

- STRUCTURE Silicon Monolithic Integrated Circuit
- TYPE **BA823F**
- PRODUCT SERIES 8-Bit Serial-Input Parallel-Output Driver
- FUNCTION 1) Driving capacity of 200mA at maximum.
 2) Non-driving current consumption can be reduced by means of controlling a strobe terminal with drive timing pulse.
 3) If a data output terminal is used as a following data input, the cascade connection is possible.
 4) Digital ground and power ground are separated.
 5) TTL and CMOS driving are possible.

● ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETERS	SYMBOL	LIMIT	UNIT
Power Supply Voltage	V_{cc}	7.0*1	V
Power Dissipation	P_d	500	mW
Operating Temperature	T_{opr}	-20 ~ 75	°C
Storage Temperature	T_{stg}	-55 ~ 125	°C
Input Voltage	V_{in}	-0.3 ~ 6.0	V

*1 $\overline{O}_1 \sim \overline{O}_7$ Outputs is 25V (Max.)

· Status of this document

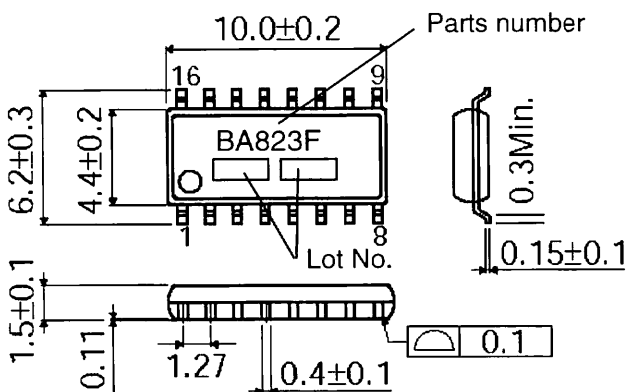
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●ELECTRICAL CHARACTERISTICS (Ta=25°C,Vcc=5.0V,unless otherwise specified)

PARAMETERS	SYMBOL	LIMIT			UNIT	CONDITIONS
		MIN	TYP	MAX		
Supply Voltage	V _{cc}	4.5	5.0	5.5	V	V _{cc} Pin
Current1 (Non-signal1)	I _{cc1}	-	4	6	mA	at Data all "0"
Current2 (Non-signal1)	I _{cc2}	-	8	11	mA	at Data all "1"
Input Voltage L	V _{IL}	-	-	0.8	V	-
Input Voltage H	V _{IH}	2.0	-	-	V	-
Input Current H	I _{IH}	-	-	0.4	mA	V _{IN} =4.5V
Output Supply Voltage	V _{O OFF}	-	-	21.8	V	$\bar{O}_0 \sim \bar{O}_7, I_O=10 \mu A$
Output Saturation Voltage	V _{O ON}	-	0.8	1.3	V	I _O =100mA Sink
Output Current	I _{OL}	-	-	207	mA	-
Output Leakage Current	I _L	-	-	1.0	μA	VA=30V
Data Output Voltage H	V _{D OH}	2.4	-	-	V	RL=10K Ω
Data Output Voltage L	V _{D OL}	-	-	0.8	V	-
Data Setup Time	t ₁	-	-	1	μs	V _{IH} =2.0V,V _{IL} =0.8V
Date Hold Time	t ₂	-	-	0.5	μs	V _{IH} =2.0V,V _{IL} =0.8V
Shift Pulse Width	t ₃	-	-	1	μs	V _{IH} =2.0V,V _{IL} =0.8V
Data Output Delay Time	t ₄	-	-	1	μs	V _{IH} =2.0V,V _{IL} =0.8V
Timing Time	t ₅	-	-	1	μs	V _{IH} =2.0V,V _{IL} =0.8V
Output Delay Time	t ₆	-	-	3	μs	V _{IH} =2.0V,V _{IL} =0.8V
Data Sending Speed	f _D	500	-	-	kHz	V _{IH} =2.0V,V _{IL} =0.8V

It is not judged whether strategic material (or labor) corresponds, and confirm providing in Foreign Exchange and Foreign Trade Control Low this item, please when you export.
Radiation hardness is not designed.

●PACKAGE OUTLINES



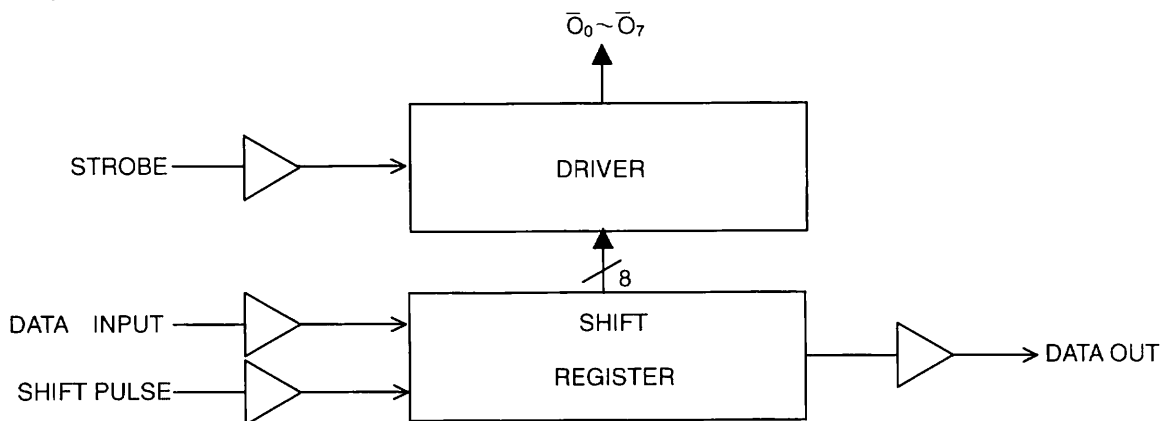
SOP16 (UNIT:mm)

●PIN DESCRIPTION

PIN No.	NAME	SYMBOL	FUNCTION
2	SHIFT PULSE	C	Shift Pulse(shift register) .
15	DATA INPUT	D _I	Data input (shift register). Positive edge trigger.
1	STROBE	S	Active at "1".
12	OUTPUT	\bar{O}_0	1bit's output.
11	OUTPUT	\bar{O}_1	2bit's output.
10	OUTPUT	\bar{O}_2	3bit's output.
9	OUTPUT	\bar{O}_3	4bit's output.
8	OUTPUT	\bar{O}_4	5bit's output.
7	OUTPUT	\bar{O}_5	6bit's output.
6	OUTPUT	\bar{O}_6	7bit's output.
5	OUTPUT	\bar{O}_7	8bit's output.
3	DATA OUTPUT	D ₀	Data output (shift register).
16	V _{CC}	V _{CC}	5V(±10%).
13	GND	GND ₁	Ground($\bar{O}_0 \sim \bar{O}_3$).
4	GND	GND ₂	Ground($\bar{O}_4 \sim \bar{O}_7$).
14	GND	GND (Dig)	Ground (Logic).

Notes: GND₁ (13PIN) is connected to GND₂ (14PIN) at the inside of package.

●BLOCK DIAGRAM



●CAUTIONS ON USE**1) Absolute Maximum Ratings**

An excess in the absolute maximum ratings, such as supply voltage, temperature range of operating conditions, etc., can break down devices, thus making impossible to identify breaking mode such as a short circuit or an open circuit. If any special mode exceeding the absolute maximum ratings is assumed, consideration should be given to take physical safety measures including the use of fuses, etc.

2) GND voltage

Make setting of the potential of the GND terminal so that it will be maintained at the minimum in any operating state.

3) Thermal design

Perform thermal design in which there are adequate margins by taking into account the permissible dissipation (Pd) in actual states of use.

4) Operation in strong electromagnetic field

Be noted that using ICs in the strong electromagnetic field can malfunction them.

5) Ground wiring pattern

If small-signal GND and large-current GND are provided, It will be recommended to separate the large-current GND pattern from the small-signal GND pattern and establish a single ground at the reference point of the set PCB so that resistance to the wiring pattern and voltage fluctuations due to a large current will cause no fluctuations in voltages of the small-signal GND. Pay attention not to cause fluctuations in the GND wiring pattern of external parts as well.

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