

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

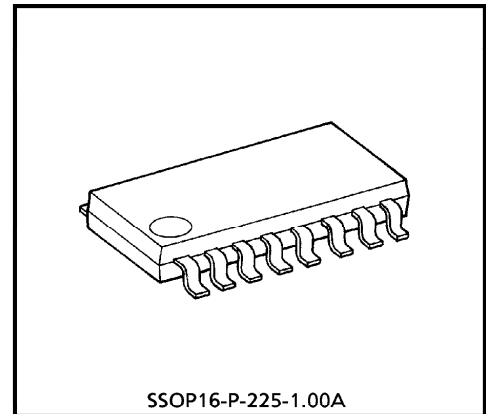
TD62M4700F

EXCELLENT LOW SATURATION H-BRIDGE DRIVER

TD62M4700F is low voltage use Multi Chip H-Bridge Driver IC incorporates 4 low saturation discrete Transistors which equipped bias resistor and diode. This IC is designed especially for Camera Winding Motors, FDD Stepper Motors and other portable equipments.

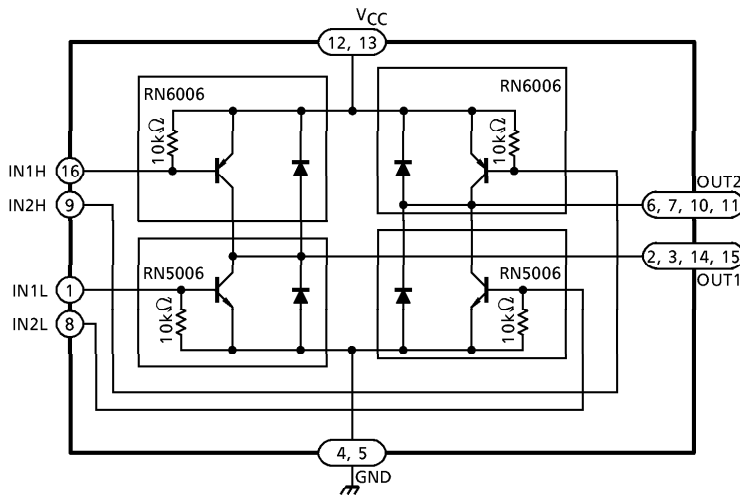
FEATURES

- MFP-16 1mm pitch small package sealed
- Bias resistor and diodes are equipped
R = 10kΩ
- Excellent low saturation voltage
 $V_{CE(SAT)} = 0.29V$ (Typ.) at $I_O = 1A$
 $V_{CE(SAT)} = 0.53V$ (Typ.) at $I_O = 2A$
 (Upper and lower side total)

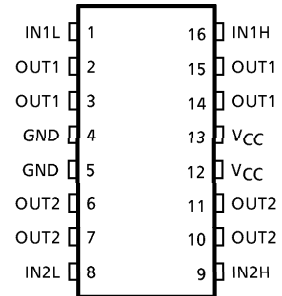


SSOP16-P-225-1.00A
Weight : 0.14g (Typ.)

BLOCK DIAGRAM



PIN CONNECTION (TOP VIEW)



961001EBA2

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MAXIMUM RATINGS (Ta = 25°C)

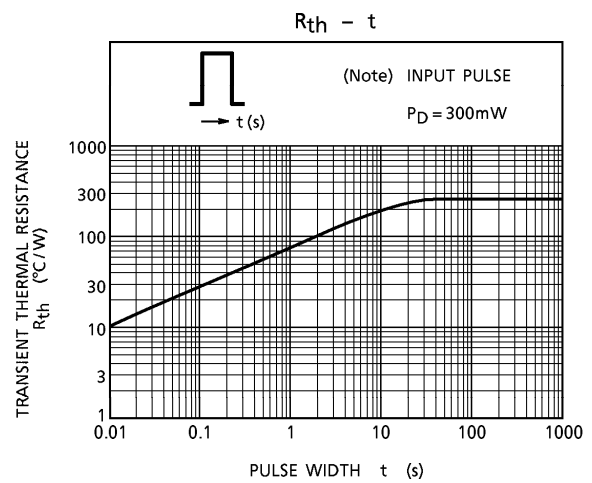
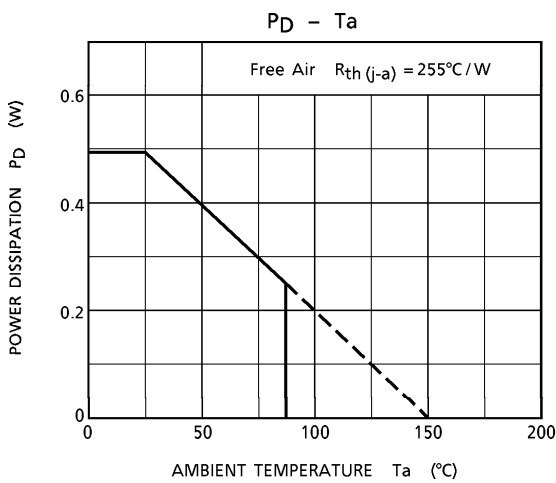
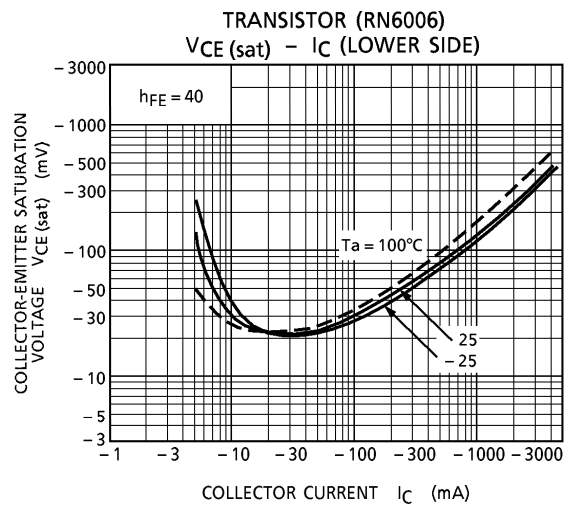
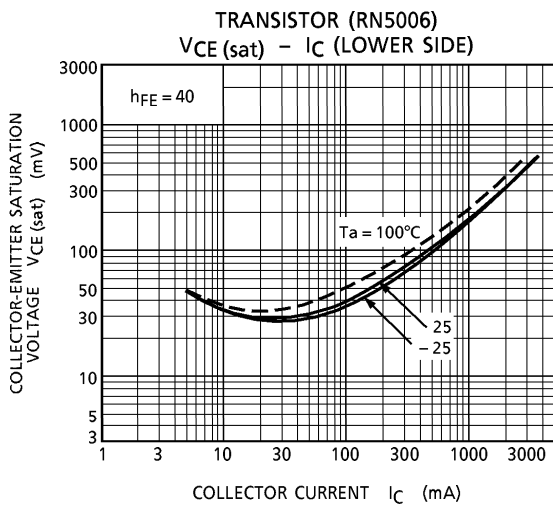
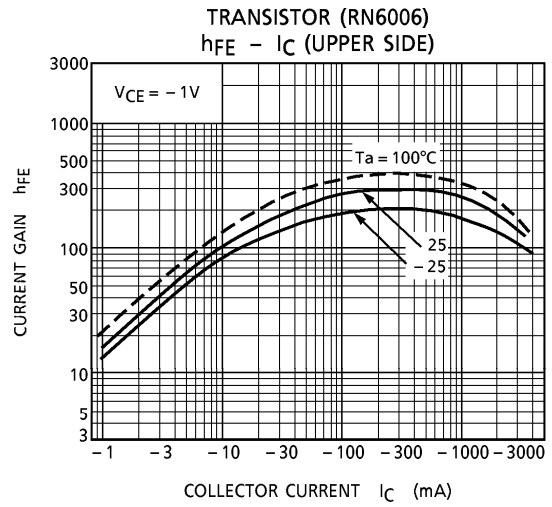
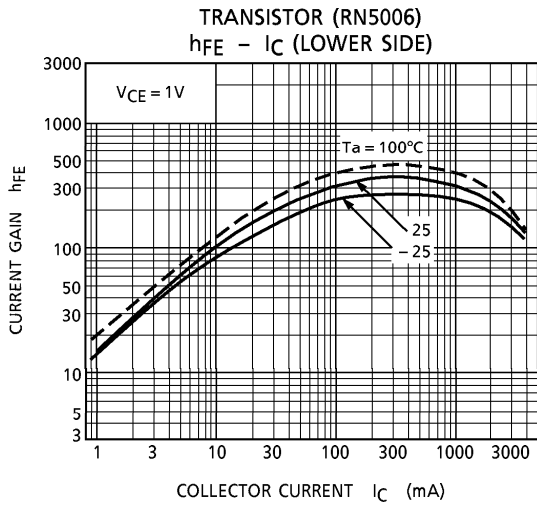
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	10	V
Breakdown Voltage	V _{CB0}	10	V
	V _{CER}	10	V
	V _{EBO}	6	V
Output Current (Average)	I _{OUT}	2	A
Output Current (Peak)	I _{O (PEAK)}	(*) 4	A
Base Current	I _B	± 0.4	A
Base Current (Peak)	I _{B (PEAK)}	(*) ± 0.8	A
Diode Forward Current	I _F	(**) 2	A
Power Dissipation	P _D	490	mW
Junction Temperature	T _j	150	°C
Operating Temperature	T _{opr}	- 40~85	°C
Storage Temperature	T _{stg}	- 55~150	°C

(*) t = 10ms MAX. and maximum duty is less than 30%.

(**) t = 10ms single pulse

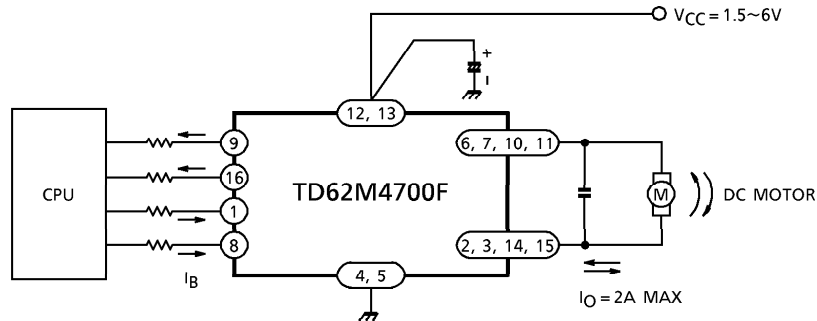
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CIR-CUIT	CONDITION	MIN.	TYP.	MAX.	UNIT
Current Gain		h _{FE (1)}	—	V _{CE} = 1V, I _C = 0.5A	160	—	600	—
		h _{FE (2)}	—	V _{CE} = 1V, I _C = 2.0A	60	130	—	
Saturation Voltage	Upper Side	V _{CE (sat)}	—	I _C = - 1A, I _B = - 25mA	—	- 0.16	- 0.22	V
				I _C = - 2A, I _B = - 50mA	—	- 0.28	- 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 = 1A, I _B = 25mA	—	0.29	0.42	
				I _C = 2A, I _B = 50mA	—	0.53	0.85	
Transition Frequency		f _T	—	V _{CE} = 2V, I _C = 0.5A	—	150	—	MHz
Leakage Current	Upper Side	I _{OL}	—	V _{CC} = - 10V	—	0	- 5	μA
	Lower Side			V _{CC} = 10V	—	0	5	
Diode Forward Voltage	Upper Side	V _F	—	I _F = - 300mA	—	- 0.89	- 1.2	V
				I _F = - 450mA 10ms pulse	—	- 1.60	—	
	Lower Side			I _F = 300mA	—	0.89	1.2	
				I _F = 450mA 10ms pulse	—	1.60	—	
Base-Emitter Resistor		R _{BE}	—	—	7	10	13	kΩ
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	



APPLICATION CIRCUIT

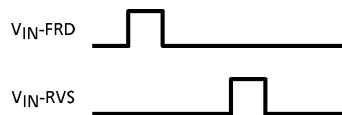
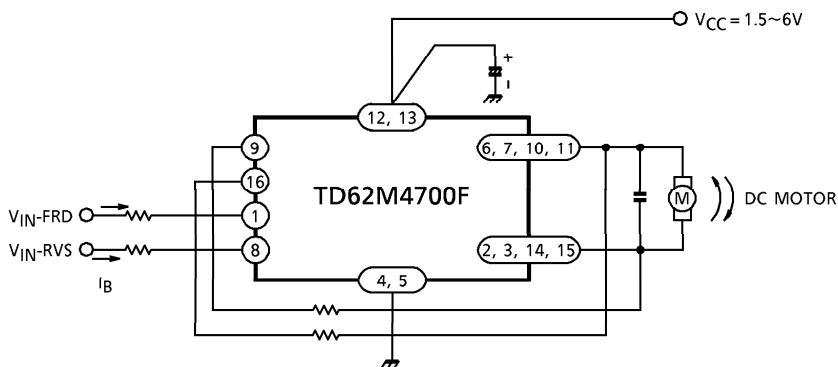
(1)



$$I_B > K_O \cdot \frac{I_O}{h_{FE}}$$

K_O : OVER DRIVE FACTOR ≥ 2

(2)

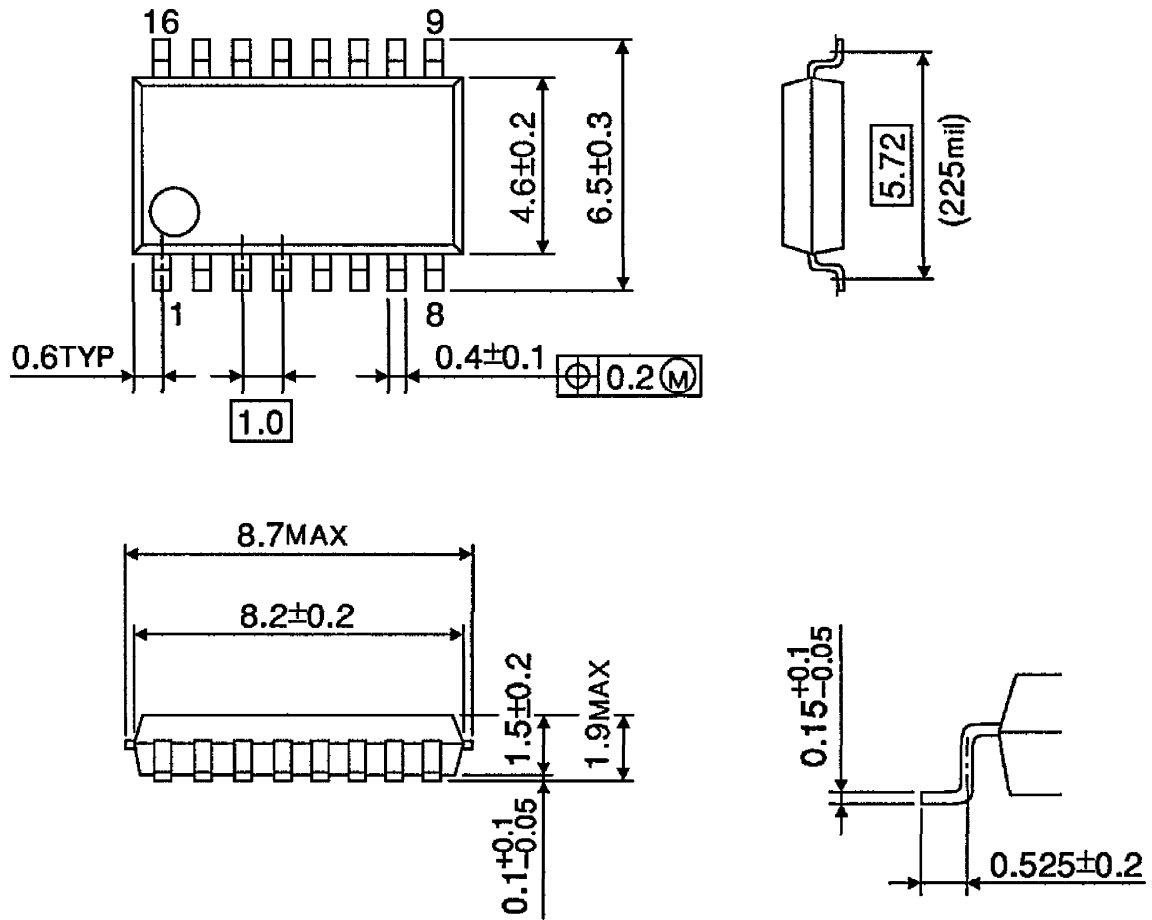


PRECAUTIONS for USING

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.)