



IC

存储器

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存储器系列

存储器系列

Fast Page Mode and EDO DRAM

(LAPIS Semiconductor 产品)

通用传统的DRAM

FP/EDO

MSM51(V)xxxxxx/MSM54(V)xxxxxx 系列

▶P.A3

车载用传统的DRAM

FP/EDO

MSM51(V)xxxxxxP/MSM54V16258BP 系列

▶P.A3

SDRAM

(LAPIS Semiconductor 产品)

通用传统的DRAM

SDRAM

MSM56Vxxxxxx/MD56Vxxxxxx 系列

▶P.A4

工业设备用传统的DRAM

SDRAM

MSM56V16161NP/MD56Vxxxxxx-xxTAP 系列

▶P.A4

车载用传统的DRAM

SDRAM

MSM56V16161NP//MD56Vxxxxxx-xxTAL4xL 系列

▶P.A4

MD56Vxxxxxx-xxTALQxL 系列

-40°C ~ +85°C

-40°C ~ +105°C

▶P.A4

SIP用传统的DRAM

SDRAM

MSM56Vxxxxxx/MD56Vxxxxxx 系列

▶P.A4

图像存储器

(LAPIS Semiconductor 产品)

通用图像存储器

FIFO

MS81(V)xxxxxx/MSM54(V)12222B 系列

▶P.A5

车载用图像存储器

FIFO

MS81V04160AP/MS81V26000-25TPZP 系列

-40°C ~ +85°C

▶P.A5

Serial EEPROM

通用EEPROM

I²C BUS EEPROM

(2-Wire)

BR24Gxxx-3 系列

SCL 频率=400kHz

▶P.A6

BR24Gxxx-3A 系列

SCL 频率=1MHz

▶P.A6

Microwire BUS

EEPROM (3-Wire)

BR93Gxxx-3/3A/3B 系列

▶P.A6

SPI BUS EEPROM

BR25Gxxx-3 系列

▶P.A6

WL-CSP EEPROM

WL-CSP EEPROM 系列

▶P.A7

Plug & Play用

EEPROM

用于存储器模块

用于显示器

▶P.A7

▶P.A7

车载用EEPROM

I²C BUS EEPROM

(2-Wire)

BR24Axx-WM 系列

-40°C ~ +105°C

▶P.A8

MicroWire BUS

EEPROM (3-Wire)

BR93Hxx-2C 系列

-40°C ~ +125°C

▶P.A8

BR93Axx-WM 系列

-40°C ~ +105°C

▶P.A8

SPI BUS EEPROM

BR25Hxxx-2C 系列

-40°C ~ +125°C

▶P.A8

BR25Hxxx-2AC 系列

-40°C ~ +125°C

▶P.A8

BR25Axxx-3M 系列

-40°C ~ +105°C

▶P.A8

FeRAM

(LAPIS Semiconductor 产品)

Parallel BUS FeRAM

MR48V256C

-40°C ~ +85°C

▶P.A9

I²C BUS FeRAM

MR44Vxxxx 系列

-40°C ~ +85°C

▶P.A9

SPI BUS FeRAM

MR45Vxxxx 系列

-40°C ~ +85°C

▶P.A9

NOR Flash

(LAPIS Semiconductor 产品)

标准NOR Flash

SPI BUS Standard

NOR Flash

MR39Vxxx23B 系列

▶P.A9

工业设备用NOR Flash

SPI BUS Industrial

NOR Flash

MR39Vxxx43B 系列

-40°C ~ +85°C

▶P.A9

车载用NOR Flash

SPI BUS Automotive

NOR Flash

MR39Vxxx63B 系列

-40°C ~ +105°C

▶P.A9

P2ROM™

(LAPIS Semiconductor 产品)

Parallel BUS

标准 P2ROM™

MR26T51203L/MR27Txxxxxx 系列

▶P.A9

Parallel

页模式 P2ROM™

MR26Vxxxxxx/MR27Vxxxxxx/

MR37Vxxxxxx 系列

▶P.A10

Fast Page Mode and EDO DRAM

通用传统的DRAM FP/EDO

(LAPIS Semiconductor 产品)

标准										
Part No.	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (word×bit)	Circuit Function	Access Time (ns)	Refresh Cycle (cycles/ms)	Operating Temperature Ta (°C)	Package	
MSM514400E	5.0±0.5	4M	×4	1M×4	Fast Page Mode	60/70	1024/16	0 to +70	TSOP(II)26/20Cu	
MSM514800E			×8	512K×8		60/70	1024/16		TSOP(II)28	
MSM514800ESL							1024/128			
MSM514260E			×16	256K×16	EDO	60/70	512/8		TSOP(II)44/40	
MSM514265E					High Speed EDO					28/30/35
MSM5416258B										
MSM5116400F		16M	×4	4M×4	Fast Page Mode	60	4096/64		TSOP(II)26/24Cu	
MSM5117400F					EDO	50/60	2048/32			
MSM5117405F			×8	2M×8	Fast Page Mode	60			4096/64	TSOP(II)28
MSM5117800F					EDO					
MSM5117805F			×16	1 M×16	Fast Page Mode	60	4096/64		TSOP(II)50/44	
MSM5116160F					EDO	50/60	1024/16			
MSM5118160F										
MSM5118165F										
MSM51V4400E		3.3±0.3	4M	×4	1 M×4	Fast Page Mode	70/100		1024/16	TSOP(II)26/20Cu
MSM51V4800E	×8			512K×8	70		TSOP(II)28			
MSM54V16258B	×16			256K×16	EDO	40/45/50	512/64	TSOP(II)44/40		
MD54V16258BSL						60/70	512/8			
MSM51V4265E	16M			×4	4M×4	Fast Page Mode	60	4096/64	TSOP(II)26/24Cu	
MSM51V16400F			EDO			50/60	2048/32			
MSM51V16405F			Fast Page Mode			50/60				
MSM51V17400F			EDO			50/60				
MSM51V17405F			Fast Page Mode	60	TSOP(II)28					
MSM51V17800F			EDO							
MSM51V17805F			×16	2M×8	Fast Page Mode	50/60	4096/64	TSOP(II)50/44		
MSM51V16160F					EDO	60				
MSM51V16165F					Fast Page Mode	50/60	1024/16			
MSM51V18160F										
MSM51V18165F	EDO		50/60	1024/16						
MD51V65165E		50/60				4096/54	TSOP(II)50			

车载用传统的DRAM FP/EDO

(LAPIS Semiconductor 产品)

车载											
Part No.	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (word×bit)	Circuit Function	Access Time (ns)	Refresh Cycle (cycles/ms)	Operating Temperature Ta (℃)	Package	Automotive Grade	
MSM514400DP	5.0±0.5	4M	×4	1M×4	Fast Page Mode	60/70	1024/16	-40 to +85	TSOP(II)26/24Cu	YES	
MSM514400EP			×16	256K×16		60/70	512/8		TSOP(II)44/40	YES	
MSM514260EP						60	1024/16		TSOP(II)50/44	YES	
MSM5118160FP		16M	×16	1M×16	EDO		60		1024/16	TSOP(II)26/24Cu	YES
MSM5118165FP					EDO						
MSM51V4400EP	3.3±0.3	4M	×4	1M×4	Fast Page Mode	70/100	1024/16		TSOP(II)26/24Cu	YES	
MSM54V16258BP			×16	256K×16	EDO	40/45/50	512/64		TSOP(II)44/40	YES	
MSM51V4265EP						60/70	512/8		TSOP(II)26/24Cu	YES	
MSM51V17400FP		16M	×4	4M×4	Fast Page Mode	60	2048/32				
MSM51V18165FP			×16	1M×16	EDO	60	1024/16				



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▶ 车载用传统的DRAM SDRAM
▶ SiP用SDRAM

A

存储器

SDRAM

通用传统的DRAM SDRAM

(LAPIS Semiconductor 产品)

标准											
Part No.	Data Rate Type	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (bank×word×bit)	Max. Operating Frequency (MHz)	Refresh Cycle (cycles/ms)	Cycle Time (ns)	Features	Operating Temperature Ta (°C)	Package
MSM56V16800F	SDR	3.3±0.3	16M	×8	2×1M×8	125	4096/64	8/10	—	0 to +70	TSOP(Ⅱ)44
MSM56V16161N			×16	2×512K×16	166	6/7/7.5/10		Drivability Control	TSOP(Ⅱ)50Cu		
MD56V62161M				64M	4×1M×16	143			7/7.5/10		TSOP(Ⅱ)54Cu
MD56V72161C				128M	4×2M×16	166			6/7/7.5/10		
MD56V82160A				256M	4×4M×16	166			8192/64		

工业设备用传统的DRAM SDRAM

(LAPIS Semiconductor 产品)

工业											
Part No.	Data Rate Type	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (bank × word × bit)	Max. Operating Frequency (MHz)	Refresh Cycle (cycles/ms)	Cycle Time (ns)	Features	Operating Temperature Ta (°C)	Package
MSM56V16161NP	SDR	3.3±0.3	16M	×16	2×512K×16	166	4096/64	6/7/7.5/10	Drivability Control	-40 to +85	TSOP(II)50Cu
MD56V62161M-xxTAP			64M		4×1M×16	143		7/7.5/10			TSOP(II)54Cu
MD56V72161C-xxTAP			128M		4×2M×16	166		6/7/7.5/10			
MD56V82160A-xxTAP			256M		4×4M×16	166	8192/64	6/7/7.5/10			

车载用传统的DRAM SDRAM

(LAPIS Semiconductor 产品)

车载(85℃工作温度)												
Part No.	Data Rate Type	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (bank×word×bit)	Max. Operating Frequency (MHz)	Refresh Cycle (cycles/ms)	Cycle Time (ns)	Features	Operating Temperature Ta (℃)	Package	Automotive Grade
MSM56V16161NP	SDR	3.3±0.3	16M	×16	2×512K×16	166	4096/64	6/7/7.5/10	Drivability Control	-40 to +85	TSOP(Ⅱ)50Cu	YES
MD56V62161M-xxTAL41L			64M		4×1M×16	143		7/7.5/10			TSOP(Ⅱ)54Cu	YES
MD56V72161C-xxTAL41L			128M		4×2M×16	166		6/7/7.5/10				
MD56V82160A-xxTAL43L			256M		4×4M×16	166	8192/64	6/7/7.5/10				
车载(125℃工作温度)												
MD56V62161M-xxTALQ1L	SDR	3.3±0.3	64M	×16	4×1M×16	143	4096/16	7/7.5/10	Drivability Control	-40 to +105	TSOP(Ⅱ)54Cu	YES
MD56V72161C-xxTALQ1L			128M		4×2M×16	166		6/7/7.5/10				
MD56V82160A-xxTALQ3L			256M		4×4M×16	166	8192/16	6/7/7.5/10				

SDR : Single Data Rate Synchronous DRAM

SiP用SDRAM

(LAPIS Semiconductor 产品)

标准										
Part No.	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (bank × word × bit)	Max.Operating Frequency (MHz)	Refresh Cycle (cycles/ms)	Cycle Time (ns)	Operating Temperature Tj (°C)	Features	
MSM56V16160N	3.3±0.3	16M	×16	2×512K×16	166	4096/32	6/7/7.5/10	—40 to +125	KGD	
MD56V62160M		64M		4×1M×16	143		7/7.5/8/10			
MD56V72160C		128M		4×2M×16	166		6/7/7.5/10			
车载										
Part No.	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (bank × word × bit)	Max.Operating Frequency (MHz)	Refresh Cycle (cycles/ms)	Cycle Time (ns)	Operating Temperature Tj (°C)	Features	Automotive Grade
MSM56V16160NP	3.3±0.3	16M	×16	2×512K×16	166	4096/32	6/7/7.5/10	—40 to +125	KGD	YES
MD56V62160M		64M		4×1M×16	143		7/7.5/8/10			
MD56V72160C		128M		4×2M×16	166		6/7/7.5/10			

图像存储器

通用图像存储器

(LAPIS Semiconductor 产品)

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存储器

标准												
Part No.	Supply Voltage (V)	Density (bit)	Configuration (word×bit)×port	Number of Data bits	Max.Operating Frequency (MHz)	Access Time (ns)	Cycle Time (ns)	Power Consumption (mW)		Operating Temperature Ta (°C)	Package	Notes
								Operating	Standby			
MSM5412222B	5.0±0.5	3M	262,214×12	×12	40	23/25	25/30	330	27.5	0 to +70	TSOP(II)44	Asynchronous serial read/write,Write mask function, Output data control, Cascade
MS8104160A		4M	(262,214×8)×2	×16	50	18/23	20/25	935	27.5		QFP100	Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two—port, 2 common WCLK ports
MSM54V12222B	3M	262,214×12	×12	50	18/23	20/25	216	10.8	TSOP(II)44		Asynchronous serial read/write, Write mask function, Output data control, Cascade	
MS81V03120				100	7.5/8	10/12	360	14.4	TSOP(II)70		Asynchronous serial read/write, Write mask function, Output data control, Cascade	
MS81V04160A	4M	(262,214×8)×2	×16	50	18/23	20/25	288	10.8	QFP100		Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two—port, 2 common WCLK ports	
MS81V04166A											Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two—port, 2 independent WCLK ports.	
MS81V05200	3.3±0.3	5M	583,680×10	×10	77	8	13	780	21.6		TSOP(II)70	Asynchronous serial read/write, Write mask function, Output data control, Cascade
MS81V06160		6M	401,408×16	×16	83	9/12	12/15	756/612	21.6			Asynchronous serial read/write, Write mask function, Output data control, Cascade
MS81V10160		10M	664,320×16		83	9/12	12/15	756/612	21.6			Asynchronous serial read/write, Write mask function, Output data control, Cascade
MS81V26000		26M	1,114,112×24	×24	100	8/9	10/12	648/576	18			TQFP100

车载用图像存储器

(LAPIS Semiconductor 产品)

车载													
Part No.	Supply Voltage (V)	Density (bit)	Configuration (word×bit)×port	Number of Data bits	Max.Operating Frequency (MHz)	Access Time (ns)	Cycle Time (ns)	Power Consumption (mW)		Operating Temperature Ta (°C)	Package	Notes	Automotive Grade
								Operating	Standby				
MS81V04160AP	3.3±0.3	4M	(262,214×8)×2	×16	50	18/23	20/25	288	10.8	-40 to +85	QFP100	Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two—port, 2 common WCLK ports.	YES
MS81V26000-25TPZP		26M	1,114,112×24	×24	40	12	25	576	18		TQFP100Cu	Asynchronous serial read/write, Write mask function, Output data control, Cascade, The top address can be specified	YES

串行EEPROM

通用EEPROM

I²C BUS EEPROM (2-Wire) BR24Gxxx-3系列 (SCL频率 = 400kHz)

Part No.	Package and Suffix							Density (bit)	Bit Format (word×bit)	Supply Voltage Range(V)	Current Consumption(Max.)		Write Cycle Time (Max.)(ms)	SCL Frequency (Hz)	Operating Temperature Range(°C)	Endurance (times)	Data Retention (years)
	DIP-T8	SOP8	SOP-J8	SSOP-B8	TSSOP-B8	MSOP8	TSSOP-B8J VSON008X2030				Operating(mA)	Standby(μA)					
BR24G01	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	1K	128×8	1.6 to 5.5	2	2	5	400K	-40 to +85	10 ⁶	40
BR24G02	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	2K	256×8	1.6 to 5.5	2	2	5	400K			
BR24G04	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	4K	512×8	1.6 to 5.5	2	2	5	400K			
BR24G08	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	8K	1K×8	1.6 to 5.5	2	2	5	400K			
BR24G16	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	16K	2K×8	1.6 to 5.5	2	2	5	400K			
BR24G32	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	32K	4K×8	1.6 to 5.5	2	2	5	400K			
BR24G64	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	64K	8K×8	1.6 to 5.5	2	2	5	400K			
BR24G128	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	128K	16K×8	1.6 to 5.5	2.5	2	5	400K			
BR24G256	-3	F-3	FJ-3	FV-3	FVT-3	—	—	256K	32K×8	1.6 to 5.5	2.5	2	5	400K			

I²C BUS EEPROM (2-Wire) BR24Gxxx-3A系列 (SCL频率 = 1MHz)

BR24G01	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	1K	128×8	1.7 to 5.5	2	2	5	1M	-40 to +85	10 ⁶	40
BR24G02	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	2K	256×8	1.7 to 5.5	2	2	5	1M			
BR24G04	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	4K	512×8	1.7 to 5.5	2	2	5	1M			
BR24G08	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	8K	1K×8	1.7 to 5.5	2	2	5	1M			
BR24G16	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	16K	2K×8	1.7 to 5.5	2	2	5	1M			
BR24G32	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	FVM-3A	FVJ-3A	32K	4K×8	1.7 to 5.5	2	2	5	1M			
BR24G64	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	FVM-3A	FVJ-3A	64K	8K×8	1.7 to 5.5	2	2	5	1M			
BR24G128	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	FVM-3A	FVJ-3A	128K	16K×8	1.7 to 5.5	2.5	2	5	1M			
BR24G256	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	—	—	256K	32K×8	1.7 to 5.5	2.5	2	5	1M			
BR24G512	-3A	F-3A	FJ-3A	—	FVT-3A	—	—	512K	64K×8	1.7 to 5.5	4.5	3	5	1M			
BR24G1M	-3A	F-3A	FJ-3A	—	—	—	—	1M	128K×8	1.7 to 5.5	4.5	3	5	1M			

Microwire BUS EEPROM (3-Wire) BR93Gxx-3/3A/3B系列

Part No.	Package and Suffix						Density (bit)	Bit Format (word×bit)	Supply Voltage Range(V)	Current Consumption(Max.)		Write Cycle Time (Max.)(ms)	Operating Temperature Range(°C)	Endurance (times)	Data Retention (years)
	DIP-T8	SOP8	SOP-J8	TSSOP-B8	MSOP8	VSON008X2030				Operating(mA)	Standby(μA)				
BR93G46	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	1K	64×16 (128×8)	1.7 to 5.5	3	2	5	-40 to +85	10 ⁶	40
BR93G56	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	2K	128×16 (256×8)	1.7 to 5.5	3	2	5			
BR93G66	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	4K	256×16 (512×8)	1.7 to 5.5	3	2	5			
BR93G76	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	8K	512×16 (1K×8)	1.7 to 5.5	3	2	5			
BR93G86	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	16K	1K×16 (2K×8)	1.7 to 5.5	3	2	5			

SPI BUS EEPROM BR25Gxxx-3系列

Part No.	Package and Suffix					Density (bit)	Bit Format (word×bit)	Supply Voltage Range(V)	Current Consumption(Max.)		Write Cycle Time (Max.)(ms)	Operating Temperature Range(°C)	Endurance (times)	Data Retention (years)
	SOP8	SOP-J8	TSSOP-B8	MSOP8	VSON008X2030				Operating(mA)	Standby(μA)				
BR25G320	F-3	FJ-3	FVT-3	FVM-3	NUX-3	32K	4K×8	1.6 to 5.5	8	2	5	-40 to +85	10 ⁶	100
BR25G640	F-3	FJ-3	FVT-3	FVM-3	NUX-3	64K	8K×8	1.6 to 5.5	8	2	5			
BR25G128	F-3	FJ-3	FVT-3	FVM-3	NUX-3	128K	16K×8	1.6 to 5.5	8	2	5			
BR25G256	F-3	FJ-3	FVT-3	—	—	256K	32K×8	1.6 to 5.5	8	2	5			
BR25G512	F-3	FJ-3	FVT-3	—	—	512K	64K×8	1.8 to 5.5	4	1	5			
BR25G1M	F-3	FJ-3	—	—	—	1M	128K×8	1.8 to 5.5	4	1	5			

Microwire BUS EEPROM (3-Wire) BR93Gxx-3/3A/3B 系列：*1 当ORG PIN输入后，在硬件上可选择16bit或8bit的数据格式 *2 1PIN为CS PIN *3 3PIN为CS PIN

WL-CSP EEPROM

Part No.	I/F	Density (bit)	Package					Pull-up Resistor	Bit Format (word×bit)	Supply Voltage Range(V)	Current Consumption(Max.)		Write Cycle Time(ms)	Operating Temperature Range(°C)	Data Retention (years)
			Package Name	Size(mm)	Thickness (mm)Max.	Ball Pitch (mm)	RESIN COATING				Operating (mA)	Standby (μA)			
BU9833GUL-W	I ² C	2K	VCSP50L1	x : 1.27 y : 1.50	0.55	0.5	✓	—	256 × 8	1.7 to 5.5	2	2	5	−40 to +85	40
BU9847GUL-W	I ² C	4K	VCSP50L1	x : 1.95 y : 1.06	0.55	0.5	✓	—	512 × 8	1.7 to 5.5	2	2	5	−40 to +85	40
BU9889GUL-W	I ² C	8K	VCSP50L2	x : 1.60 y : 1.00	0.55	0.5	✓	—	1K × 8	1.7 to 5.5	2	2	5	−40 to +85	40
BRCB008GWZ-3	I ² C	8K	UCSP30L1	x : 0.94 y : 0.94	0.33	0.4	—	—	1K × 8	1.7 to 3.6	2	2	5	−40 to +85	40
BRCB016GWL-3	I ² C	16K	UCSP50L1	x : 1.10 y : 1.15	0.55	0.4	✓	—	2K × 8	1.7 to 3.6	2	2	5	−40 to +85	40
BRCD016GWZ-3	I ² C	16K	UCSP35L1	x : 1.30 y : 0.77	0.40	0.4	✓	—	2K × 8	1.7 to 3.6	2	2	5	−40 to +85	40
New BRCF016GWZ-3	I ² C	16K	UCSP30L1	x : 0.86 y : 0.84	0.35	0.4	—	—	2K × 8	1.7 to 5.5	2	2	5	−40 to +85	40
BRCA016GWZ-W	I ² C	16K	UCSP30L1	x : 1.30 y : 0.77	0.35	0.4	—	—	2K × 8	1.7 to 3.6	2	2	5	−40 to +85	40
BRCB032GWZ-3	I ² C	32K	UCSP30L1	x : 1.45 y : 0.77	0.33	0.4	—	—	4K × 8	1.7 to 5.5	2	2	5	−40 to +85	40
BRCH064GWZ-3	I ² C	64K	UCSP35L1A	x : 1.50 y : 1.00	0.33	0.4	✓	—	8K × 8	1.6 to 5.5	2	2	5	−40 to +85	40
BRCB064GWZ-3	I ² C	64K	UCSP30L1	x : 1.50 y : 1.00	0.35	0.4	—	WP	8K × 8	1.6 to 5.5	3.9	2	5	−40 to +85	40
BRCE064GWZ-3	I ² C	64K	UCSP25L1	x : 1.50 y : 1.00	0.30	0.4	—	—	8K × 8	1.6 to 5.5	2	2	5	−40 to +85	40
BU9897GUL-W	I ² C	128K	VCSP50L2	x : 2.44 y : 1.99	0.55	0.5	✓	—	16K × 8	1.7 to 5.5	2.5	2	5	−40 to +85	40
BU9832GUL-W	SPI	8K	VCSP50L2	x : 2.09 y : 1.85	0.55	0.5	✓	—	1K × 8	1.8 to 5.5	3	2	5	−40 to +85	40
BU9829GUL-W	SPI	16K	VCSP50L1	x : 1.74 y : 1.65	0.55	0.5	✓	—	2K × 8	1.6 to 3.6	2	1	5	−30 to +85	10
BR25S128GUZ-W	SPI	128K	VCSP35L2	x : 2.00 y : 2.63	0.40	0.5	✓	—	16K × 8	1.7 to 5.5	2*	2	5	−40 to +85	40
BU9891GUL-W	MW	4K	VCSP50L1	x : 1.60 y : 1.00	0.55	0.5	✓	—	256 × 16	1.7 to 5.5	3	2	5	−40 to +85	40

Plug & Play用EEPROM 用于存储器模块

Part No.	Package and Suffix		Bit Format (word×bit)	Supply Voltage Range(V)	Clock Frequency (kHz)	Write Cycle Time (ms)	Endurance (times)	Data Retention (years)	Write Protect
	TSSOP-B8	VSON008X2030							
BR34L02	FVT-W	—	256 × 8	1.7 to 5.5	100*/400*2	5	10 ⁶	40	Onetime ROM write protect
BR34E02	FVT-3	NUX-3	256 × 8	1.7 to 5.5	400	5	10 ⁶	40	Settable write protect Onetime ROM write protect

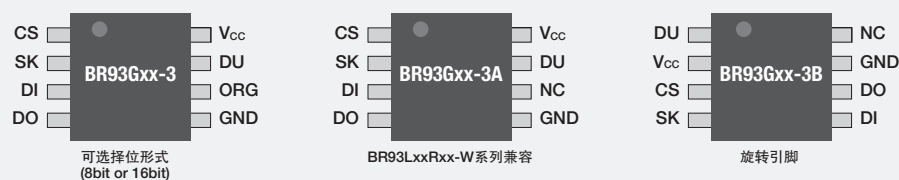
Plug & Play用EEPROM 用于显示器

Part No.	Package and Suffix							Function Descriptions	Bit Format (word×bit)	Supply Voltage (V)	Clock Frequency (MHz)	Write Cycle Time (ms)
	SOP8	SOP-J8	SSOP-B8	SOP14	SSOP-B14	SSOP-B16	VSON008X2030					
BR24C21	F	FJ	FV	—	—	—	—	Supports DDC1™ / DDC2™ for displays	128 × 8	2.5 to 5.5	100 / 400	10
BU9882	—	—	—	F-W	FV-W	—	—	Dual-port type compatible with DDC2™ for displays	128 × 8 × 2ch	2.5 to 5.5	100 / 400	10
BU9883	—	—	—	—	—	FV-W	—	2kbit × 3ch EEPROM for HDMI ports	256 × 8 × 3ch	3.0 to 5.5	400	5
BU99022	—	—	—	—	—	—	NUX-3	2Kbit × 2ch type	256 × 8 × 2ch	1.7 to 5.5	400	5

WL-CSP EEPROM : *Vcc = 2.5V

Plug & Play用EEPROM 用于存储器模块 : *1 : Vcc=1.7 ~ 5.5V *2 : Vcc=2.5 ~ 5.5V

Micro Wire BUS Pin Assignment



车载用EEPROM

105℃ 工作 I ² C BUS EEPROM (2-Wire) BR24Axx-WM系列															
Part No.	Package and Suffix			Density (bit)	Bit Format (word×bit)	Supply Voltage Range(V)	Current Consumption(Max.)		Write Cycle Time (Max.)(ms)	Operating Temperature Range(℃)	Endurance (times)	Data Retention (years)	Automotive Grade	AEC-Q100	
	SOP8	SOP-J8	MSOP8				Operating(mA)	Standby(μA)							
BR24A01A	F-WM	FJ-WM	—	1K	128×8	2.5 to 5.5	2	2	5	-40 to +105	10 ⁶	40	YES	YES	
BR24A02	F-WM	FJ-WM	FVM-WM	2K	256×8	2.5 to 5.5	2	2	5						
BR24A04	F-WM	FJ-WM	—	4K	512×8	2.5 to 5.5	2	2	5						
BR24A08	F-WM	FJ-WM	—	8K	1K×8	2.5 to 5.5	2	2	5						
BR24A16	F-WM	FJ-WM	—	16K	2K×8	2.5 to 5.5	2	2	5						
BR24A32	F-WM	—	—	32K	4K×8	2.5 to 5.5	3	2	5						
BR24A64	F-WM	—	—	64K	8K×8	2.5 to 5.5	3	2	5						
125℃ 工作 Microwire BUS EEPROM (3-Wire) BR93Hxx-2C系列															
Part No.	Package and Suffix				Density (bit)	Bit Format (word×bit)	Supply Voltage Range(V)	Current Consumption(Max.)		Write Cycle Time (Max.)(ms)	Operating Temperature Range(℃)	Endurance (times)	Data Retention (years)	Automotive Grade	AEC-Q100
	SOP8	SOP-J8	TSSOP-B8	MSOP8				Operating(mA)	Standby(μA)						
BR93H46	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	1K	64×16	2.5 to 5.5	3	10	4	-40 to +125	10 ⁶	100	YES	YES
BR93H56	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	2K	128×16	2.5 to 5.5	3	10	4					
BR93H66	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	4K	256×16	2.5 to 5.5	3	10	4					
BR93H76	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	8K	512×16	2.5 to 5.5	3	10	4					
BR93H86	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	16K	1K×16	2.5 to 5.5	3	10	4					
105℃ 工作 Microwire BUS EEPROM (3-Wire) BR93Axx-WM系列															
BR93A46	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	1K	64×16	2.5 to 5.5	3	2	5	-40 to +105	10 ⁶	40	YES	YES
BR93A56	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	2K	128×16	2.5 to 5.5	3	2	5					
BR93A66	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	4K	256×16	2.5 to 5.5	3	2	5					
BR93A76	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	8K	512×16	2.5 to 5.5	3	2	5					
BR93A86	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	16K	1K×16	2.5 to 5.5	3	2	5					
125℃ 工作 SPI BUS EEPROM BR25Hxxx-2C系列															
BR25H010	F-2C	FJ-2C	FVT-2C	FVM-2C	1K	128×8	2.5 to 5.5	4	10	4	-40 to +125	10 ⁶	100	YES	YES
BR25H020	F-2C	FJ-2C	FVT-2C	FVM-2C	2K	256×8	2.5 to 5.5	4	10	4					
BR25H040	F-2C	FJ-2C	FVT-2C	FVM-2C	4K	512×8	2.5 to 5.5	4	10	4					
BR25H080	F-2C	FJ-2C	FVT-2C	FVM-2C	8K	1K×8	2.5 to 5.5	4	10	4					
BR25H160	F-2C	FJ-2C	FVT-2C	FVM-2C	16K	2K×8	2.5 to 5.5	4	10	4					
BR25H320	F-2C	FJ-2C	FVT-2C	FVM-2C	32K	4K×8	2.5 to 5.5	4	10	4					
BR25H640	F-2C	FJ-2C	FVT-2C	—	64K	8K×8	2.5 to 5.5	5.5	10	4					
BR25H128	F-2C	FJ-2C	—	—	128K	16K×8	2.5 to 5.5	5.5	10	4					
125℃ 工作 内置ECC功能 SPI BUS EEPROM BR25Hxxx-2AC系列															
BR25H640	F-2AC	FJ-2AC	FVT-2AC	FVM-2AC	64K	8K×8	2.5 to 5.5	5.5	10	4	-40 to +125	10 ⁶	100	YES	YES
BR25H128	F-2AC	FJ-2AC	FVT-2AC	—	128K	16K×8	2.5 to 5.5	5.5	10	4					
BR25H256	F-2AC	FJ-2AC	—	—	256K	32K×8	2.5 to 5.5	5.5	10	4					
105℃ 工作 SPI BUS EEPROM BR25Axxx-3M系列															
BR25A256	F-3M	FJ-3M	FVT-3M	—	256K	32K×8	2.5 to 5.5	4	10	5	-40 to +105	10 ⁶	100	YES	YES
BR25A512	F-3M	FJ-3M	FVT-3M	—	512K	64K×8	2.5 to 5.5	4	10	5					
BR25A1M	F-3M	FJ-3M	—	—	1M	128K×8	2.5 to 5.5	4	10	5					

FeRAM

铁电随机存取存储器

(LAPIS Semiconductor 产品)

Parallel BUS FeRAM									
Part No.	Memory Density (bit)	Configuration (word×bit)	Supply Voltage (V)	Operating Speed	Read/Write Endurance	Data Retention	Operating Temperature Ta (°C)	Package	Automotive Grade
MR48V256C	256K	32K × 8	2.7 to 3.6	t _{WC} = 150ns	10 ¹² Times	10 years	−40 to +85	TSOP(I)28	YES
I ² C BUS FeRAM MR44Vxxxx系列									
MR44V064A	64K	8K × 8	2.5 to 3.6	f _{clk} = 3.4MHz	10 ¹² Times	10 years	−40 to +85	SOP8	YES
MR44V064B	64K	8K×8	1.8 to 3.6	f _{clk} = 3.4MHz					
☆MR44V100A	1M	128K×8	1.8 to 3.6	f _{clk} = 3.4MHz					
SPI BUS FeRAM MR45Vxxxx系列									
MR45V032A	32K	4K × 8	2.7 to 3.6	f _{clk} = 15MHz	10 ¹² Times	10 years	−40 to +85	SOP8	YES
MR45V064B	64K	8K×8	1.8 to 3.6	f _{clk} = 40MHz					
MR45V256A	256K	32K×8	3.0 to 3.6	f _{clk} = 15MHz				SOP8/DIP8	YES
☆MR45V100A	1M	128K×8	1.8 to 3.6	f _{clk} = 40MHz					
MR45V200A	2M	256K × 8	2.7 to 3.6	f _{clk} = 34MHz					

☆：开发中

NOR Flash

标准 NOR Flash

(LAPIS Semiconductor 产品)

SPI BUS Standard NOR Flash											
Part No.	Supply Voltage (V)	Memory Density (bit)	Data Bus Width (bit)	Maximum Operating Frequency		Read Current Consumption [Max]		Standby Current Consumption [Max] (uA)	Operating Temperature Ta (°C)	Package	Features
				SDR (MHz)	DDR (MHz)	SDR (mA)	DDR (mA)				
☆MR39V51223B	2.7 to 3.6	512M	x1/ x2/ x4	133	66	28	28	100	0 to +70	SOP16 (WSOP8) (BGA24)	ECC Function, Output Drivability control, Cu-L/F
☆MR39V25623B		256M									

☆：开发中

工业设备用 NOR Flash

(LAPIS Semiconductor 产品)

SPI BUS Industrial NOR Flash											
Part No.	Supply Voltage (V)	Memory Density (bit)	Data Bus Width (bit)	Maximum Operating Frequency		Read Current Consumption [Max]		Standby Current Consumption [Max] (uA)	Operating Temperature Ta (°C)	Package	Features
				SDR (MHz)	DDR (MHz)	SDR (mA)	DDR (mA)				
☆MR39V51243B	2.7 to 3.6	512M	x1/ x2/ x4	133	66	28	28	100	−40 to +85	SOP16 (WSOP8) (BGA24)	ECC Function, Output Drivability control, Cu-L/F
☆MR39V25643B		256M									

☆：开发中

车载用 NOR Flash

(LAPIS Semiconductor 产品)

SPI BUS Automotive NOR Flash												
Part No.	Supply Voltage (V)	Memory Density (bit)	Data Bus Width (bit)	Maximum Operating Frequency		Read Current Consumption [Max]		Standby Current Consumption [Max] (uA)	Operating Temperature Ta (°C)	Package	Features	Automotive Grade
				SDR (MHz)	DDR (MHz)	SDR (mA)	DDR (mA)					
☆MR39V51263B	2.7 to 3.6	512M	x1/ x2/ x4	2.7 to 3.6	66	28	28	100	−40 to +105	SOP16 (WSOP8) (BGA24)	ECC Function, Output Drivability control, Cu-L/F	YES
☆MR39V25663B		256M										

☆：开发中

P2ROM™

(LAPIS Semiconductor 产品)

Parallel BUS 标准P2ROM™								
Part No.	Density (bit)	Configuration (bank × word × bit)	Supply Voltage (V)	Access Time (ns)	Current Consumption (Max.)		Operating Temperature (°C)	Package
					Operating	Standby		
MR26T51203L	512M	32M × 16 / 64M × 8	3.0 to 3.6	100	35mA	10μA	0 to +70	TSOP(II)50
			2.7 to 3.6	120				
MR27T25603L	256M	16M × 16 / 32M × 8	3.0 to 3.6	100	35mA	10μA		TSOP(II)50
			2.7 to 3.6	120				
MR27T12800L	128M	8M × 16 / 16M × 8	2.7 to 3.6	90	25mA	10μA		TSOP(I)48
MR27T12802L			3.0 to 3.6	80	25mA	10μA		TSOP(I)56
			2.7 to 3.6	90				
MR27T6402L	64M	4M × 16 / 8M × 8	3.0 to 3.6	70	20mA	10μA	−40 to +85	SOP44 / TSOP(I)48 / TFBGA48
			2.7 to 3.6	90				
			3.0 to 3.6	80	20mA	10μA		TSOP(I)48
			2.7 to 3.6	90				
MR27T3202L	32M	2M × 16 / 4M × 8	3.0 to 3.6	70	20mA	10μA	0 to +70	SOP44 / TSOP(I)48 / TFBGA48
			2.7 to 3.6	90				
			3.0 to 3.6	80	20mA	10μA		TSOP(I)48
			2.7 to 3.6	90				
MR27T1602L	16M	1M × 16 / 2M × 8	2.7 to 3.6	70	16mA	10μA	0 to +70	SOP44 / TSOP(I)48 / TFBGA48
							−40 to +85	TSOP(I)48
MR27T802F	8M	512K × 16 / 1M × 8	2.7 to 3.6	80	18mA	5μA	0 to +70	SOP44 / TSOP(I)48
MR27V802F			3.0 to 3.6	70	18mA	5μA		



Parallel BUS 页模式P2ROM™										
Part No.	Supply Voltage (V)	Density (bit)	Configuration (word × bit)	Mode	Page Size	Access Time (Address/Page) (ns)	Current Consumption (Max.)		Operating Temperature Ta (°C)	Package
							Operating	Standby		
MR36V01G52B	3.0 to 3.6	1G	64M × 16/128M × 8	NOR	8-word × 16	105/25	100mA	25mA	0 to +70	TSOP(I)56
MR26V51252R		512M	32M × 16/64M × 8			105/25	50mA	4mA		
MR37V25652T		256M	16M × 16/32M × 8			100/25	35mA	20μA		
MR37V12852B		128M	8M × 16/16M × 8			90/30	50mA	10μA		TSOP(I)56
MR27V12852L						85/30	50mA	10μA		
MR27V12850L						85/30	50mA	10μA		TSOP(I)48 / Chip
MR27V6452L		64M	4M × 16/8M × 8		8-word × 32	90/30	50mA	10μA		SOP44 / TSOP(I)48 / TSOP(I)56
MR26V6455J			2M × 32/4M × 16			100/30	100mA	20μA		SSOP70
MR27V3252J		32M	2M × 16/4M × 8		8-word × 16	70/25	50mA	10μA		SOP44 / TSOP(I)48
MR27V1652L		16M	1M × 16/2M × 8			80/25	60mA	10μA		SOP44 / TSOP(I)48