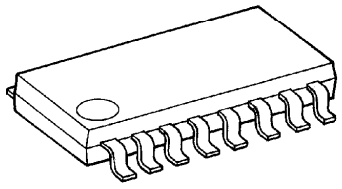
TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

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.



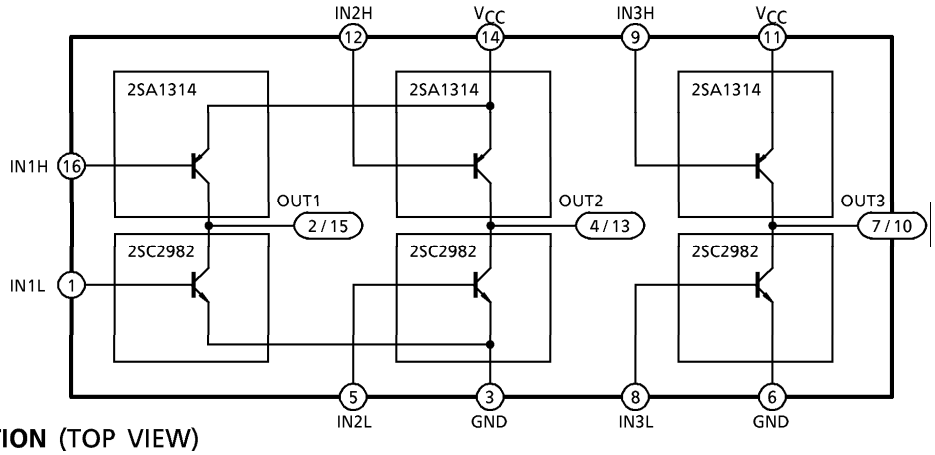
SSOP16-P-225-1.00A

Weight : 0.14g (Typ.)

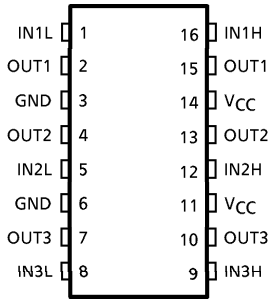
FEATURES

- 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)

BLOCK DIAGRAM



PIN CONNECTION (TOP VIEW)



961001EBA2

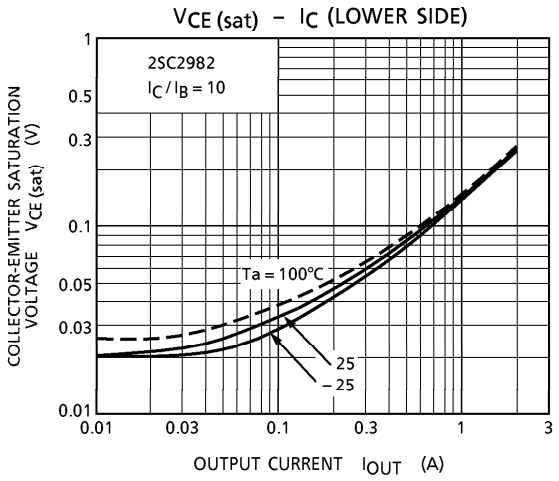
MAXIMUM RATINGS (Ta = 25°C)

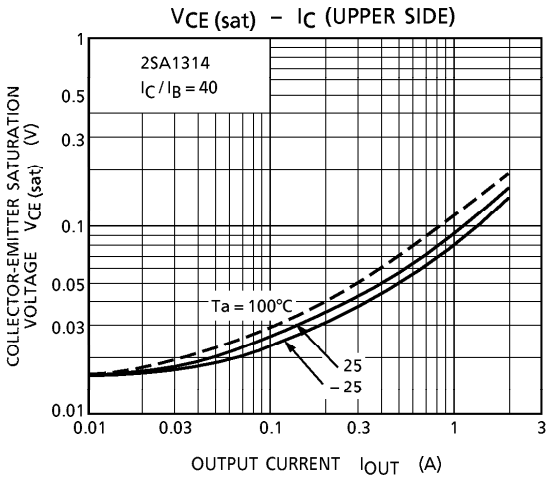
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	15	V
Breakdown Voltage	V_{CBO}	15	V
	V_{CEO}	15	
	V_{BEO}	6	
Output Current	$I_{O\ (AVE)}$	2	A
	$I_{O\ (PEAK)}$	4 (Note 1)	
Base Current	I_B	0.4	A
Power Dissipation	P_D	700 (Note 2)	mW
Junction Temperature	T_j	150	°C
Operating Temperature	T_{opr}	−40~85	°C
Storage Temperature	T_{stg}	−55~150	°C

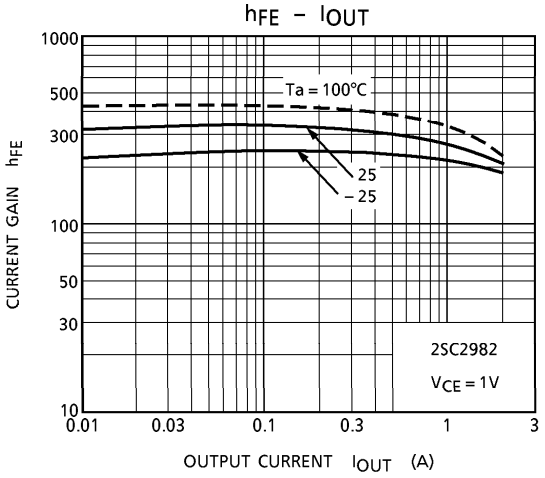
(Note 1) T = 10ms single pulse
(Note 2) Free Air

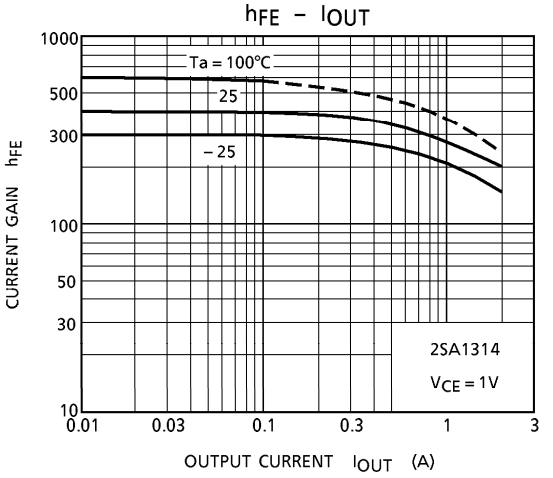
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Current Gain	$h_{FE\ (1)}$	—	V_{CE} = 0.4V, I_C = 30mA	160	—	600	—
	$h_{FE\ (2)}$	—	V_{CE} = 0.4V, I_C = 0.2A	160	—	600	
Current Gain Ratio	$h_{FE\ (1)}$ / $h_{FE\ (2)}$	—	V_{CE} = 0.4V, I_C = 30mA / V_{CE} = 0.4V, I_C = 0.2A	0.75	—	1.25	—
Saturation Voltage	$V_{CE\ (sat)}$ (Upper side)	—	I_C = −1A, I_B = −25mA	—	−0.1	−0.25	V
			I_C = −2A, I_B = −50mA	—	−0.2	−0.50	
	$V_{CE\ (sat)}$ (Lower side)	—	I_C = 1A, I_B = 25mA	—	0.1	0.30	
			I_C = 2A, I_B = 50mA	—	0.2	0.50	
	$V_{CE\ (sat)}$ (Summing Total)	—	I_C = 1A, I_B = 25mA	—	0.2	0.55	
			I_C = 2A, I_B = 50mA	—	0.4	1.0	
Transition Frequency	f_T	—	V_{CE} = 2V, I_C = 0.5A	—	140	—	MHz
Leakage Current	I_{OL} (Upper side)	—	V_{CC} = −15V	—	0	−10	μA
	I_{OL} (Lower side)		V_{CC} = 15V	—	0	10	
Base-Emitter Forward Voltage	$V_{BE\ (PNP)}$	—	V_{CE} = −1V, I_C = −2A	—	−0.84	−1.5	V
	$V_{BE\ (NPN)}$	—	V_{CE} = 1V, I_C = 2A	—	0.84	1.5	









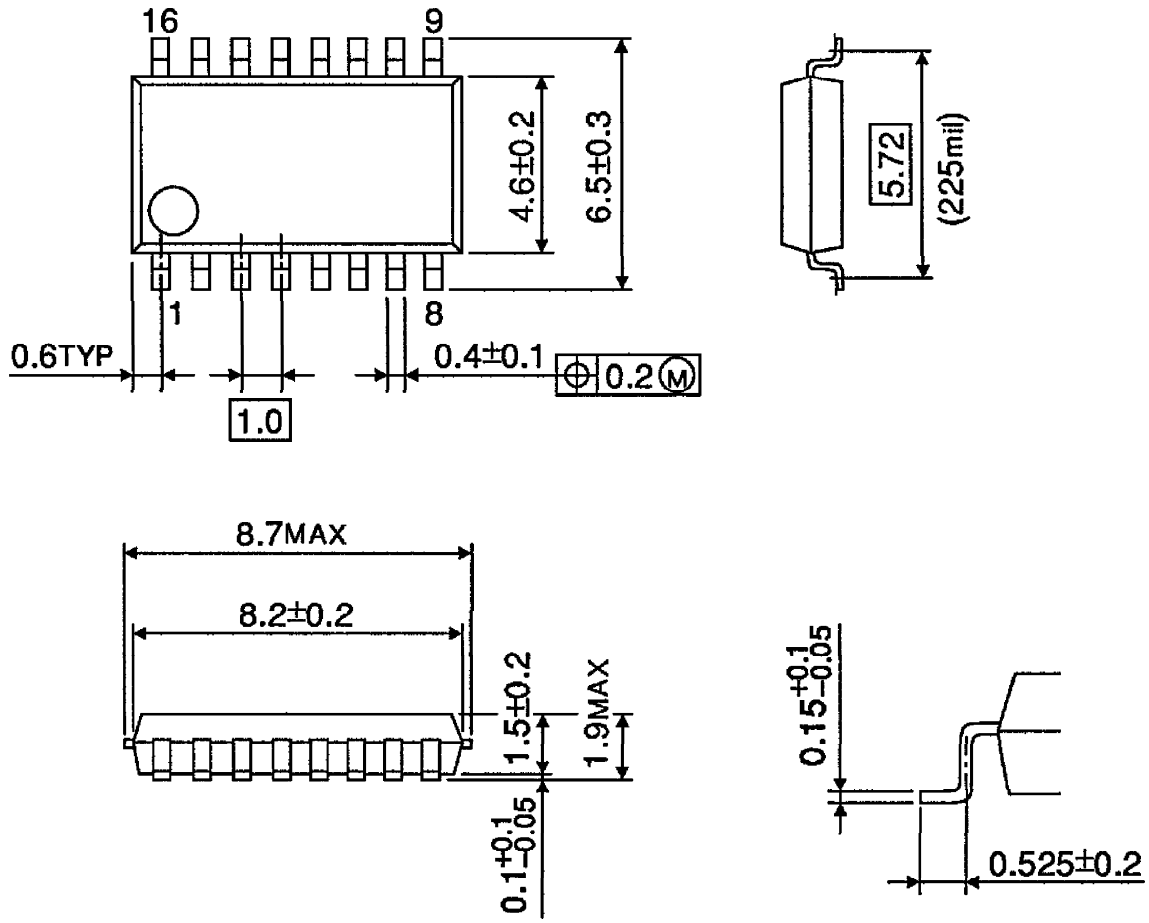
PRECAUTIONS for USING

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.)