

STRUCTURE Silicon Monolithic Integrated Circuit

TYPE **BA829**

PRODUCT SERIES 8Bits Serial-In Parallel-Out Driver

FUNCTION

- 1) Can drive up to 300 mA.
- 2) Controlling the strobe terminal with the drive timing pulse enables current to be reduced when drive is not being carried out.
- 3) Using the data output terminal for the next data input enables secondary connections.
- 4) The digital ground and power ground are separated.
- 5) A latch is included between the shift register and driver output.
- 6) A stand-by function is built in. (10 μ A typ. at stand-by)

●ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETERS	SYMBOL	LIMIT	UNIT
Power supply voltage	V _{CC}	7.0	V
Power Dissipation	P _d	1100	mW
Operating Temperature	T _{OPr}	-25~+70	°C
Storage Temperature	T _{stg}	-55~+125	°C
Input Voltage	V _{in}	-0.3~V _{CC}	V
Output Voltage	V _O	15	V

●RECOMMENDED OPERATING CONDITIONS (TOPr=-25~70°C)

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT
Supply Voltage	V _{CC}	4.5	5.0	5.5	V
Clock rate	f _{CLK}	—	—	500	kHz
GND Voltage ※	V _G	—	—	0.2	V

※Please short-circuit around the point as much as possible. But please use L-GND in the area where electric potential difference between the P-GND pin won't more than 0.2V range.

•Status of this document

The Japanese version of this document is the formal specification. A customer may use this translation version only for a reference to help reading the formal version. If there are any difference in translation version of this document, formal version takes priority.

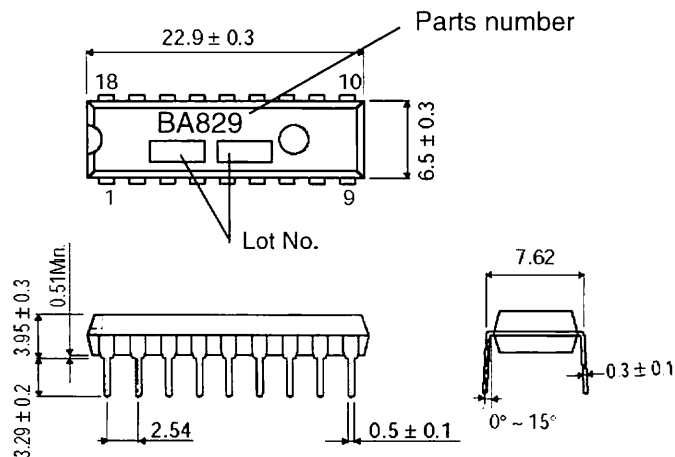
ELECTRICAL CHARACTERISTICS (Ta=25°C,Vcc=5.0V,unless otherwise specified)

PARAMETERS	SYMBOL	LIMIT			UNIT	CONDITIONS
		MIN	TYP	MAX		
Supply Current (1)	I _{cc1}	–	10	20	μA	PSW“L”
Supply Current (2)	I _{cc2}	–	110	158	mA	PSW“H”,STB“H”
Supply Current (3)	I _{cc3}	–	14	20	mA	PSW“H”,STB“L”
Output on voltage	V _{O ON}	–	0.4	0.6	V	I _{O ON} =300mA(※note1)
Off State Output Current	I _{O OFF}	–	10	50	μA	V _O =13.5V
Clock rate	f _{CLK}	500	–	–	kHz	–
Input Voltage“High”	V _{IH}	2.6	–	–	V	–
Input Voltage“Low”	V _{IL}	–	–	0.8	V	–
Input Current“High”	I _{IH1}	–	0.1	10	μA	V _I =3.4V CLK,LATCH DATA,STB terminal
Input Current “Low”	I _{IL1}	–	–0.01	–0.1	mA	V _I =0.4V CLK,LATCH DATA,STB terminal
Data Output “High”	V _{DOH}	2.8	3.0	–	V	I _{DOH} =–400 μA
Data Output “Low”	V _{DOL}	–	0.3	0.4	V	I _{DOL} =1.6mA
Data Output delay time	t _{DLH}	–	0.6	1.0	μs	R _{LD} =10KΩ
Data Output delay time	t _{DHL}	–	0.6	1.5	μs	R _{LD} =10KΩ
Output delay Time	t _{OLH}	–	–	10	μs	R _L =560Ω,V _O =13.5V
Output delay Time	t _{OHL}	–	–	10	μs	R _L =560Ω,V _O =13.5V
Input current at “H”level	I _{IH2}	–	0.04	0.1	mA	V _I =3.4V,for PSW terminal
Input current at “L”level	I _{IL2}	–	0.1	10	μA	V _I =0.4V,for PSW terminal

(※note1) Case for one bit “on”.

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

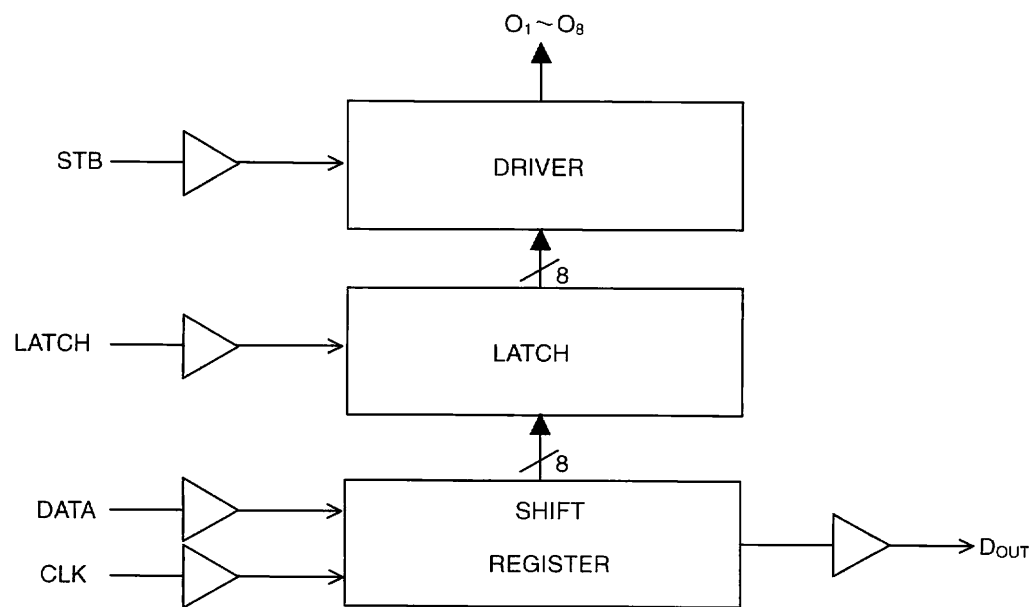


DIP18 (UNIT:mm)

●PIN DESCRIPTION

Pin.No	Terminal name	Input-output	Function
1	CLK	I	Clock Input
2	PSW	I	Power Switch
3	D _{OUT}	O	Cascade Output
4	V _{CC}	–	Power Supply Terminal
5	PGND	–	GND Terminal
6	O ₈	O	Parallel Data Output
7	O ₇	O	
8	O ₆	O	
9	O ₅	O	
10	O ₄	O	
11	O ₃	O	
12	O ₂	O	
13	O ₁	O	
14	PGND	–	GND Terminal
15	LGND	–	GND Terminal
16	DATA	I	Serial Data Input
17	STB	I	Strobe signal Input L Active
18	LATCH	I	Latch

●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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