

**TOSHIBA**

**TD62M3702F**

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

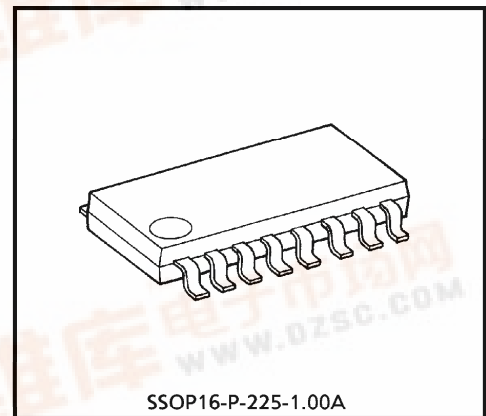
# TD62M3702F

## LOW SATURATION VOLTAGE DRIVER FOR MOTOR

TD62M3702F is Multi Chip IC incorporates 6 low saturation discrete transistors. This IC is suitable for a battery use motor drive applications.

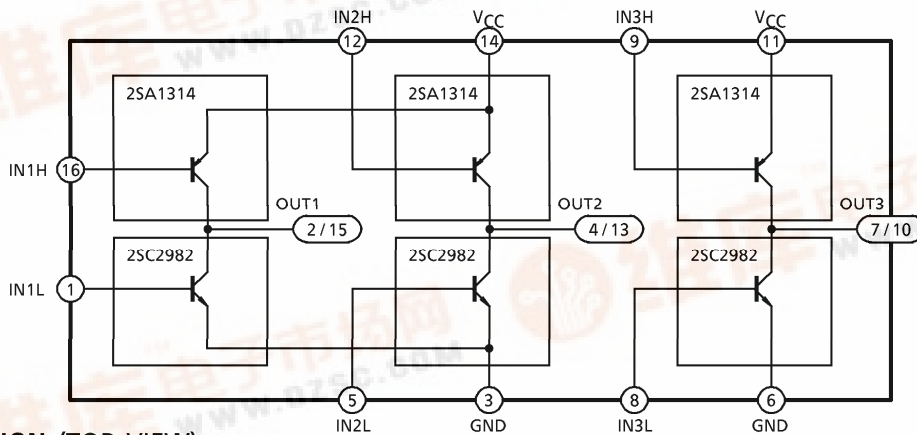
### FEATURES

- Suitable for High Efficiency Motor drive circuit
- External Input Resistor
- SSOP16 1mm pitch small package sealed
- Low Saturation Voltage  
 :  $V_{CE(sat)} = 0.20V$  (Typ.) at  $I_O = 1A$   
 $V_{CE(sat)} = 0.40V$  (Typ.) at  $I_O = 2A$   
 (Upper and Lower side total)

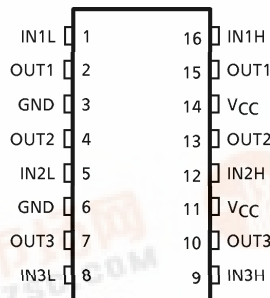


Weight : 0.14g (Typ.)

### BLOCK DIAGRAM

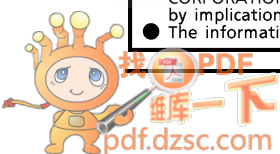


### PIN CONNECTION (TOP VIEW)



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**MAXIMUM RATINGS (Ta = 25°C)**

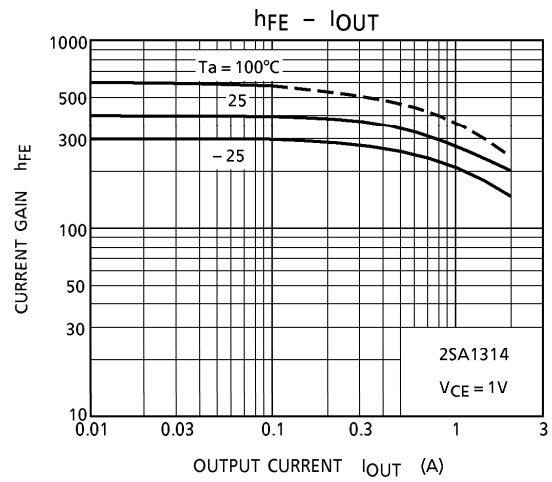
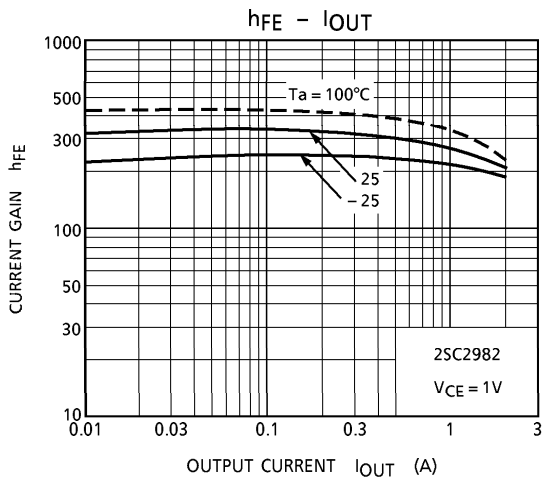
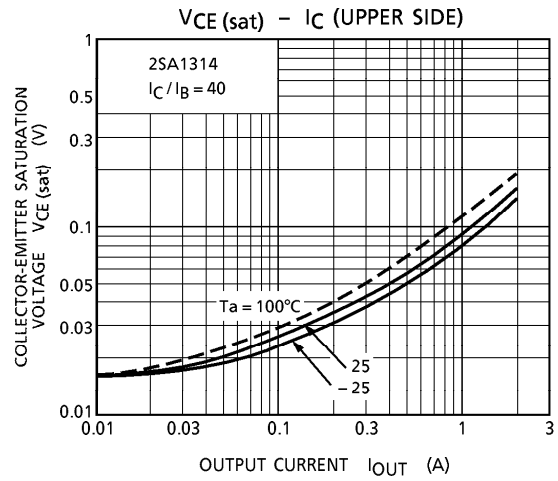
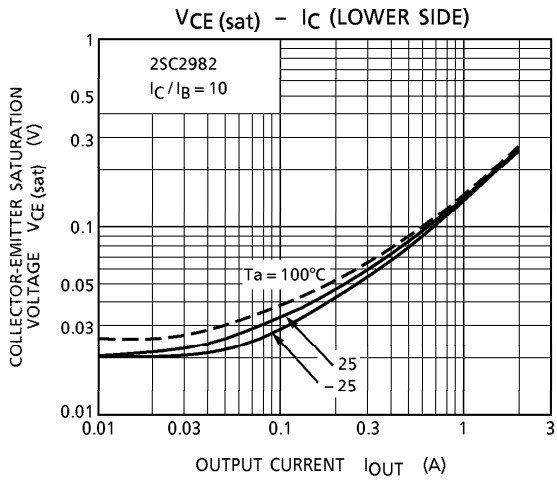
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	15	V
Breakdown Voltage	V <sub>CB0</sub>	15	V
	V <sub>CEO</sub>	15	
	V <sub>BEO</sub>	6	
Output Current	I <sub>O</sub> (AVE)	2	A
	I <sub>O</sub> (PEAK)	4 (Note 1)	
Base Current	I <sub>B</sub>	0.4	A
Power Dissipation	P <sub>D</sub>	700 (Note 2)	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 single pulse

(Note 2) Free Air

**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Current Gain	h <sub>FE</sub> (1)	—	V <sub>CE</sub> = 0.4V, I <sub>C</sub> = 30mA	160	—	600	—
	h <sub>FE</sub> (2)	—	V <sub>CE</sub> = 0.4V, I <sub>C</sub> = 0.2A	160	—	600	
Current Gain Ratio	h <sub>FE</sub> (1) / h <sub>FE</sub> (2)	—	V <sub>CE</sub> = 0.4V, I <sub>C</sub> = 30mA / V <sub>CE</sub> = 0.4V, I <sub>C</sub> = 0.2A	0.75	—	1.25	—
Saturation Voltage	V <sub>CE</sub> (sat) (Upper side)	—	I <sub>C</sub> = -1A, I <sub>B</sub> = -25mA	—	-0.1	-0.25	V
		—	I <sub>C</sub> = -2A, I <sub>B</sub> = -50mA	—	-0.2	-0.50	
	V <sub>CE</sub> (sat) (Lower side)	—	I <sub>C</sub> = 1A, I <sub>B</sub> = 25mA	—	0.1	0.30	
		—	I <sub>C</sub> = 2A, I <sub>B</sub> = 50mA	—	0.2	0.50	
V <sub>CE</sub> (sat) (Summing Total)	—	I <sub>C</sub> = 1A, I <sub>B</sub> = 25mA	—	0.2	0.55		
	—	I <sub>C</sub> = 2A, I <sub>B</sub> = 50mA	—	0.4	1.0		
Transition Frequency	f <sub>T</sub>	—	V <sub>CE</sub> = 2V, I <sub>C</sub> = 0.5A	—	140	—	MHz
Leakage Current	I <sub>OL</sub>	(Upper side)	V <sub>CC</sub> = -15V	—	0	-10	μA
		(Lower side)	V <sub>CC</sub> = 15V	—	0	10	
Base-Emitter Forward Voltage	V <sub>BE</sub> (PNP)	—	V <sub>CE</sub> = -1V, I <sub>C</sub> = -2A	—	-0.84	-1.5	V
	V <sub>BE</sub> (NPN)	—	V <sub>CE</sub> = 1V, I <sub>C</sub> = 2A	—	0.84	1.5	

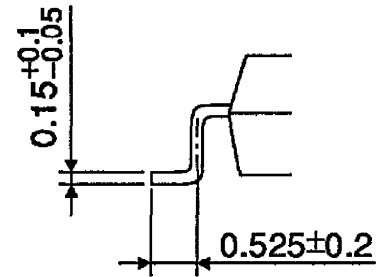
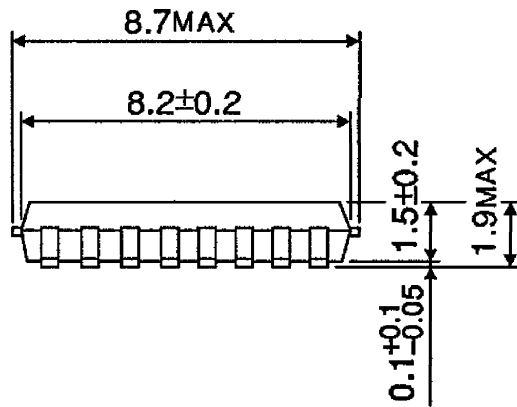
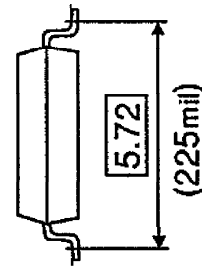
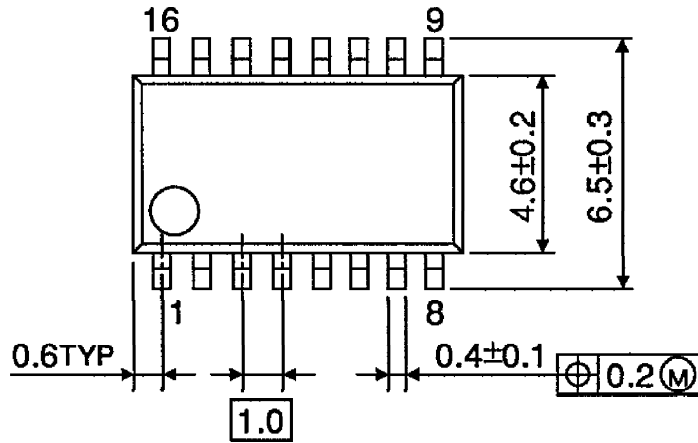


PRECAUTIONS for USING

Utmost care is necessary in the design of the output line, V<sub>CC</sub> 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.)