TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8066AS

DUAL LOWSIDE DRIVER

The TA8066AS is a 0.3A low side driver containing two circuits in one package.

The input level is TTL compatible so that the output can be controlled directly from CPU system and the like. Protective functions are built in to protect IC and load from destruction caused of over stress.

FEATURES

- 2 circuit in one package.
- Output current capacity : 0.3A
 - : 100 µ A (Max.)
- Low Standby CurrentProtective function
- : Over-voltage Protection
- rotective function
- Over-voltage Protection Current Limiter Thermal-Shutdown
- Separated Power Supply of Power Portion and Logic portion.
- Built-in Counter Electromotive Force Absorption Diodes.
- SIP 7pin Plastic Package.

BLOCK DIAGRAM AND PIN LAYOUT





Weight: 0.7 g (typ.)

PIN DESCRIPTION

PIN No.	SYMBOL	DESCRIPTION
1	IN1	These terminals control output condition. The input level is TTL Compatible.
2	IN2	(IN1, IN2) →(Low, Low) : Low Standby Current Mode 100µA (Max.)
3	OUT1	PNP-NPN complementary output pin with a current capacity of 0.3A. When the output pin is supplied with a current exceeding the detection current (typically 0.55A) because of load
5	OUT2	short-circuit, the output is limited to protect the IC.
4	GND	Ground terminal.
6	V _{CC}	Power supply terminal for the output part of IC. Built-in over-voltage function protects IC and load when the supplied voltage is higher than 30V.
7	Vs	Power supply terminal for the control part of IC and this pin is separated from V _{CC} .

TRUTH TABLE

INF	TUY	OUTPUT			
DI1	DI2	OUT1	OUT2		
Н	Н	L (ON)	L (ON)		
Н	L	L (ON)	H (OFF)		
L	Н	H (OFF)	L (ON)		
L	L	H (OFF)	H (OFF)		

*: Standby Mode

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V _{CC}	50 (1s)	V
Input Voltage	V _{IN}	-0.3~V _{CC} +0.3	V
Output Current	IOUT	300	mA
Power Dissipation	PD	0.92	W
Operation Temperature	T _{opr}	-40~85	°C
Storage Temperature	T _{stg}	-55~150	°C
Lead Temperature-Time	T _{sol}	260 (10s)	°C

ELECTRICAL CHARACTERISTICS (V_S , V_{CC} = 8~16V, Ta = -40~85°C)

CHARACTERISTIC	SYMBOL	PIN	TEST CIR- CUIT	TEST CONDITION	MIN	TYP.	MAX	UNIT	
	I _{S1}	Vs		_	(IN1, IN2) = (L, L)	_	_	0.05	
Supply Current (I)	I _{S2}		_	(IN1, IN2) = (L, H) or (H, L)	-	6	15	mA	
	I _{S3}			(IN1, IN2) = (H, H)	_	9	20		
	I _{CC1}	V _{CC}	_	(IN1, IN2) = (L, L)	_	—	0.05	mA	
Supply Current (II)	I _{CC2}		_	(IN1, IN2) = (L, H) or (H, L)	_	—	0.05		
	I _{CC3}		_	(IN1, IN2) = (H, H)	_	—	0.05		
Input Voltage	V _{IL}	IN1/ IN2				_	0.8	V	
input voltage	VIH				2.0	_	_		
Input Current	١ _{IL}	IN1/ IN2	_	V _{IN} = 0.4V	_	10	20	μA	
input Gunent	IIH		_	V _{IN} = 5V	_	170	350		
Output Saturation Voltage	V _{sat}	OUT1 / OUT2	_	I _O = 300mA	_	1.0	1.5	V	
Output Leakage Current	I _{LEAK}	OUT1 / OUT2	_	V _{OUT} = 0V	-100	_	_	μA	
Diode Forward Voltage	V _F	OUT1 / OUT2	_	I _F = 200mA	_	1.1	_	V	
Output Limit Current	ISC	OUT1 / OUT2	_		0.3	0.55	_	A	
Chutdown Tomporaturo	TSD-H	OUT1 / OUT2	_	$OUT=ON\toOFF$	_	150	_	°C	
Shuldown remperature	TSD-L		_	$OUT \textbf{=} OFF \to ON$	_	130	_		
Over-voltage Detection	V _{SD}	V _{CC}	_		27	30	33	V	
Transfer Delay Time	t _{PLH}		—		_	1	10	116	
Transiel Delay Time	t _{PHL}		_		—	1	10	μs	

TOSHIBA

EQUIVALENT CIRCUIT



APPLICATION CIRCUIT



Cautions for wirings C_1 is for absorbing disturbance, noise, etc. Connect it as close to the IC as possible.

TOSHIBA

PACKAGE DIMENSIONS

SIP7-P-2.54A

Unit : mm



Weight: 0.7 g (Typ.)

RESTRICTIONS ON PRODUCT USE

000707EAA_S

- TOSHIBA is continually working to improve the quality and 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 comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products 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 the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- 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 other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.