

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

TD62M3702F

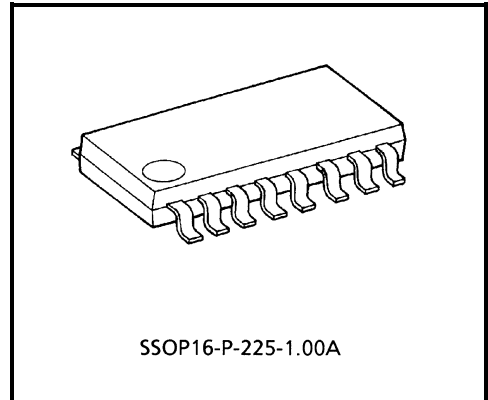
LOW SATURATION VOLTAGE DRIVER FOR MOTOR

TD62M3702F is Multi Chip IC incorporates 6 low saturation discrete transistors.

This IC is suitable for a battery use motor drive applications.

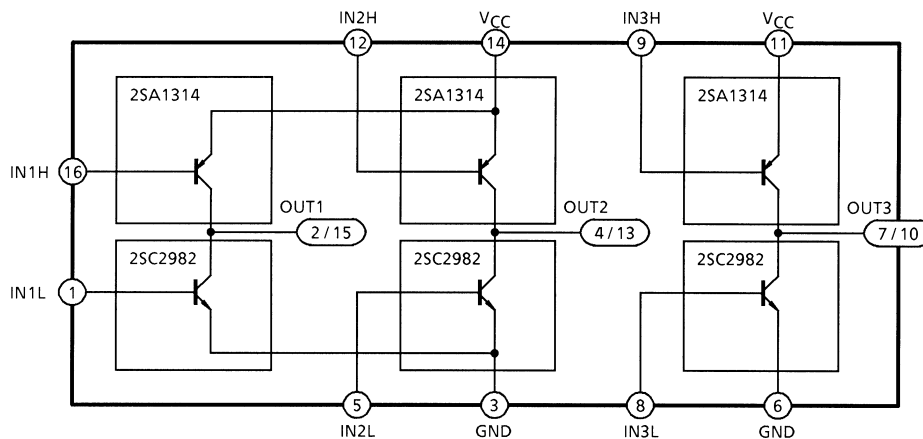
FEATURES

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

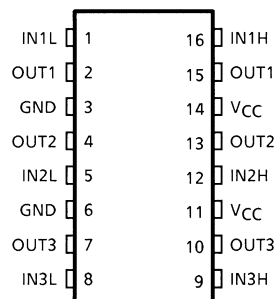


Weight: 0.14 g (Typ.)

BLOCK DIAGRAM



PIN CONNECTION (TOP VIEW)



MAXIMUM RATINGS (Ta = 25°C)

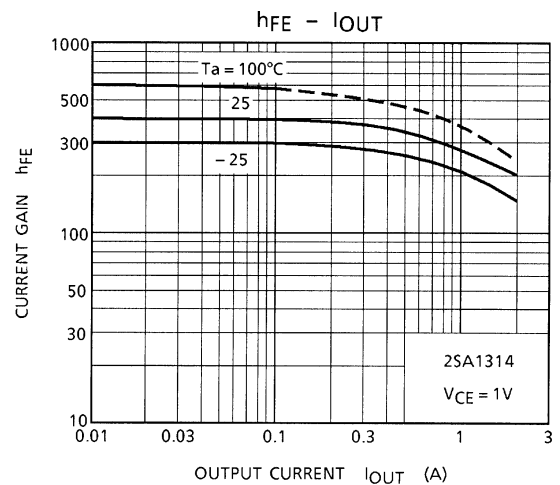
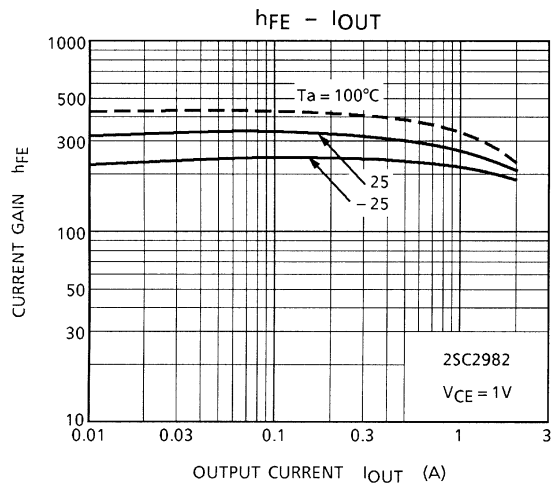
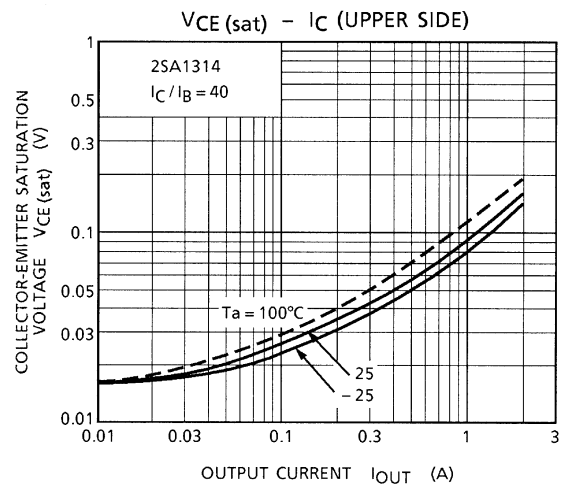
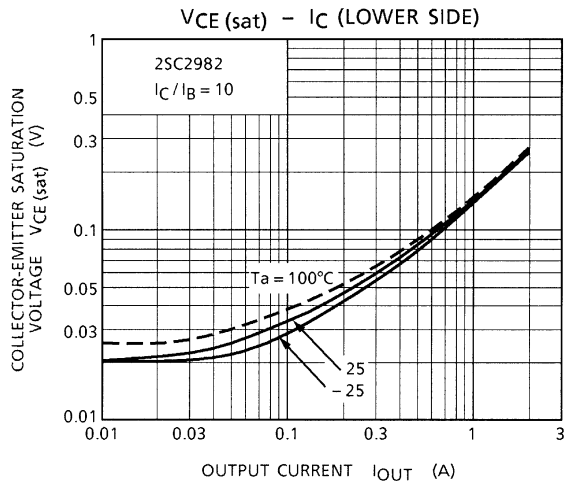
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	15	V
Breakdown Voltage	V _{CBO}	15	V
	V _{CEO}	15	
	V _{BEO}	6	
Output Current	I _O (AVE)	2	A
	I _O (PEAK)	4 (Note 1)	
Base Current	I _B	0.4	A
Power Dissipation	P _D	700 (Note 2)	mW
Junction Temperature	T _j	150	°C
Operating Temperature	T _{opr}	-40~85	°C
Storage Temperature	T _{stg}	-55~150	°C

Note 1: T = 10 ms 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 _{FE} (1)		—	V _{CE} = 0.4 V, I _C = 30 mA	160	—	600	—
	h _{FE} (2)		—	V _{CE} = 0.4 V, I _C = 0.2 A	160	—	600	
Current Gain Ratio	h _{FE} (1) / h _{FE} (2)		—	V _{CE} = 0.4 V, I _C = 30 mA / V _{CE} = 0.4 V, I _C = 0.2 A	0.75	—	1.25	—
Saturation Voltage	V _{CE} (sat) (Upper side)		—	I _C = -1 A, I _B = -25 mA	—	-0.1	-0.25	V
				I _C = -2 A, I _B = -50 mA	—	-0.2	-0.50	
	V _{CE} (sat) (Lower side)		—	I _C = 1 A, I _B = 25 mA	—	0.1	0.30	
				I _C = 2 A, I _B = 50 mA	—	0.2	0.50	
	V _{CE} (sat) (Summing Total)		—	I _C = 1 A, I _B = 25 mA	—	0.2	0.55	
				I _C = 2 A, I _B = 50 mA	—	0.4	1.0	
Transition Frequency	f _T		—	V _{CE} = 2 V, I _C = 0.5 A	—	140	—	MHz
Leakage Current	I _{OL}	(Upper side)	—	V _{CC} = -15 V	—	0	-10	μA
		(Lower side)		V _{CC} = 15 V	—	0	10	
Base-Emitter Forward Voltage	V _{BE} (PNP)		—	V _{CE} = -1 V, I _C = -2 A	—	-0.84	-1.5	V
	V _{BE} (NPN)		—	V _{CE} = 1 V, I _C = 2 A	—	0.84	1.5	



PRECAUTIONS for USING

This IC does not integrate protection circuits such as overcurrent and overvoltage protectors.

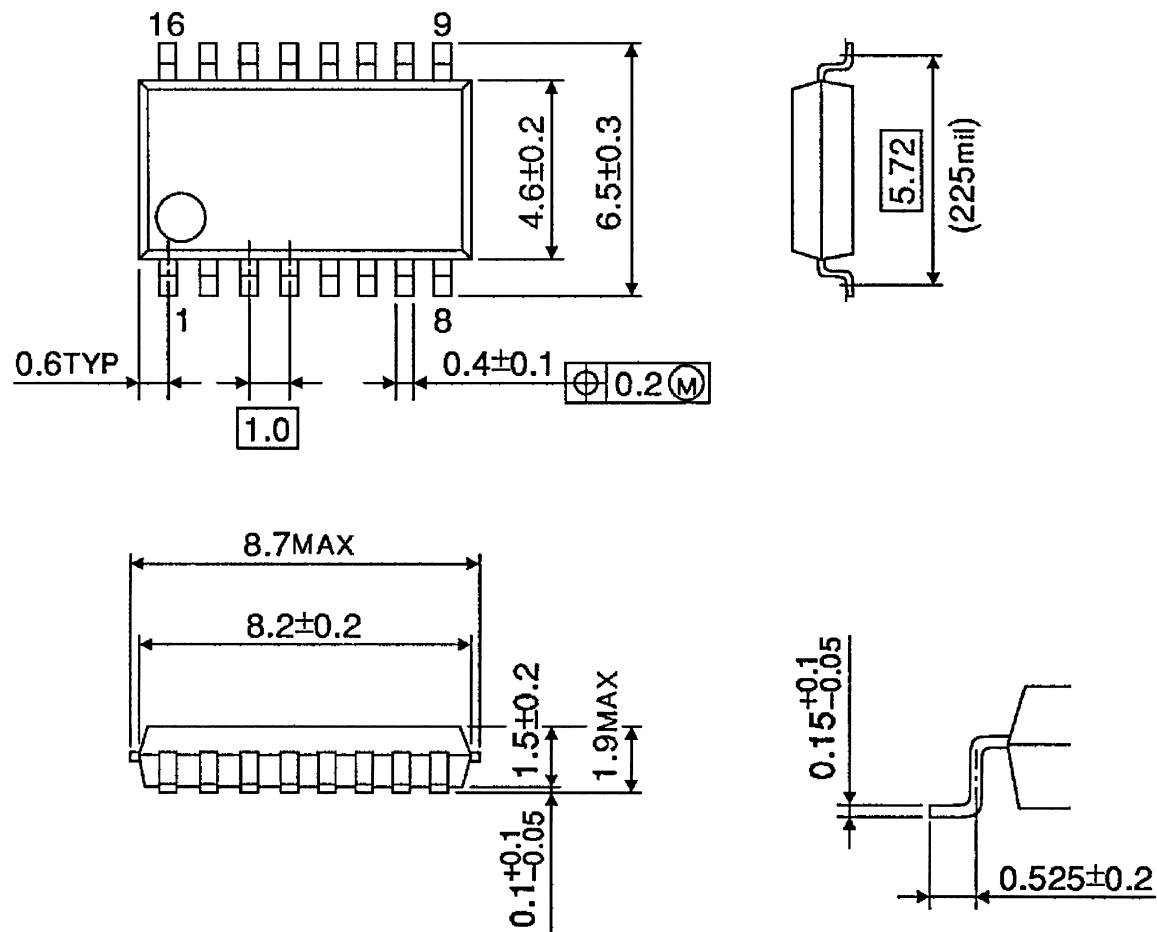
Thus, if excess current or voltage is applied to the IC, the IC may be damaged. Please design the IC so that excess current or voltage will not be applied to the IC.

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

PACKAGE DIMENSIONS

SSOP16-P-225-1.00A

Unit: mm



Weight: 0.14 g (Typ.)

RESTRICTIONS ON PRODUCT USE

000707EBA

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