogen Free Support ^{*3}	Automotive Grade ^{*4}	Industrial Grade
ML22562	2.7 to 5.5	4.096	-40 to +85	Mask 2M	1024	98*1	Clock synchronization Serial	1.0/AB-class	4	16	Fail safe	P-SSOP30-56-0.65	✓	—	✓
ML22563	2.7 to 5.5	4.096	-40 to +85	Mask 4M	1024	201*1	Clock synchronization Serial	1.0/AB-class	4	16	Fail safe	P-SSOP30-56-0.65	✓	—	✓
ML22Q563	2.7 to 5.5	4.096	-40 to +85	Flash 4M	1024	201*1	Clock synchronization Serial	1.0/AB-class	4	16	Fail safe	P-SSOP30-56-0.65	✓	—	✓
Clock Synchronous Serial Interface 4ch Simultaneous Playback Speaker Amplifier Installed Support for 105°C (Automotive Grade)															
ML22572	2.7 to 5.5	4.096	-40 to +85	Mask 2M	1024	98*1	Clock synchronization Serial	1.0/AB-class	4	16	Fail safe	P-SSOP30-56-0.65	✓	YES	—
ML22573	2.7 to 5.5	4.096	-40 to +85	Mask 4M	1024	201*1	Clock synchronization Serial	1.0/AB-class	4	16	Fail safe	P-SSOP30-56-0.65	✓	YES	—
ML22Q573	2.7 to 5.5	4.096	-40 to +85	Flash 4M	1024	201*1	Clock synchronization Serial	1.0/AB-class	4	16	Fail safe	P-SSOP30-56-0.65	✓	YES	—
ML22Q553	4.5 to 5.5	4.096	-40 to +85	Flash 4M	1024	201*1	Clock synchronization Serial	1.0/AB-class	4	16	Speaker terminal short circuit detection function	P-SSOP30-56-0.65	✓	YES	—
Clock Synchronous Serial Interface Speaker Amplifier Installed(Automotive Grade)															
ML22321	2.3 to 5.5	4.096	-40 to +85	Mask 920K	62	43*1	Clock synchronization Serial	1.0/AB-class	1	—	Disconnection detection/ Temperature protection circuit/ Analog volume control	P-SSOP30-56-0.65	—	YES	—
ML22Q321	2.3 to 5.5	4.096	-40 to +85	Flash 920K	62	43*1	Clock synchronization Serial	1.0/AB-class	1	—	Disconnection detection/ Temperature protection circuit/ Analog volume control	P-SSOP30-56-0.65	—	YES	—

*1: Maximum playback time when the sampling frequency is 6.4kHz in HQ-ADPCM. *3: A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales. *4: Please inquire to the sales for AEC-Q100.

Clock Synchronous Serial Interface D-class Speaker Amplifier Installed(Automotive Grade)															
Part No.	Operating Voltage (V)	Operating Frequency	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time(sec.)	CPU I/F	SP Amplifier Output(W) /Class	Number of Mixing (Internal) (ch)	DAC	Others	Package	Halogen Free Support*3	Automotive Grade*4	Industrial Grade
ML22Q374	2.0 to 5.5	4.096 (Built-in)	-40 to +85	Flash 692K	30	27*2	Clock synchronization Serial	1.0/ AB-class	1	—	Disconnection/Short circuit detection Built-in oscillator	P-SSOP16-0225-0.65	—	YES	—

I ² C Interface D-class Speaker Amplifier Installed(Automotive Grade)															
Part No.	Operating Voltage (V)	Operating Frequency	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time(sec.)	CPU I/F	SP Amplifier Output(W) /Class	Number of Mixing (Internal) (ch)	DAC	Others	Package	Halogen Free Support*3	Automotive Grade*4	Industrial Grade
ML22Q394	2.0 to 5.5	4.096 (Built-in)	-40 to +85	Flash 692K	30	27*2	I ² C	1.0/ AB-class	1	—	Disconnection/Short circuit detection Built-in oscillator	P-SSOP16-0225-0.65	—	YES	—

*2 : Maximum playback time when the sampling frequency is 6.4kHz in ADPCM2.
 *3 : A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales.
 *4 : Please inquire to the sales for AEC-Q100.

Speech Synthesis LSI with External Memory (LAPIS Semiconductor products)

4ch Simultaneous Playback Serial External Memory Speaker Amplifier installed															
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	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)	DAC (bit)	Others	Package	Halogen Free Support*6	Automotive Grade*7	Industrial Grade
ML22460	2.7 to 5.5	4.096	-40 to +85	External maximum 128M	1024	139min*1	I ² C	0.7/ AB-class	4	16	—	P-SSOP30-56-0.65	✓	—	—
ML22420	2.7 to 5.5	4.096	-40 to +85	External maximum 128M	1024	139min*1	Clock synchronization Serial	0.7/ AB-class	4	16	—	P-SSOP30-56-0.65	✓	—	—

4ch Simultaneous Playback Built-in Mask ROM+Serial External Memory Speaker Amplifier Installed Support for 105°C(Automotive Grade)															
Part No.	Operating Voltage (V)	Operating Frequency (MHz)	Operating Temperature (°C)	Mask 6M*4 External maximum 128M	1024*5 (Built-in 512/ External 512)	Built-in 303sec.*2 External 109min*3	Clock synchronization Serial	1.0/ AB-class	4	16	Speaker terminal short circuit detection function	P-SSOP30-56-0.65	✓	YES	—
ML22594	4.5 to 5.5	4.096	-40 to +105	Mask 6M*4 External maximum 128M	1024*5 (Built-in 512/ External 512)	Built-in 303sec.*2 External 109min*3	Clock synchronization Serial	1.0/ AB-class	4	16	Speaker terminal short circuit detection function	P-SSOP30-56-0.65	✓	YES	—

*1 : Maximum playback time when the sampling frequency is 4kHz in ADPCM2. *2 : Maximum playback time when the sampling frequency is 6.4kHz in HQ-ADPCM.
 *3 : With an external memory module (Max. 128Mbit). Maximum playback time when the sampling frequency is 6.4kHz in HQ-ADPCM.
 *4 : Mask's built-in ROM is 6Mbit and an external memory module (Max. 128Mbit) can be connected.
 *5 : Total of mask's internal 512 phrases and external memory's 512 phrases.
 *6 : A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales.
 *7 : Please inquire to the sales for AEC-Q100.

