

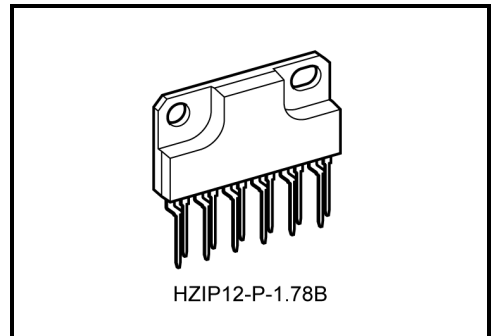
# TA8061H

## DUAL HIGHSIDE DRIVER WITH DIAGNOSIS

The TA8061H is a 1.5A highside driver containing two circuits. Each circuit has a self-diagnostic function which produces a diagnostic output. The input is TTL-compatible. This IC has other various protective functions

### FEATURES

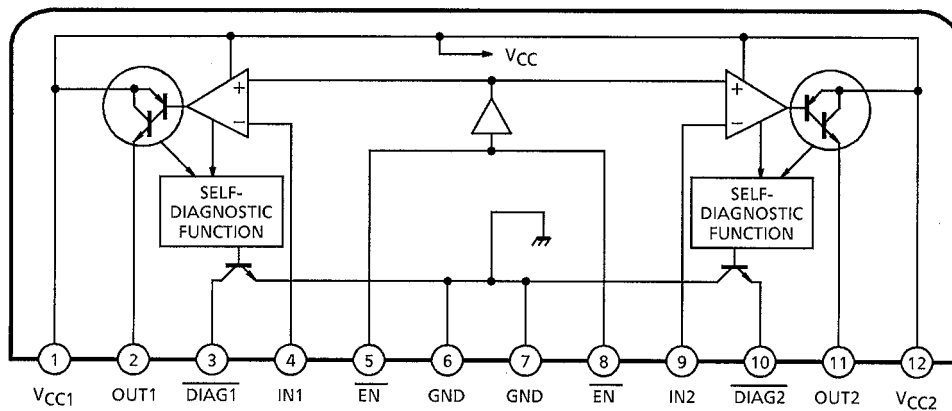
- Output current capacity : 1.5A
- Diagnostic function : Load-open (10mA or less) and over-current (3A or more) detection
- Protective function : Short-circuit protection (latch) and thermal-shutdown / over-voltage protection (nonlatch)
- Low standby current : 0.5mA (max.)
- Two circuits contained
- Power package HZIP-12pin



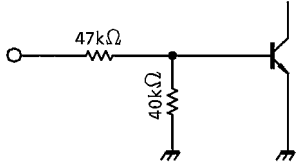
HZIP12-P-1.78B

Weight: 4.0 g (typ.)

### BLOCK DIAGRAM AND PIN LAYOUT



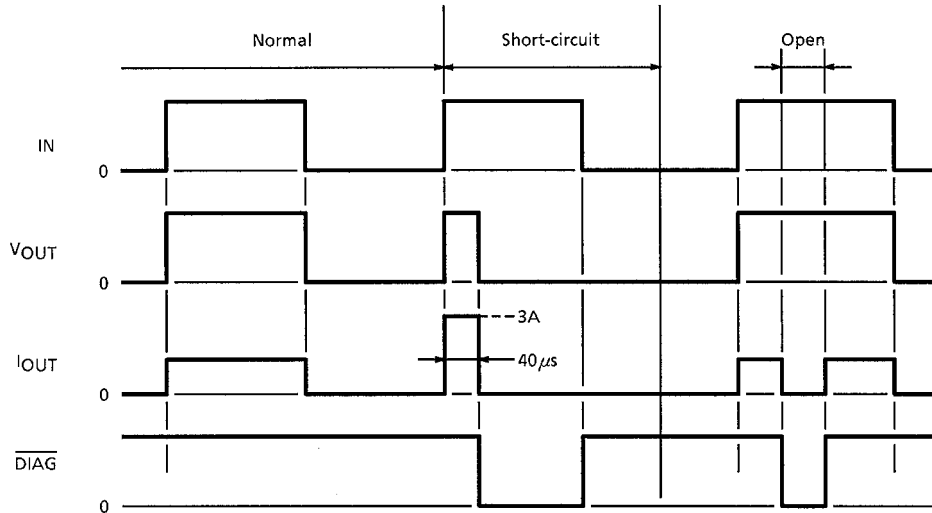
## PIN DESCRIPTION

PIN No.	SYMBOL	DESCRIPTION
1, 12	V <sub>CC</sub>	Power supply pin. A function for protection against over-voltage is provided so that the output will turn off when the applied voltage exceeds 27.5V (Typ.). This function works to protect the IC and load.
2, 11	OUT	PNP-type complementary output pin with a current capacity of 1.5A. When the output pin is supplied with a current exceeding the detection current (typically 3A) because of load short-circuit, the output is latched to the OFF state to protect the IC. To restart, turn off the input once, then raise it high.
3, 10	$\overline{\text{DIAG}}$	Self-diagnosis detection pin. This signal goes low when the output is short-circuited or opened while the input is on (high). The output will be latched when the load is short-circuited, but not when the load is opened. This pin supplies an NPN open-collector output.
4, 9	IN	TTL-compatible input pin. The circuit is shown as follows. <div style="text-align: center;">  </div>
5, 8	$\overline{\text{EN}}$	When this signal goes high, both channels 1 and 2 are placed in standby state (0.5mA Max.).
6, 7	GND	Grounded.

## TRUTH TABLE

IN	OUT		$\overline{\text{DIAG}}$
H	H (ON)	Normal	H
		Abnormal	L
L	L (OFF)	—	H

## TIMING CHART



## MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V <sub>CC</sub>	30	V
	V <sub>CC</sub>	60 (1s)	
Input Voltage	V <sub>IN</sub>	18	V
Output Voltage	V <sub>OUT</sub>	-0.3~V <sub>CC</sub>	V
Output Current	I <sub>OUT</sub>	1.5	A
Power Dissipation	P <sub>D</sub>	25	W
Operating Temperature	T <sub>opr</sub>	-40~110	°C
Storage Temperature	T <sub>stg</sub>	-55~150	°C
Lead Temperature time	T <sub>sol</sub>	260 (10s)	°C

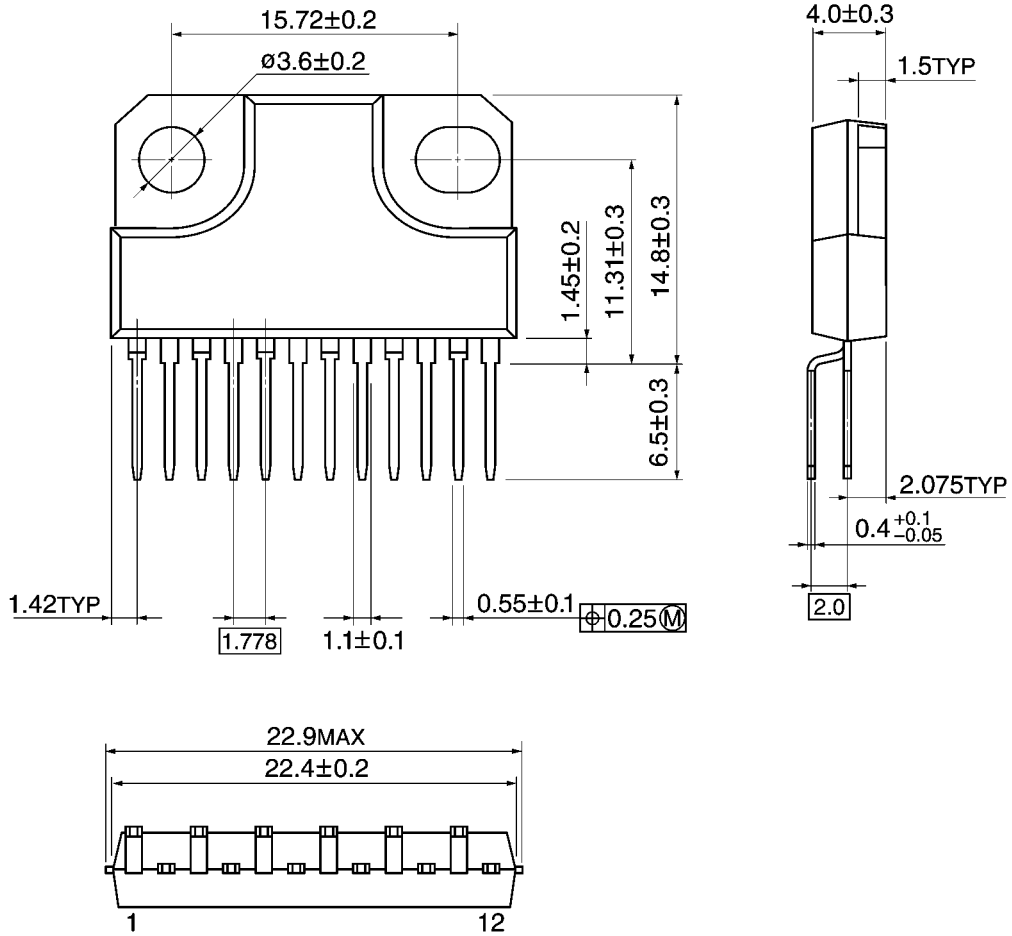
## ELECTRICAL CHARACTERISTICS ( $V_{CC} = 12V$ , $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	PIN	TEST CIR-CUIT	TEST CONDITION	MIN	TYP.	MAX	UNIT
Power Supply Current	$I_{CC}$	$V_{CC1,2}$	—	In standby state	—	—	0.5	mA
			—	$\overline{EN} = "L"$ IN = "L"	—	4	8	
			—	CH1 or CH2 = ON	—	20	40	
			—	CH1, CH2 = ON	—	35	60	
Input Voltage	$V_{IH}$	IN1, 2	—		2	—	—	V
	$V_{IL}$		—		-0.3	—	0.8	
Input Current	$I_{IH}$	IN1, 2	—	$V_{IN} = 3V$	—	—	0.12	mA
	$I_{IL}$		—	$V_{IN} = 0.8V$	—	—	0.03	
Output Voltage	$V_{OH}$	OUT1, 2	—	$I_{OUT} = 1A$	—	1.2	1.5	V
	$V_{OL}$	$\overline{DIAG1, 2}$	—	$I_{OUT} = 3mA$	—	0.2	0.5	
Output Leakage Current	$I_{LEAK}$	OUT1, 2	—	$V_{OUT} = 0V$	—	—	10	$\mu A$
		$\overline{DIAG1, 2}$	—	$V_{OUT} = 5V$	—	—	10	
Over-current Detection	$I_{SD1}$	OUT1, 2	—		—	3.0	—	A
Load-Open Detection	$I_{SD2}$	OUT1, 2	—		—	25	—	mA
Over-voltage Detection	$V_{SD}$	$V_{CC1,2}$	—		—	27.5	—	V
Shutdown Temperature	$T_{SD}$		—		—	150	—	$^\circ C$
Transfer Delay Time	$t_{pLH}$	OUT1, 2	—	$I_{OUT} = 1A$	—	1	—	$\mu s$
	$t_{pHL}$				—	5	—	

## PACKAGE DIMENSIONS

HZIP12-P-1.78B

Unit: mm



Weight: 4.0g (Typ.)

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