



通信用LSI

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地面数字节目接收用LSI

日本方式(ISDB-T)

(LAPIS Semiconductor产品)

用于1-Seg地面数字节目接收 RF调谐器 + OFDM解调											
Part No.	Transmission Standard	Feature				Supply Voltage (V)	Power Consumption	Operating Temperature(°C)	Package	Halogen Free Support ^{*1}	Automotive Grade ^{*2}
ML7147	ISDB-T	Compliant to One-Seg broadcasting of ISDB-T (ARIB STD-B31) digital terrestrial television broadcasting. RF tuner, OFDM demodulate, error correction function. Serial, parallel TS output.				2.7 to 3.0 1.5 to 3.6 1.1 to 1.3	70mW (at 1seg. reception, include RF)	-40 to +90	WQFN80	✓	YES

*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: 关于AEC-Q100, 请咨询销售人员。

近距离无线通信用LSI

IEEE802.15.4

(LAPIS Semiconductor产品)

串行接口收发信LSI												
Part No.	Supported Standard	Frequency Band	Supply Voltage (V)	Modulation Method	Function	Control Interface	Transmission Rate (Kbps)	Transmission Output (dBm)	Reception Sensitivity (dBm)	Operating Temperature (°C)	Package	Halogen Free Support ^{*2}
ML7275	IEEE802.15.4	2.4GHz ISM Band	1.8 to 3.6	O-QPSK	IEEE802.15.4-2003 PHY/MAC (Not full MAC function)	Synchronous serial or UART	250	-45 to 0 (3 step)	-92*	-40 to +85	WQFN40	✓

*1: PER(Packet Error Rate)<1%
 *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。

Bluetooth®

(LAPIS Semiconductor产品)

Bluetooth® Low Energy												
Part No.	Supported Standard	Frequency Band	Supply Voltage (V)	Modulation Method	Function	Control Interface	Transmission Rate (Mbps)	Transmission Output (dBm)	Reception Sensitivity (dBm)	Operating Temperature (°C)	Package	Halogen Free Support ^{*4}
ML7105-002	Bluetooth® core spec. v4.0 (Single mode)	2.4GHz ISM band	1.6 to 3.6	GFSK	Role : Master/Slave Connectable device(s) : 1 device	(BACI ^{*1})SPI (HCI ^{*2})UART	1	0/ -6/ -12/ -18	-86 ^{*3}	-20 to +70	WQFN32	✓
ML7125-001	Bluetooth® core spec. v4.1 (Single mode)	2.4GHz ISM band	1.6 to 3.6	GFSK	Role : Master/Slave Connectable device(s) : 2 devices	(BACI ^{*1})SPI (HCI ^{*2})UART	1	+4/0/ -6/ -12/ -18	-85 ^{*3}	-20 to +75	WCSP67	✓
ML7125-002	Bluetooth® core spec. v4.1 (Single mode)	2.4GHz ISM band	1.6 to 3.6	GFSK	Role : Slave only Connectable device(s) : 1 device	UART	1	+4/0/ -6/ -12/ -18	-85 ^{*3}	-20 to +75	WCSP67	✓

Bluetooth® 是Bluetooth® SIG的注册商标。
 *1: BACI(Bluetooth Application Controller Interface): LAPIS Semiconductor独有的主机接口 *2: HCI(Host Control Interface): Bluetooth标准接口 *3: 相当于BER(Bit Error Rate)<0.1%
 *4: 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。

特定小功率无线(Sub-GHz频段无线)

(LAPIS Semiconductor产品)

数据发信专用LSI												
Part No.	Supported Standard	Frequency Band	Supply Voltage (V)	Modulation Method	FEC Mode	Control Interface	Transmission Rate	Transmission Output (dBm)	Reception Sensitivity	Operating Temperature (°C)	Package	Halogen Free Support ^{*2}
ML7386	ARIB STD-T67 RCRSTD-30	426MHz band	1.8 to 3.6	2-FSK MSK	-	Synchronous serial(Control) DIO(DATA)	2.4kbps	10mW	-	-25 to +85	WQFN28	✓
ML7386B							4.8kbps	1mW/10mW				
数据收发信LSI												
ML7066[J]	ARIB STD-T67 RCRSTD-30	426MHz band 429MHz band	2.1 to 3.6	2-FSK	-	Synchronous serial(Control) DIO(DATA)	1.2kbps, 2.4kbps 4.8kbps[NRZ] (3-step setting function)	1mW/10mW	-116dBm [BER<1%] ^{*1}	-25 to +65	WQFN48	✓
ML7396D	ARIB STD-T108 EN300-220	750 to 960MHz	1.8 to 3.6	2-(G)FSK (G)MSK	IEEE 802.15.4g compliant	Synchronous serial (Control · DATA) DIO(DATA)	to 50kbps 100kbps 150kbps 200kbps 400kbps	1mW/10mW/20mW	-107dBm [100kbps BER=0.1%] ^{*1}	-40 to +85	WQFN40	✓
ML7396A	FCC part15.247/249								-106dBm [100kbps BER=0.1%] ^{*1}			
ML7344J	ARIB STD-T67 RCRSTD-30	160 to 510MHz	1.8 to 3.6	2-(G)FSK (G)MSK	-	Synchronous serial(Control) DIO(DATA)	to 15kbps	1mW/10mW/20mW	-117dBm [4.8kbps BER=0.1%] ^{*1}	-40 to +85	WQFN32	✓
ML7344C	Q/GDW374.3		3.3 to 3.6 (100mW)					20mW/100mW				
ML7406	EN300-220 EN13757-4:2011	750 to 960MHz	1.8 to 3.6	2-(G)FSK (G)MSK	-	Synchronous serial(Control) DIO(DATA)	to 500kbps	1mW/10mW/20mW	-106dBm [100kbps BER=0.1%] ^{*1}	-40 to +85	WQFN32	✓
ML7345	ARIB STD-T67 RCR STD-30 EN300-220 EN13757-4:2013	160 to 960MHz	1.8 to 3.6	2-(G)FSK (G)MSK 4-(G)FSK	-	Synchronous serial(Control) DIO(DATA)	to 100kbps	1mW/10mW/20mW	-123dBm [2.4kbps BER=1%] ^{*1}	-40 to +85	WQFN32	✓
New ML7345D	ARIB STD-T67 RCR STD-30 EN300-220 EN13757-4:2013	315 to 960MHz	1.8 to 3.6	2-(G)FSK (G)MSK 4-(G)FSK	-	Synchronous serial(Control) DIO(DATA)	to 100kbps	1mW/10mW/20mW	-119.5dBm [2.4kbps BER=1%] ^{*1}	-40 to +85	WQFN32	✓
ML7345C	Q/GDW374.3	470 to 510MHz	3.3 to 3.6 (100mW)	2-(G)FSK (G)MSK 4-(G)FSK	-	Synchronous serial(Control) DIO(DATA)	to 100kbps	20mW/100mW	-123dBm [2.4kbps BER=1%] ^{*1}	-40 to +85	WQFN32	✓

[J]: 此LSI仅在日本市场销售。 *1: BER是Bit Error Rate的缩写。
 *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。

LPWA无线

(LAPIS Semiconductor产品)

数据收发信LSI

Part No.	Supported Standard	Frequency Band	Supply Voltage (V)	Modulation Method	FEC Mode	Control Interface	Transmission Rate	Transmission Output (dBm)	Reception Sensitivity	Operating Temperature (°C)	Package	Halogen Free Support ^{1,3}
New ML7404	ARIB STD-T67 ARIB STD-T108 RCR STD-30 EN300-220 EN13757-4:2013 Sigfox®(Rev.2.E) IEEE802.15.4k	315 to 960MHz	1.8 to 3.6	2-(G)FSK (G)MSK 4-(G)FSK BPSK DSSS	IEEE 802.15.4k compliant	Synchronous serial(Control) DIO(DATA)	to 101kbps (xFSK) 80k to 200kcps (DSSS)	1mW/ 10mW/ 20mW	- 119.5dBm [2.4kbps BER=1%] ¹ (xFSK) - 121dBm [200kcps, SF=64, PER=1%] ² (DSSS)	- 40 to + 85	WQFN32	✓

Sigfox®是SIGFOX S.A.的注册商标。

*1: BER是Bit Error Rate的缩写。 *2: PER是Packet Error Rate的缩写。

*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。

MCU搭载特定小功率无线(Sub-GHz频段无线) 系统LSI

(LAPIS Semiconductor产品)

数据收发信LSI

Part No.	Supported Standard	Frequency Band	Supply Voltage (V)	Modulation Method	CPU Core	Memory Resources	Transmission Rate	Transmission Output (dBm)	Reception Sensitivity	Operating Temperature (°C)	Package	Halogen Free Support ^{1,2}
New ML7416N	ARIB STD-T108	750 to 960MHz	1.8 to 3.6	2-(G)FSK (G)MSK	Cortex®-M0+	FLASH512KB, RAM64KB	to 50kbps 100kbps 150kbps 200kbps 400kbps	1mW/ 10mW/ 20mW	- 106dBm [100kbps BER = 0.1%] ^{*1}	- 40 to + 85	BGA81	✓

Cortex®是ARM Limited(或其子公司)在EU或在其他国家的注册商标。

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VoIP用LSI

VoIP编解码器

(LAPIS Semiconductor产品)

VoIP编解码器

Part No.	Speech Compression Method	Channel number	Operating Frequency (MHz)	Supply Voltage (V)	Supply Current (Max.)	Operating Temperature (°C)	Package	Halogen Free Support ^{*1}
ML7074-003	G.729.A/G.726/G.711	1	4.096	3.0 to 3.6	65mA	- 20 to + 60	QFP64	✓
ML7074-004	G.729.A/G.711		4.096	3.0 to 3.6	65mA		QFP64	✓
ML7204-003	G.729.A/G.711		12.288	3.0 to 3.6	65mA		QFP64	✓

2ch VoIP编解码器

ML7214A-001	G.711	2	12.288	3.0 to 3.6	65mA	- 20 to + 60	TQFP100	✓
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4ch VoIP编解码器

ML7224A-001	G.711	4	12.288	3.0 to 3.6	125mA	- 20 to + 60	LQFP176	✓
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回声消除器用LSI

回声消除器

(LAPIS Semiconductor产品)

双重回声消除器 + ADPCM转码器

Part No.	Cancelable Echo Delay Time	Voice Signal Interface	Supply Voltage (V)	Operating Frequency (MHz)	Notes	Package	Halogen Free Support ^{*1}
ML7202-001	64ms/channel	μ-law, A-law	3.0 to 3.6	19.2	Dual echo canceller + ADPCM transcoder Tone Gen/Det., VOX, Gain Control, Time Slot Assignment, etc.	TQFP64	✓

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回声消除器/噪音消除器

(LAPIS Semiconductor产品)

双重回声消除器/带双音编解码器的噪音消除器

Part No.	Cancelable Echo Delay Time	Voice Signal Interface	Supply Voltage (V)	Operating Frequency (MHz)	Notes	Package	Halogen Free Support ^{*1}
ML7037-003	Acoustic side 64ms, Line side 20ms	Acoustic side : analog, Line side : analog, 16-bit linear, μ-law PCM	3.0 to 3.6	12.288	Dual echo canceller/noise canceller with dual CODEC Noise cancellation = 6 to 18dB	TQFP64	✓

回声消除器/附带双宽带编解码器的噪音消除器

ML7247-001	Acoustic side 64ms	Acoustic side : analog, Line side : analog, 16-bit linear	3.0 to 3.6	12.288	Echo canceller/Noise canceller with dual wide-band CODEC Noise cancellation = 1 to 45dB Sampling frequency = 8kHz or 16kHz	TQFP64	✓
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