

## TB6549F/P New BCDMOS H-Bridge



### Introduction

The TB6549F/P comes in small DIP16 or SOP16 package and delivers 4.5A peak output in brush motordrive applications.

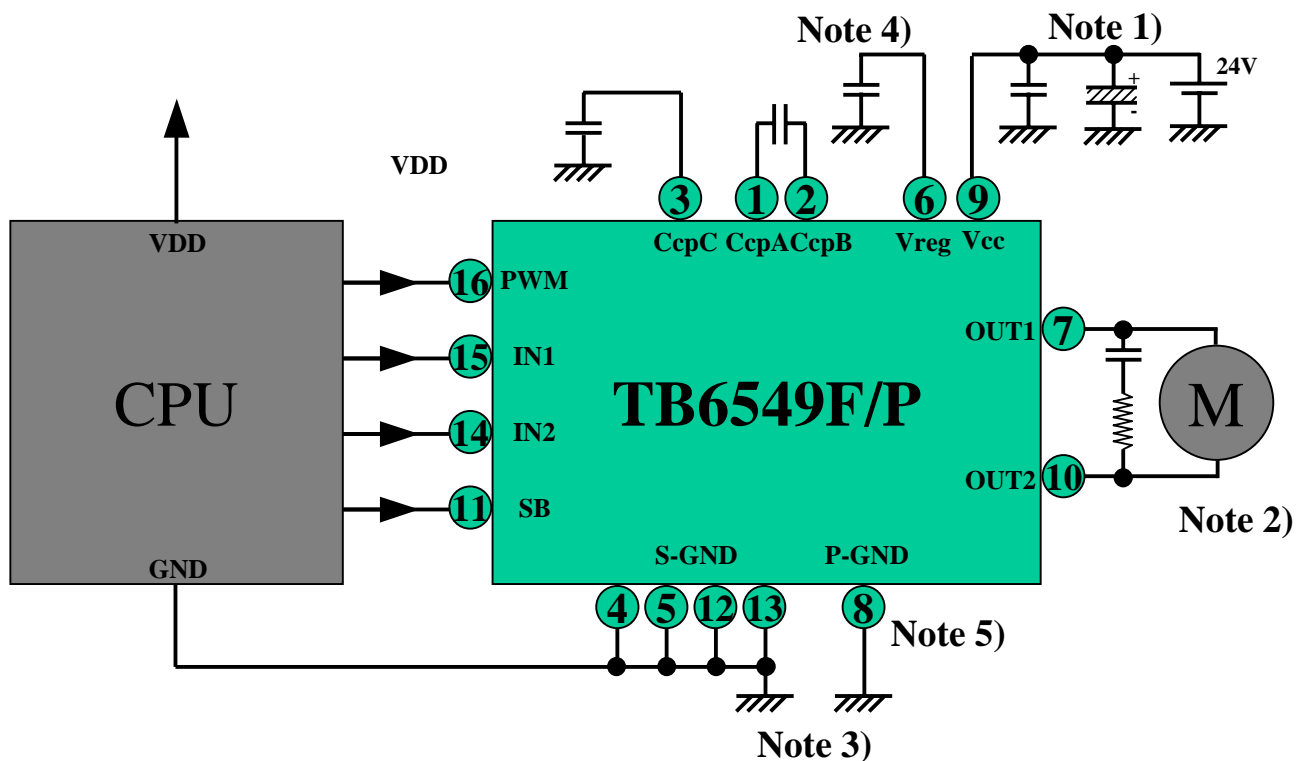
### Benefit

The low on resistance of this ICs' output Power FETs grants more design headroom in respect to compactness, wide temperature range, reliability or cost efficiency.

### Features

- Large currents (4.5A peak, 1.5A Ave) capability while remaining very compact (DIP16 and SOP16 package available)
- Low on resistance (0.5 Ohm typ.)
- High Output Voltage (30V max.)
- Built-in current limiter function
- Built-in thermal shut down protection
- Forward/Reverse/Short brake/Stop
- Wide operating range: -20 to +85°C

## TB6549P/F Typical configuration example



- Note 1) Connect capacitor to P-GND as near to the IC as possible.
- Note 2) Connect resistor in series to limit the charge current of capacitor.
- Note 3) Avoid common impedance between S\_GND and P-GND.
- Note 4) Connect capacitor to S-GND.
- Note 5) P-GND copper trace should be designed for low impedance to ensure low Offset Voltage at P-Ground when high currents flow.

**TOSHIBA**

TB6549P/F

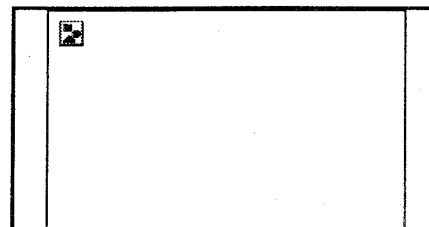
Tentative

TOSHIBA BI-CMOS INTERATED CIRCUIT

**T B 6 5 4 9 P / F**

DC motor driver IC

TB6549P is the driver IC for brush motor.  
Power transistors which thanks to its low Ron characteristic enables the IC to provide superior thermal efficiency.



質量: 0.79 g (標準)

**FEATURE**

- Supply voltage ; 30V(max.)
- Output current ; 4.5A(max.)
- Low Ron ; 0.5Ω(Typ)
- Stand-by function
- Forward/Reverse/Short brake/Stop functions
- Built-in current limiter function
- Built-in thermal shut down circuit
- Package ; DIP-16/PFP-16

*20th/Oct./00*  
*Yamane*

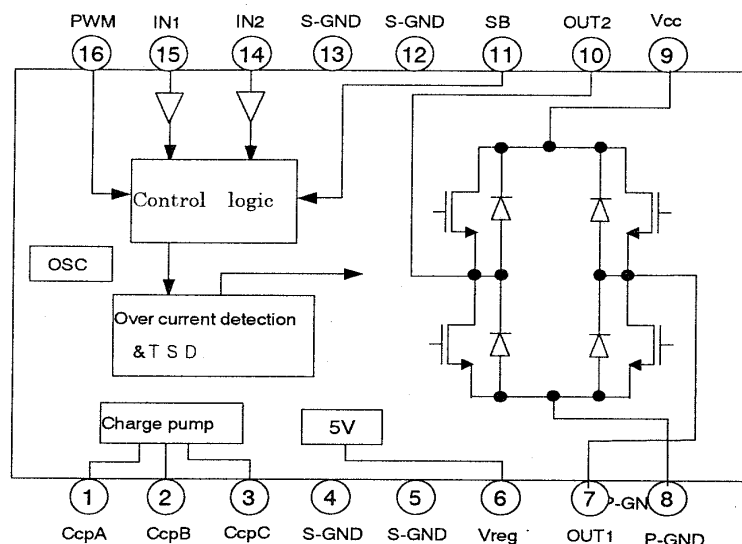
980508TBA1

- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA semiconductor Reliability Handbook.
- The products described in this document are subject to the foreign exchange and foreign trade laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or the rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

**TOSHIBA**

TB6549F/F

**BLOCK DIAGRAM**



**PIN ASSIGNMENT**

TERMINAL LNO.	TERMINAL SYMBOL	FUNCTION	REMARKS
1	CcpA	Capacitor connection terminal A for charge pump	Connect capacitor for charge pump
2	CcpB	Capacitor connection terminal B for charge pump	Connect capacitor for charge pump
3	CcpC	Capacitor connection terminal C for charge pump	Connect capacitor for charge pump
4	S-GND	Signal GND	
5	S-GND	Signal GND	
6	Vreg	5V output terminal	Connect capacitor to S-GND
7	OUT1	Output terminal 1	Connect to the motor coil
8	P-GND	Power GND	
9	Vcc	Supply voltage terminal	V <sub>cc(opr.)</sub> = 7V ~ 27V
10	OUT2	Output terminal 2	Connect to the motor coil
11	SB	Stand-by terminal	H ; Start、 L ; Stand-by
12	S-GND	GND	
13	S-GND	GND	
14	IN2	Control signal terminal 2	Input 0/5V signal
15	IN1	Control signal terminal 1	Input 0/5V signal
16	PWM	PWM control signal input terminal	Input 0/5V PWM signal

※Pin assignment is not fixed.

CONTACTS:

© Toshiba Electronics Europe GmbH

<http://www.toshiba-europe.com>

**Toshiba European Headquarters**

**Toshiba Electronics Europe GmbH**  
Hansaallee181, D-40549 Düsseldorf  
Tel.: +49-211-5296-0  
Fax: +49-211-5296-400

**European Sales Offices**

<b>Central European Sales, Düsseldorf</b>	<b>Central European Sales, Munich</b>
Tel: +49 211-5296-0	Tel.: +49-89748595-0
Fax: +49 211-5296400	Fax.: +49-89748595-42

<b>Italy</b>	<b>Spain</b>	<b>United Kingdom</b>	<b>France</b>	<b>Scandinavia</b>
Tel: +39 039 68701	Tel: +34 91 6667-00	Tel: +44 1276694600	Tel: +33 1 48124812	Tel: +46 87040900
Fax: +39 039 6870205	Fax: +34 91 666067-99	Fax: +44 1276694800	Fax: +33 1 48945115	Fax: +46 8808459

**CAUTION**

The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of third parties which may results from its use. Neither the implication nor any other use of the information contained in this document shall constitute an assignment of, or an agreement to assign, or a license of any Intellectual Property Rights of TOSHIBA CORPORATION or others.

The products described in this document are subject to trade laws and exchange and export control regulations.

**The information contained here in is subject to change without notice.**