

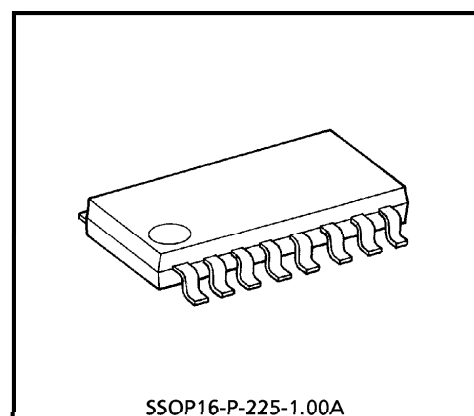
# TD62M2701F

## LOW SATURATION VOLTAGE H-BRIDGE DRIVER

TD62M2701F is multi-chip H-bridge driver IC incorporates 4 low saturation discrete transistors which equipped bias-resistor and fly-wheel diode. This IC is suitable for forward-reverse control on a battery use motor drive applications.

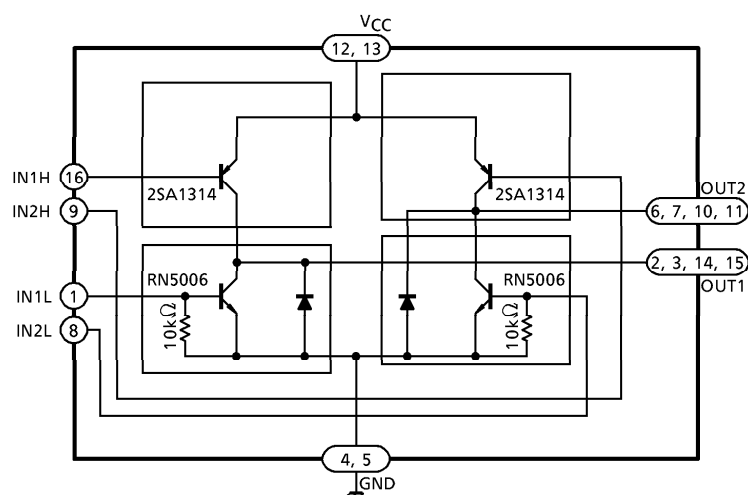
### FEATURES

- Suitable for high efficiency motor drive circuit
- Built-in fly-wheel diode (lower side)
- Built-in bias resistor (lower side) :  $R = 10k\Omega$  (Typ.)
- SSOP 16 1mm pitch package sealed
- Low saturation voltage
  - :  $V_{CE(sat)}$  (upper + lower) = 0.23V (Typ.) :  $I_O = 1A$
  - = 0.45V (Typ.) :  $I_O = 2A$



Weight : 0.14g (Typ.)

### BLOCK DIAGRAM



### PIN CONNECTION (TOP VIEW)

IN1L	1	16	IN1H
OUT1	2	15	OUT1
OUT1	3	14	OUT1
GND	4	13	VCC
GND	5	12	VCC
OUT2	6	11	OUT2
OUT2	7	10	OUT2
IN2L	8	9	IN2H

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## MAXIMUM RATINGS (Ta = 25°C)

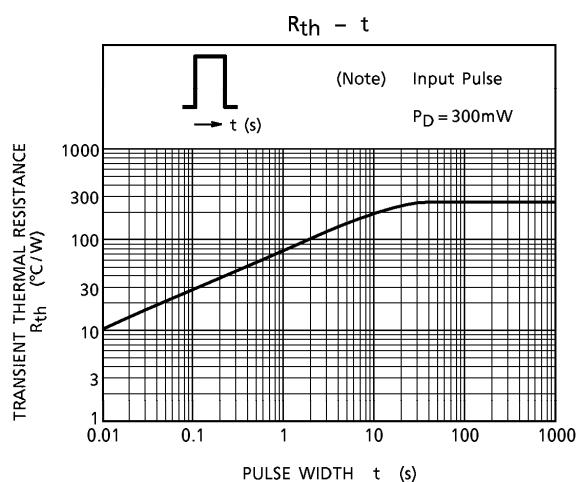
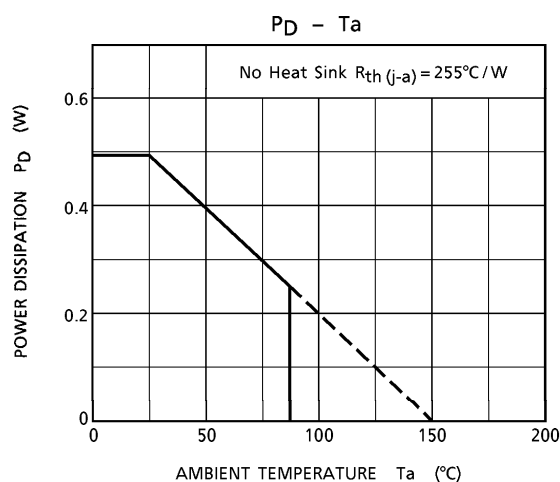
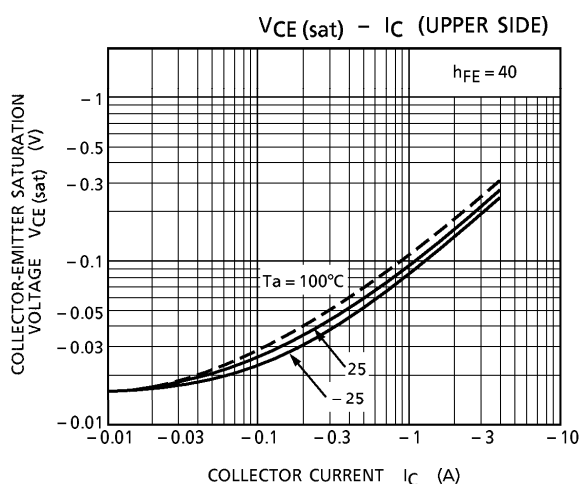
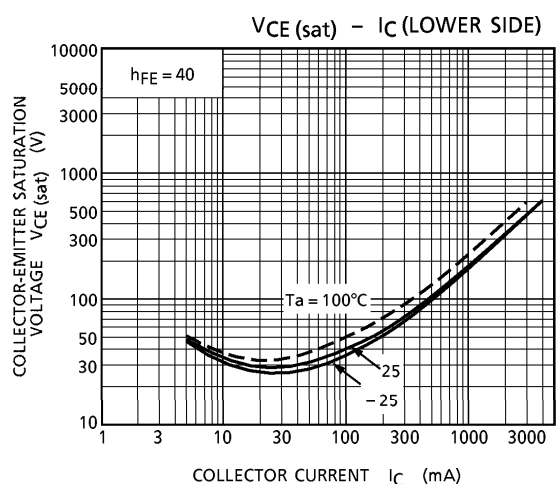
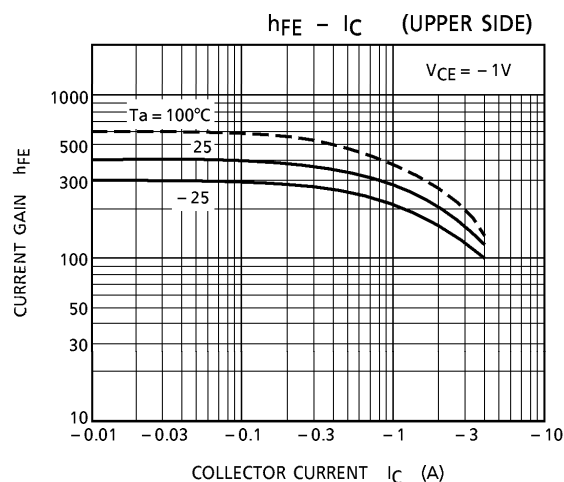
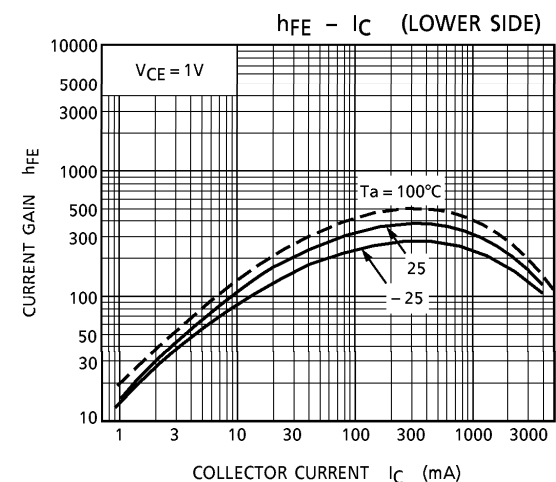
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	10	V
Collector-Base Voltage	V <sub>CBO</sub>	10	V
Collector-Emitter Voltage	V <sub>CER</sub>	10	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	V
Output Current	I <sub>OUT</sub>	2	A
	I <sub>O</sub> (PEAK)	4 (Note 1)	
Base Current	I <sub>B</sub>	±0.4	A
	I <sub>B</sub> (PEAK)	±0.8 (Note 1)	
Diode Forward Current	I <sub>F</sub>	2 (Note 2)	A
Power Dissipation	P <sub>D</sub>	490	mW
Junction Temperature	T <sub>j</sub>	150	°C
Operating Temperature	T <sub>opr</sub>	-40~85	°C
Storage Temperature	T <sub>stg</sub>	-55~150	°C

(Note 1) T = 10ms Max. and maximum duty is less than 30%

(Note 2) T = 10ms single pulse

## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Current Gain	Upper Side	$h_{FE} (1)$	—	$V_{CE} = -1V, I_C = -0.5A$	200	—	700	—
	Lower Side	$h_{FE} (1)$	—	$V_{CE} = 1V, I_C = 0.5A$	160	—	700	
		$h_{FE} (2)$	—	$V_{CE} = 1V, I_C = 2.0A$	60	130	—	
Output Saturation Voltage	Upper Side	$V_{CE} (sat)$	—	$I_C = -1A, I_B = -25mA$	—	-0.10	-0.22	V
				$I_C = -2A, I_B = -50mA$	—	-0.20	-0.45	
	Lower Side			$I_C = 1A, I_B = 25mA$	—	0.13	0.22	
				$I_C = 2A, I_B = 50mA$	—	0.25	0.45	
	Summing Total			$I_C = 0.5A, I_B = 12.5mA$	—	—	0.20	
				$I_C = 1A, I_B = 25mA$	—	0.23	0.42	
				$I_C = 2A, I_B = 50mA$	—	0.45	0.85	
Transition Frequency		$f_T$	—	$V_{CE} = 2V, I_C = 0.5A$	—	150	—	MHz
Output Leakage Current	Upper Side	$I_{OL}$	—	$V_{CC} = -10V$	—	0	-5	$\mu A$
	Lower Side			$V_{CC} = 10V$	—	0	5	
Diode Forward Voltage (Lower Side)		$V_F$	—	$I_F = 300mA$	—	0.89	1.2	V
				$I_F = 450mA \ 10ms$	—	1.60	—	
Base-Emitter Resistance		$R_{BE}$	—	—	7	10	13	k $\Omega$
Base-Emitter Forward Voltage	Upper Side	$V_{BE} (PNP)$	—	$V_{CE} = -1V, I_C = -2A$	—	-0.84	-1.5	V
	Lower Side	$V_{BE} (NPN)$	—	$V_{CE} = 1V, I_C = 2A$	—	0.84	1.5	



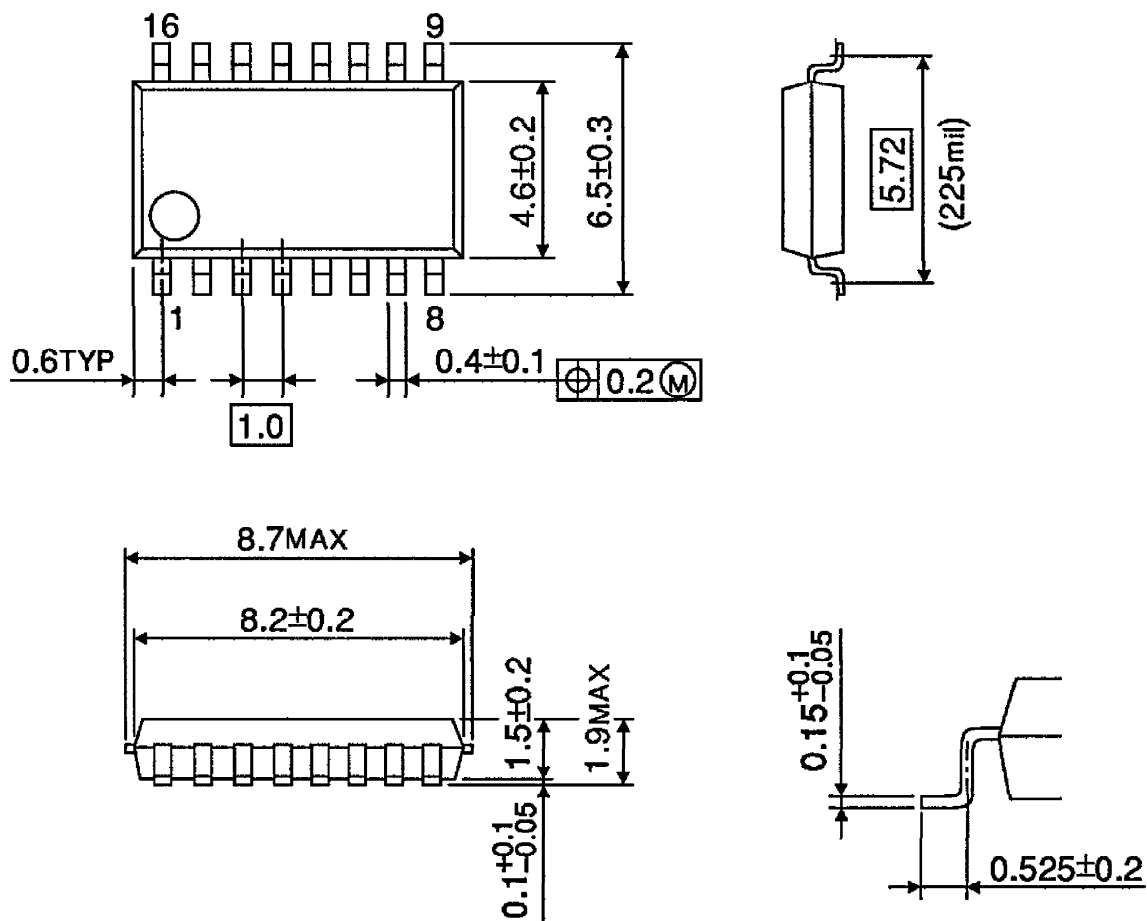
### PRECAUTIONS for USING

Utmost care is necessary in the design of the output line,  $V_{CC}$  and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.

**OUTLINE DRAWING**

SSOP16-P-225-1.00A

Unit : mm



Weight : 0.14g (Typ.)