

- ◇ STRUCTURE Silicon Monolithic Integrated Circuit
 ◇ PRODUCT I²C BUS 1Kbit (128 × 8bit) EEPROM
 ◇ PART NUMBER BR24L01A-W Series

PART NUMBER	PACKAGE
BR24L01AF-W	SOP8
BR24L01AFJ-W	SOP-J8
BR24L01AFV-W	SSOP-B8
BR24L01AFVT-W	TSSOP-B8
BR24L01AFVM-W	MSOP8
BR24L01AFVJ-W	TSSOP-B8J

- ◇ FEATURES Two wire serial interface
 Wide operating voltage range (1.8V~5.5V)
 Endurance : 1,000,000 erase/write cycles

◇ ABSOLUTE MAXIMUM RATING (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	V _{cc}	-0.3~6.5	V
Power Dissipation	P _d	450 (BR24L01AF-W) *1	mW
		450 (BR24L01AFJ-W) *2	
		300 (BR24L01AFV-W) *3	
		330 (BR24L01AFVT-W) *4	
		310 (BR24L01AFVM-W) *5	
		310 (BR24L01AFVJ-W) *6	
Storage Temperature	T _{stg}	-65~125	°C
Operating Temperature	T _{opr}	-40~85	°C
Terminal Voltage	—	-0.3~V _{cc} +0.3	V

* Degradation is done at 4.5mW/°C (*1,*2), 3.0mW/°C(*3), 3.3mW/°C(*4), 3.1mW/°C(*5,*6) for operation above 25°C.

◇ RECOMMENDED OPERATING CONDITION

Parameter	Symbol	Rating	Unit
Supply Voltage	V _{cc}	1.8~5.5	V
Input Voltage	V _{IN}	0~V _{cc}	V

Status of this document

The Japanese version of this document is the formal specification.

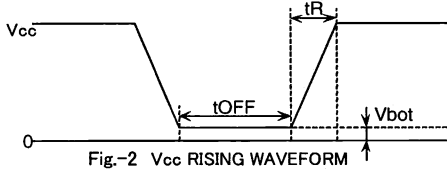
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If there are any differences in translation version of this document, formal version takes priority.

◇ NOTES FOR POWER SUPPLY

Vcc rises through the low voltage region in which internal circuit of IC and the controller are unstable, so that device may not work properly due to an incomplete reset of internal circuit. To prevent this, the device has the feature of P.O.R. and LVCC. In the case of power up, keep the following conditions to ensure functions of P.O.R. and LVCC.

1. It is necessary to be "SDA='H'" and "SCL='L' or 'H'".
2. Follow the recommended conditions of tR, tOFF, Vbot for the function of P.O.R. during power up.



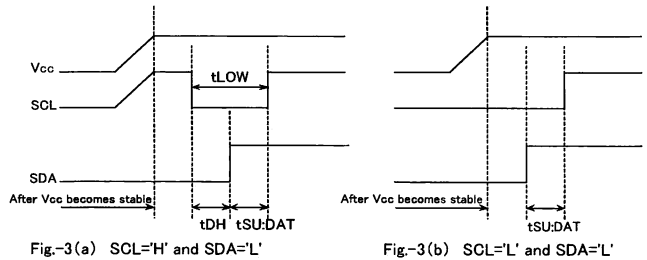
◇ RECOMMENDED CONDITIONS OF tR, tOFF, Vbot

tR	tOFF	Vbot
Below 10ms	Above 10ms	Below 0.3V
Below 100ms	Above 10ms	Below 0.2V

3. Prevent SDA and SCL from being "High-Z".

In case that condition 1. and/or 2. cannot be met, take following actions.

- A) Unable to keep condition 1.
(SDA is "LOW" during power up.)
→ Control SDA ,SCL to be "HIGH" as Fig.-3(a), 3(b).
- B) Unable to keep condition 2.
→ After power becomes stable, execute software reset.
- C) Unable to keep both conditions 1 and 2.
→ Follow the instruction A first, then the instruction B.



◇ CAUTIONS ON USE

- (1) Absolute maximum ratings
If the absolute maximum ratings such as impressed voltage and action temperature range and so forth are exceeded, LSI may be destructed. Do not impress voltage and temperature exceeding the absolute maximum ratings. In the case of fear exceeding the absolute maximum ratings, take physical safety countermeasures such as fuses, and see to it that conditions exceeding the absolute maximum ratings should not be impressed to LSI.
- (2) GND electric potential
Set the voltage of GND terminal lowest at any action condition. Make sure that each terminal voltage is lower than that of GND terminal.
- (3) Thermal design
In consideration of permissible loss in actual use condition, carry out heat design with sufficient margin.
- (4) Terminal to terminal shortcircuit and wrong packaging
When to package LSI onto a board, pay sufficient attention to LSI direction and displacement. Wrong packaging may destruct LSI. And in the case of shortcircuit between LSI terminals and terminals and power source, terminal and GND owing to foreign matter, LSI may be destructed.
- (5) Use in a strong electromagnetic field may cause malfunction, therefore, evaluated design sufficiently.

◇PHYSICAL DIMENSION

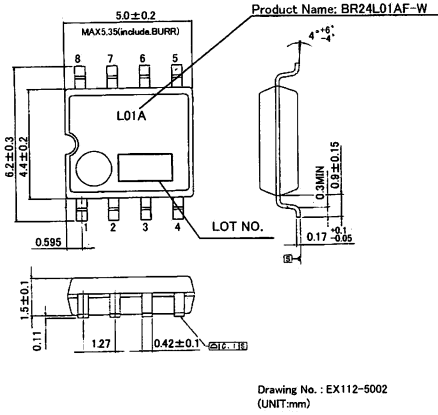


Fig.-4(a) PHYSICAL DIMENSION
SOP8 (BR24L01AF-W)

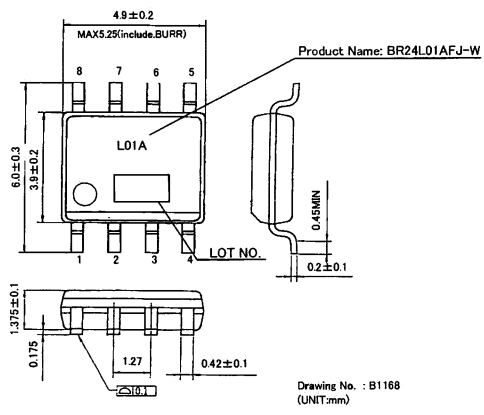


Fig.-4(b) PHYSICAL DIMENSION
SOP-J8 (BR24L01AFJ-W)

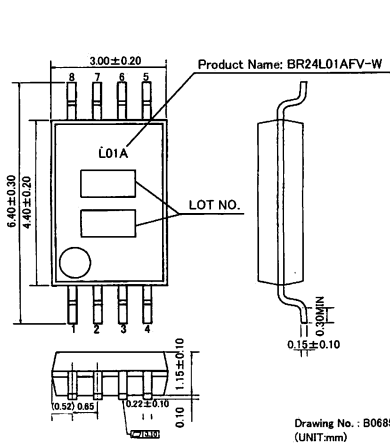


Fig.-4(c) PHYSICAL DIMENSION
SSOP-B8 (BR24L01AFV-W)

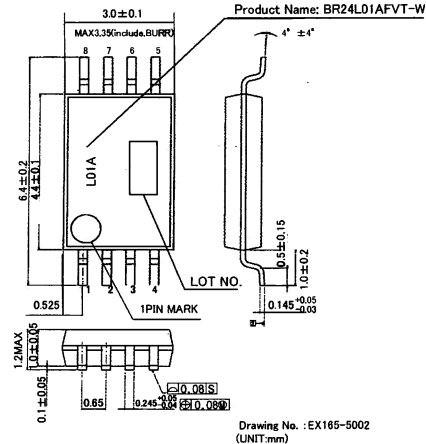


Fig.-4(d) PHYSICAL DIMENSION
TSSOP-B8 (BR24L01AFVT-W)

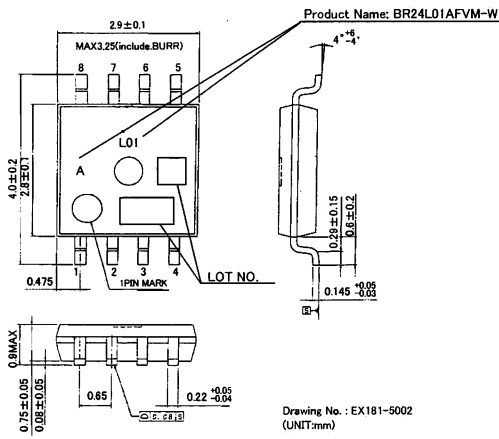


Fig.-4(e) PHYSICAL DIMENSION
MSOP8 (BR24L01AFVM-W)

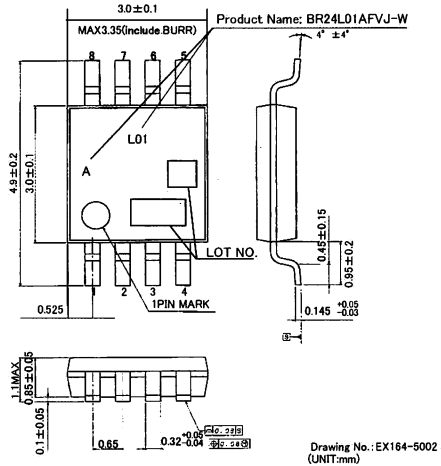


Fig.-4(f) PHYSICAL DIMENSION
TSSOP-B8J (BR24L01AFVJ-W)

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