

STRUCTURE Silicon Monolithic Integrated Circuit

PRODUCT SERIES STEPPING MOTOR DRIVER

TYPE BA6845FS

PACKAGE OUTLINES Fig.1 (Plastic Mold)

BLOCK DIAGRAM Fig.3

FUNCTION

- There are three output modes (forward and reverse rotation ,stop(open)) which are selected by the input logic.
- Output voltage is low saturation.
- Thermal shut-down circuit detects the junction temperature and makes all circuit off at high temperature.

ABSOLUTE MAXIMUM RATING (Ta=25°C)

Parameter	Symbol	Limit	Unit
Supply voltage	Vcc	12	V
Power dissipation	Pd	800 ※1	mW
Operating temperature	Topr	-25~+75	°C
Storage temperature	Tstg	-55~+150	°C
Output current	Iomax	1000	mA

※1 90mm×50mm×1.6mm on glass epoxy board.

To use at temperature above Ta=25°C reduce 6.4mW/°C.

OPERATING VOLTAGE RANGE (Ta=25°C)

Parameter	Symbol	Limit	Unit
Supply voltage range	Vcc	2.7 ~ 9.0	V

*This document may be strategic data subject to COCOM regulations.

ROHM assumes no responsibility for the use of any circuits described herein, conveys no license under any patent or other right, and makes no representations that the circuits are free from patent infringement.

Design

K. Nishikawa

Check

K. Otani

Approval

H. Karakawa

Date Feb./15/1995

Specification

Rev. B

ROHM CO., LTD.

Specification No.

TSZ02201-BA6845FS-1-2

ELECTRICAL CHARACTERISTICS (Ta=25°C Vcc=5V)

Parameter	Symbol	Target limit			Unit	Conditions	Test circuit
		Min.	Typ.	Max.			
Supply current 1	I _{cc1}	—	55	80	mA	IN12=IN22=5V	Fig.4
Supply current 2	I _{cc2}	—	—	10	μA	IN12=IN22=0V	Fig.4
Output saturation voltage	V _{sat}	—	0.5	0.7	V	I _{out} =400mA Total V _{sat}	Fig.4
Input threshold	V _{IN}	1.0	1.5	2.1	V		Fig.4
Input current	I _{IN}	—	100	150	μA	IN11,12,21,22=5v	Fig.4

*This product is not designed for protection against radioactive rays.

The product described in this specification is designed to be used with ordinary electronic equipment or devices (such as audio-visual equipment, office-automation equipment, communications devices, electrical appliances, and electronic toys).

Should you intend to use this product with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

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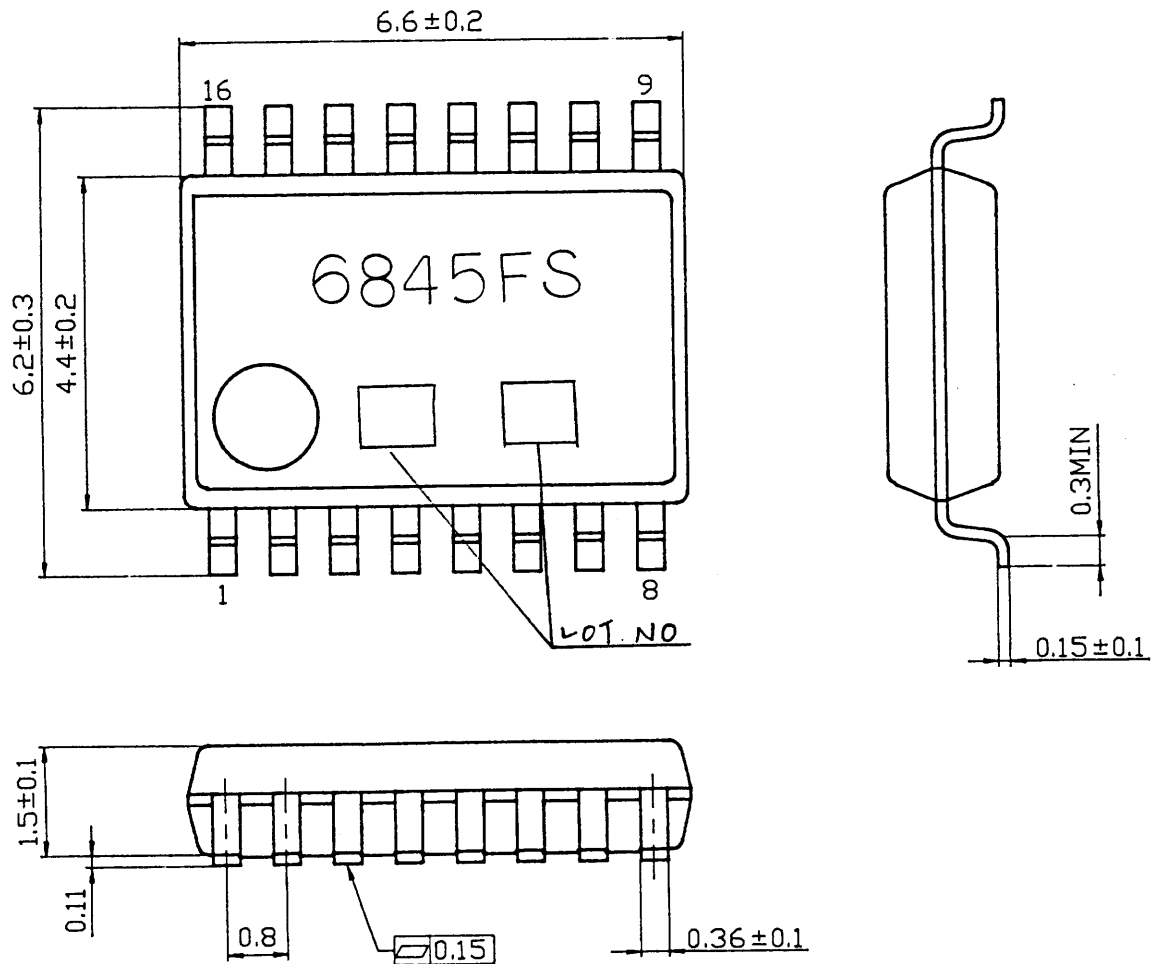


Fig.1 PACKAGE OUTLINES (Plastic Mold) Unit(mm)

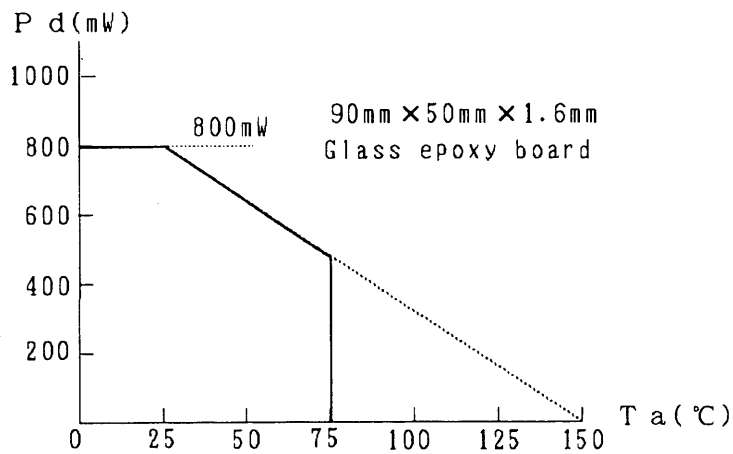


Fig.2 POWER DISSIPATION CURVE

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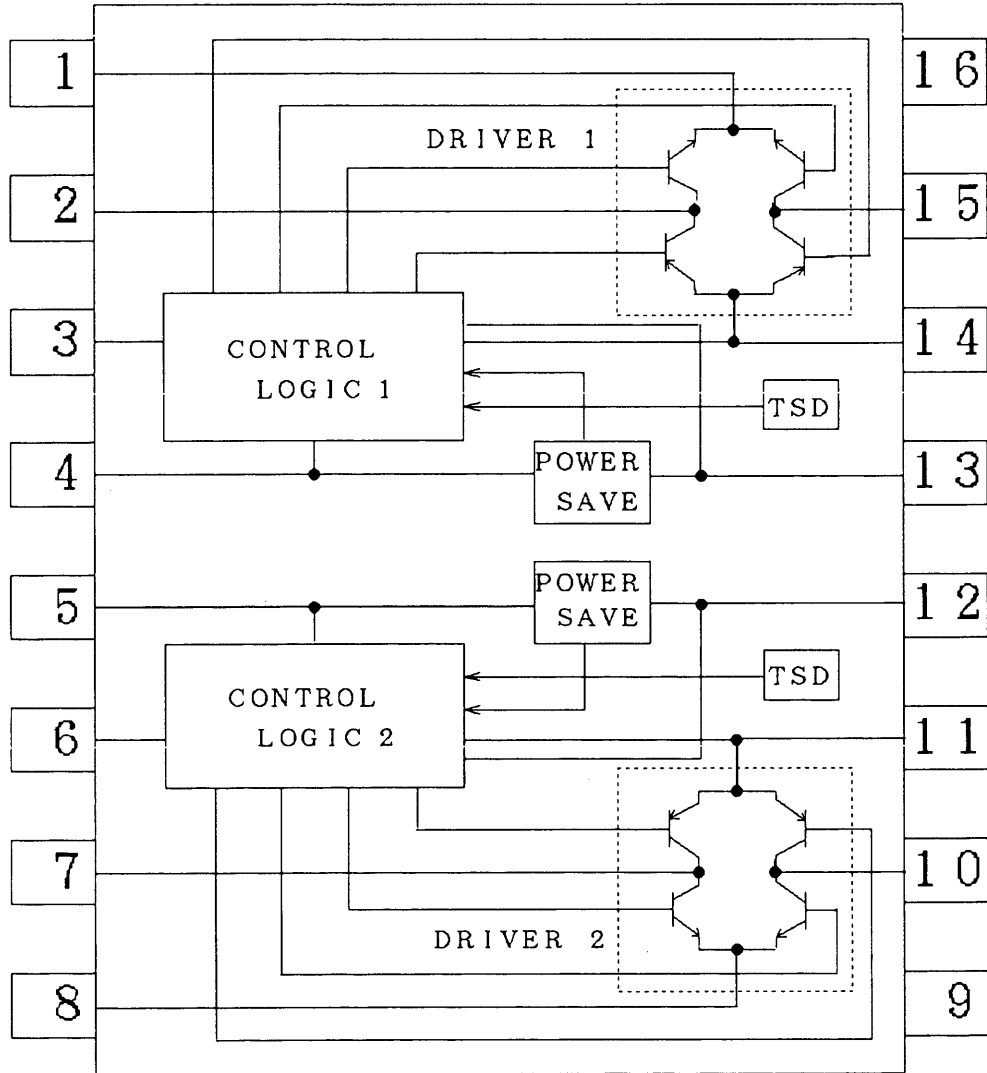


Fig.3 BLOCK DIAGRAM

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TERMINAL FUNCTION TABLE

Pin No.	Terminal name	Function
1	MGND 1	Ground for driver division
2	OUT 1 1	Output for motor
3	GND 1	Ground for signal division
4	IN 1 1	Input for control logic
5	IN 2 1	Input for control logic
6	GND 2	Ground for signal division
7	OUT 2 1	Output for motor
8	MGND 2	Ground for driver division
9	N.C.	N.C.
10	OUT 2 2	Output for motor
11	Vcc 2	Power supply
12	IN 2 2	Input for control logic
13	IN 1 2	Input for control logic
14	Vcc 1	Power supply
15	OUT 1 2	Output for motor
16	N.C.	N.C.

INPUT-OUTPUT TRUTH VALUE TABLE

IN11/21	IN12/22	OUT11/21	OUT12/22	MODE
L	H	H	L	Forward rotation mode
H	H	L	H	Reverse rotation mode
L	L	OPEN	OPEN	Stop(Stand-by) mode
H	L	OPEN	OPEN	Stop(Stand-by) mode

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TEST CIRCUIT

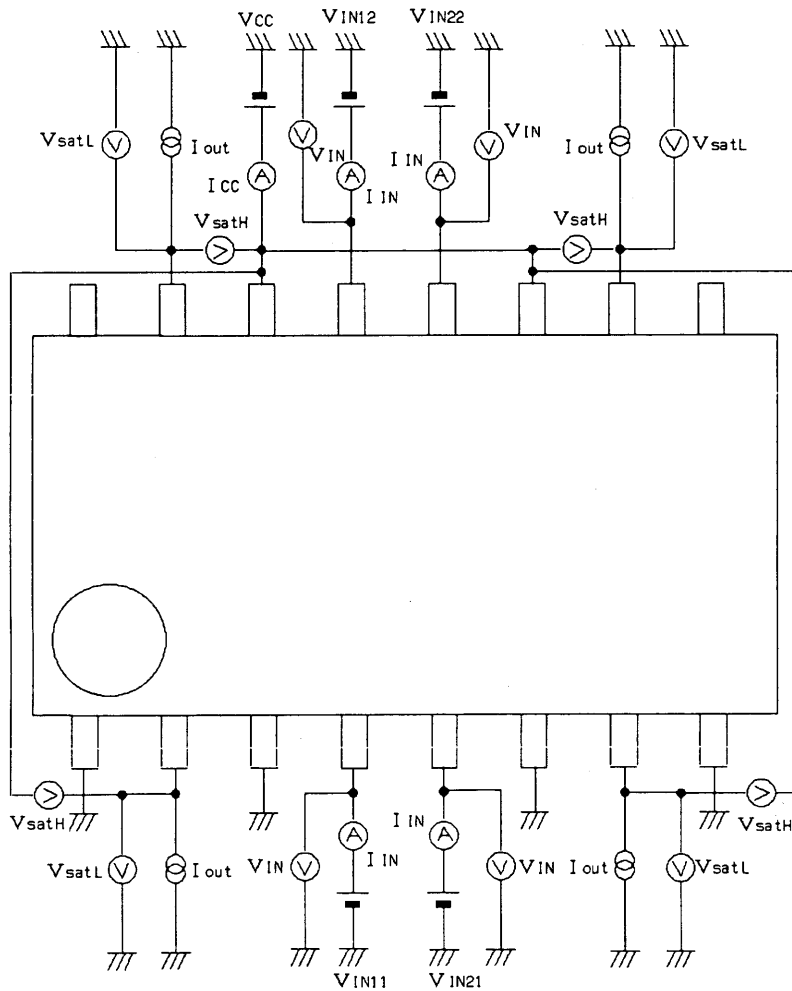


fig.4 Test circuit

*Refer to input-output truth value table about the output mode.

Supply current: Value of I_{CC}
($I_{out}=0mA$)

Output saturation voltage
: Total of V_{sath} when I_{out} flows out of the output terminal at 400mA and V_{satL} when I_{out} flows in the output terminal at 400mA in the forward mode or in the reverse mode

Input threshold
: Value of V_{IN} when the outputs change ($I_{out}=0mA$)

Input current
: Value of I_{IN} when $V_{IN11}, V_{IN12}, V_{IN21}, V_{IN22}$ is 5V ($I_{out}=0mA$)

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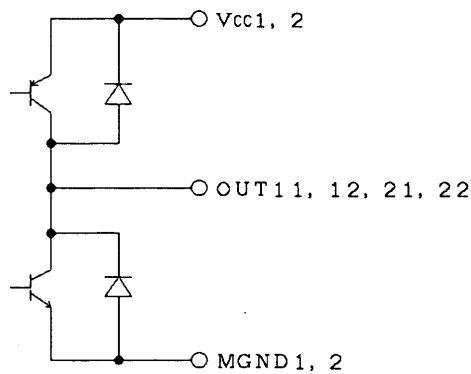
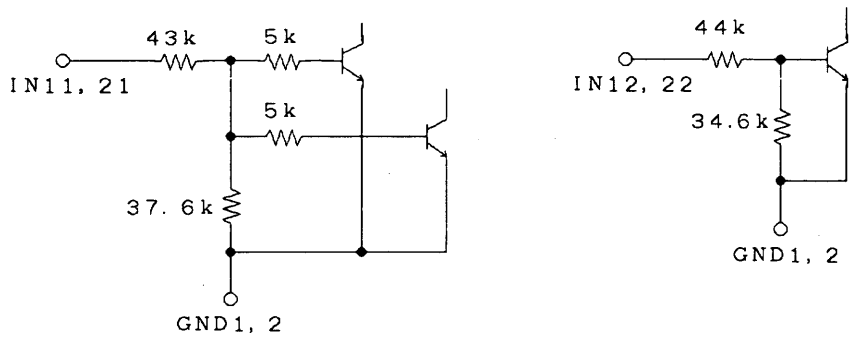
Precautions for use

1. Thermal shut-down (T.S.D.) circuit

T.S.D. circuit shuts down all circuits, when the junction temperature reaches about 175°C(Typ.).

It has the temperature hysteresis of about 20°C(Typ.).

2. Input-output circuit



(Resistances are typical values.)

Fig.4 Input-output circuit

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