

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

TD62M2702F

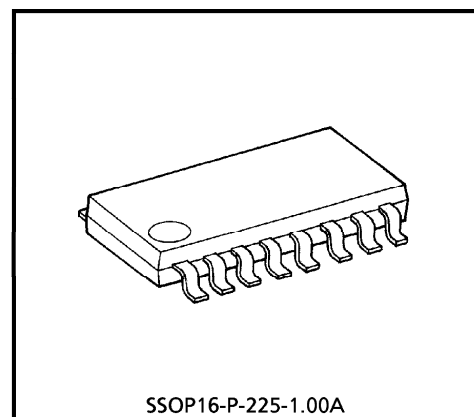
LOW SATURATION VOLTAGE H-BRIDGE DRIVER

TD62M2702F is short break use Multi-Chip driver IC incorporates 2 schottky barrier diodes and 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.

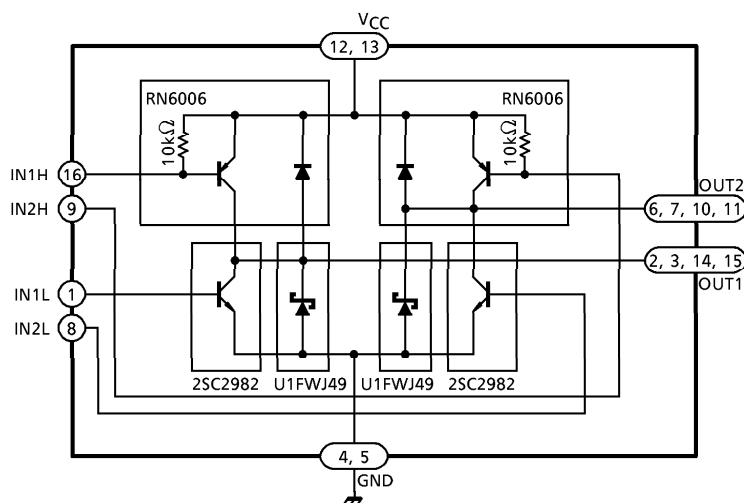
FEATURES

- Built-in fly-wheel diode (upper side)
- Built-in schottky barrier diode (lower side)
- Built-in bias resistor (upper side) : R = 10kΩ (Typ.)
- SSOP16 1mm pitch small package sealed
- Low saturation voltage

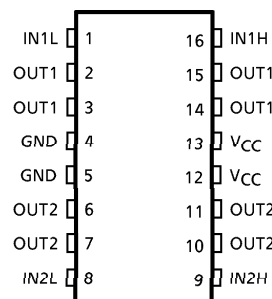


Weight : 0.14g (Typ.)

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 _{EBO}	6	
Output Current	I _{OUT}	2	A
	I _O (PEAK)	4 (Note 1)	
Base Current	I _B	±0.4	A
	I _B (PEAK)	±0.8 (Note 1)	
Diode Forward Current	I _F	2 (Note 2)	A
Power Dissipation	P _D	490	mW
Junction Temperature	T _j	125	°C
Operating Temperature	T _{opr}	-40~85	°C
Storage Temperature	T _{stg}	-55~150	°C

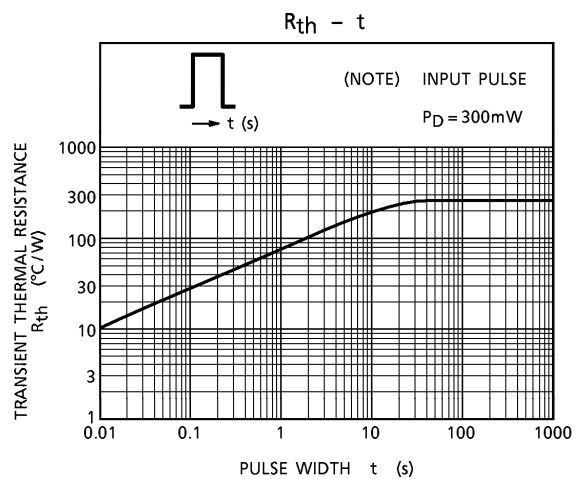
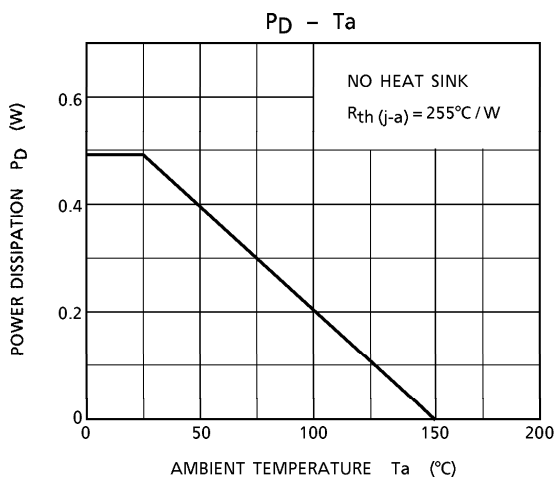
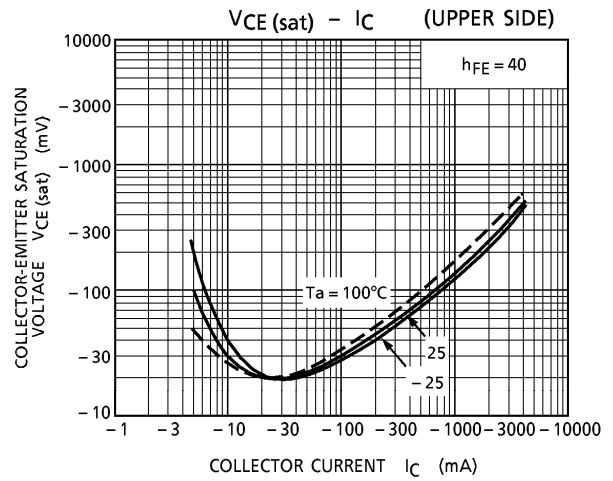
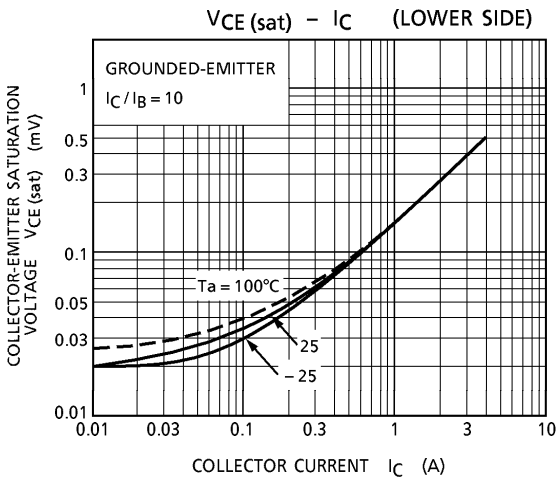
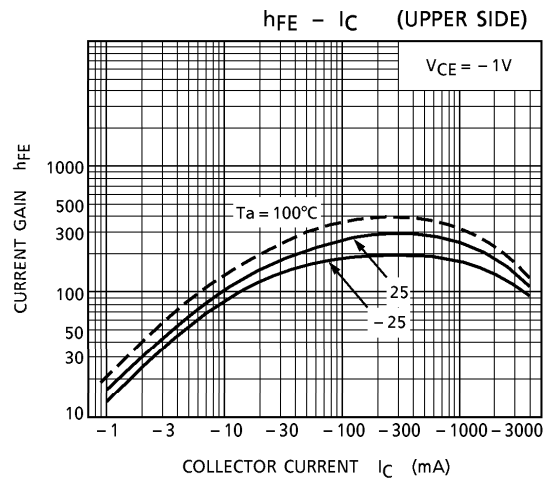
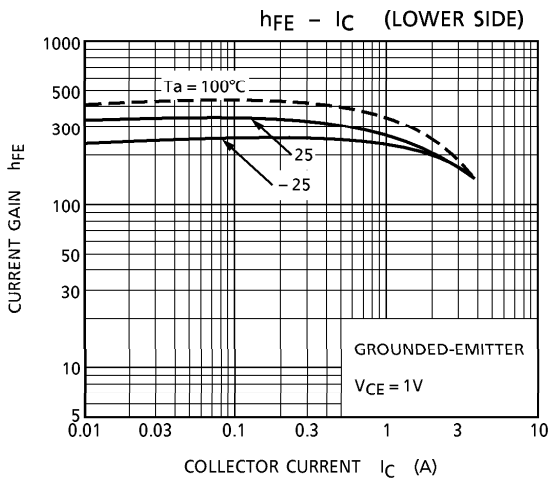
(Note 1) T = 10ms Max. and maximum duty is less than 30%.

(Note 2) T = 10ms single pulse

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Current Gain	Upper Side	h _{FE} (1)	—	V _{CE} = 1V, I _C = 0.5A	160	—	600	—
	Lower Side	h _{FE} (1)	—	V _{CE} = 1V, I _C = 0.5A	200	—	650	
		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	—	0.1	0.22	V
				I _C = 2A, I _B = 50mA	—	0.2	0.45	
	Lower Side			I _C = 1A, I _B = 25mA	—	0.1	0.22	
				I _C = 2A, I _B = 50mA	—	0.2	0.45	
	Summing Total			I _C = 1A, I _B = 25mA	—	0.2	0.42	
I _C = 2A, I _B = 50mA	—	0.4	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				—	—	200	
	V _{CC} -GND				—	—	5	
Diode Forward Voltage (Note)	Upper Side	V _F	—	I _F = 300mA	—	0.89	1.2	V
				I _F = 450mA, 10ms	—	1.60	—	
	Lower Side			I _F = 1A	—	—	0.58	
Base-Emitter Resistance		R _{BE}	—	—	7	10	13	kΩ
Base-Emitter Forward Voltage		V _{BE}	—	V _{CE} = 1V, I _C = 2A	—	0.84	1.5	V

(Note) Schottky Diode U1FW49 (No Heat Sink) is guaranteed at V_F (Lower Side) = 0.55V (max.) but the TD62M2702F is guaranteed at V_F (Lower Side) = 0.58V (max.) (Voltage shift of 0.03V (I_F = 1A) is due to different package.)

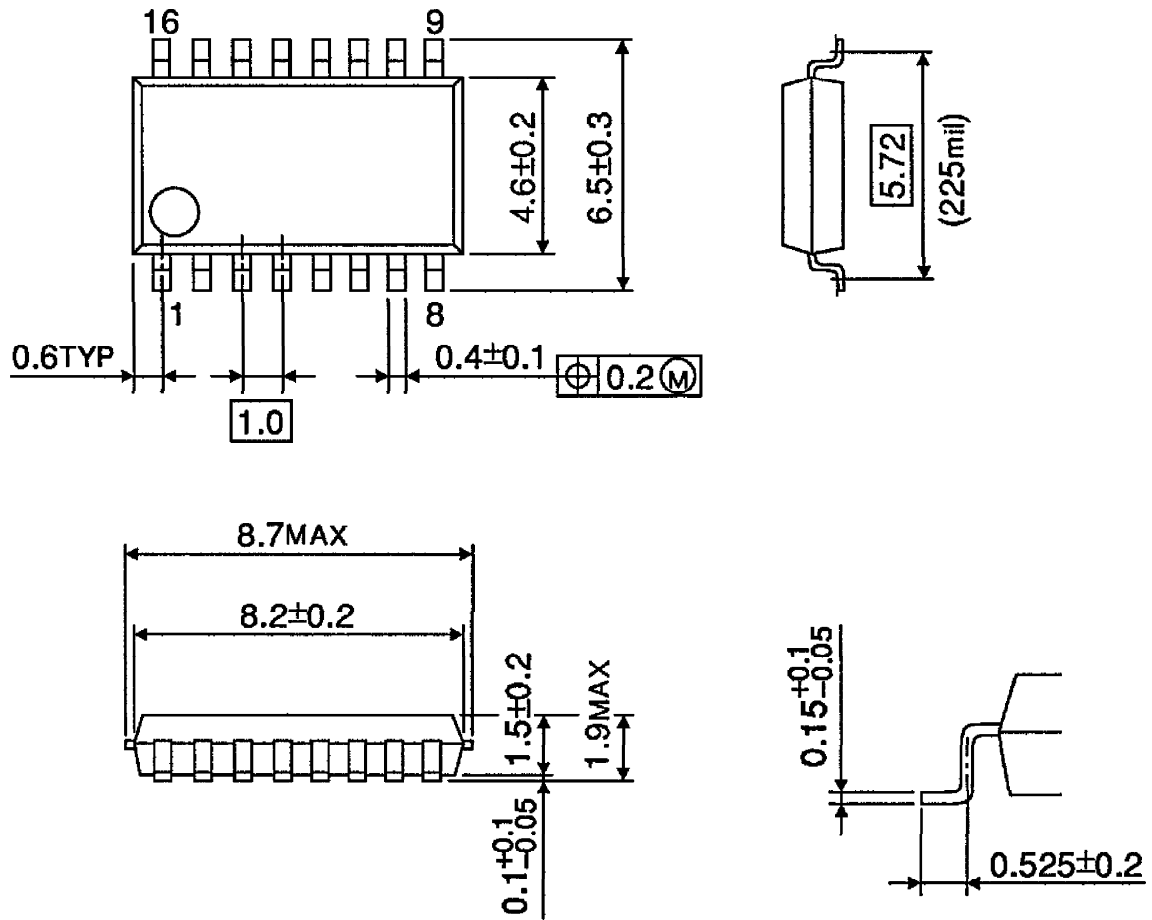


PRECAUTIONS for USING

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.)