

TOSHIBA

TD62M2701F

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

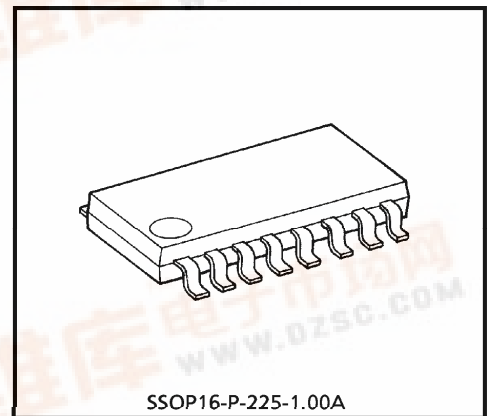
TD62M2701F

LOW SATURATION VOLTAGE H-BRIDGE DRIVER

TD62M2701F is multi-chip H-bridge driver IC incorporates 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.

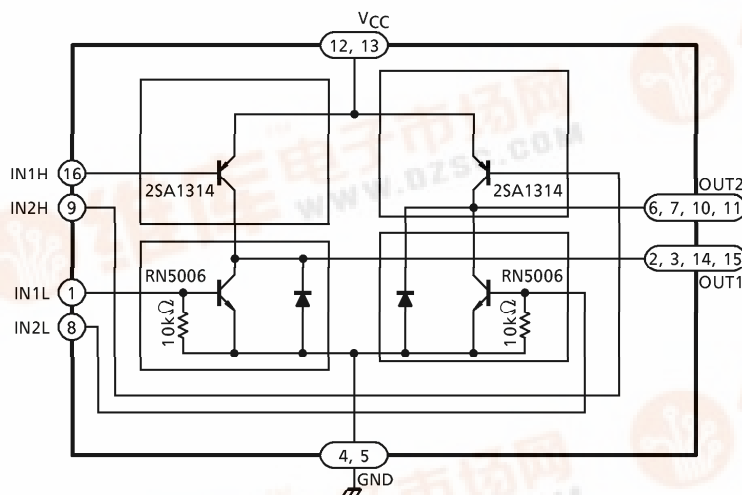
FEATURES

- Suitable for high efficiency motor drive circuit
- Built-in fly-wheel diode (lower side)
- Built-in bias resistor (lower side) : R = 10kΩ (Typ.)
- SSOP 16 1mm pitch package sealed
- Low saturation voltage
: $V_{CE(sat)}$ (upper + lower) = 0.23V (Typ.) : $I_O = 1A$
: 0.45V (Typ.) : $I_O = 2A$



Weight : 0.14g (Typ.)

BLOCK DIAGRAM

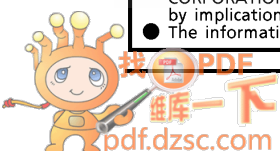


PIN CONNECTION (TOP VIEW)

IN1L	1	16	IN1H
OUT1	2	15	OUT1
OUT1	3	14	OUT1
GND	4	13	VCC
GND	5	12	VCC
OUT2	6	11	OUT2
OUT2	7	10	OUT2
IN2L	8	9	IN2H

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MAXIMUM RATINGS (Ta = 25°C)

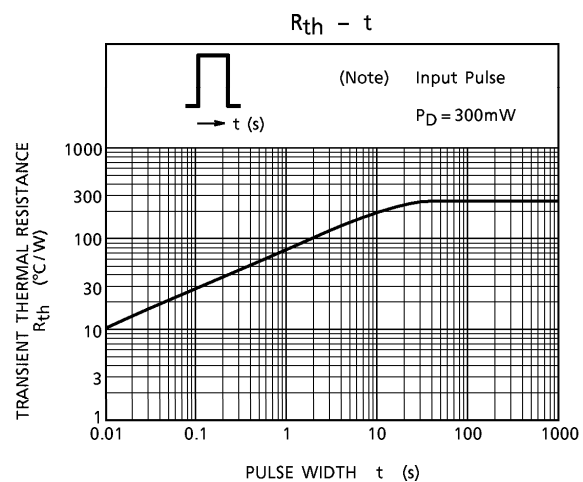
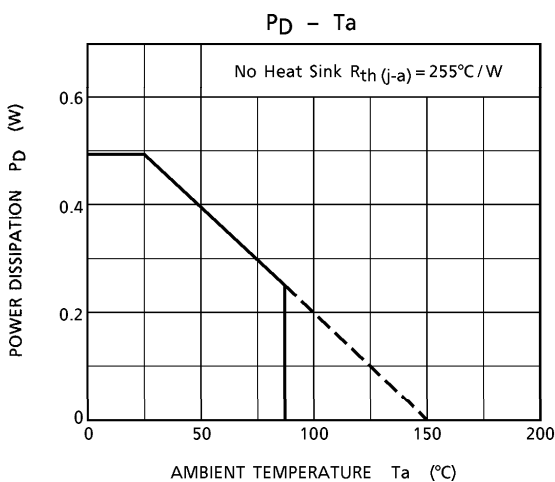
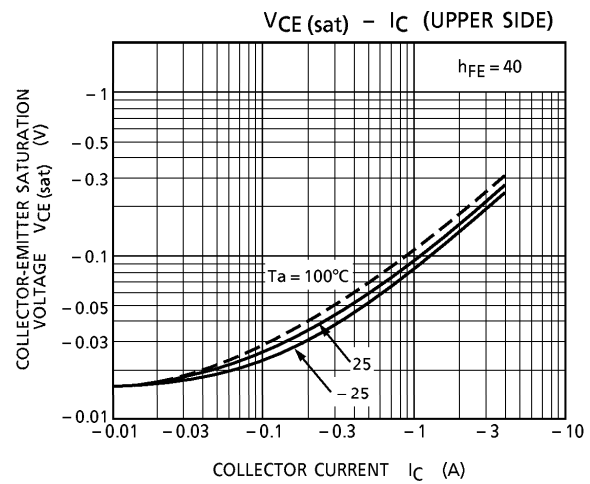
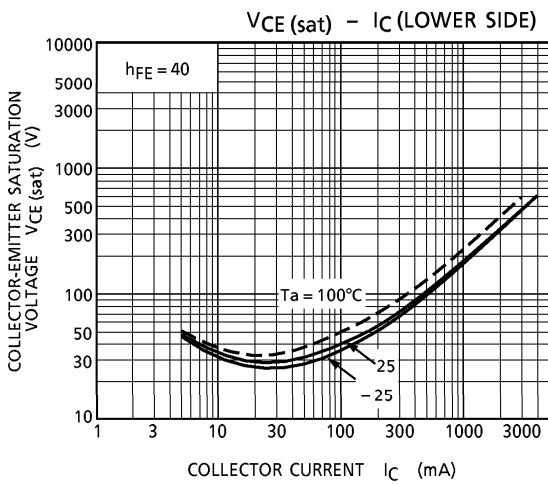
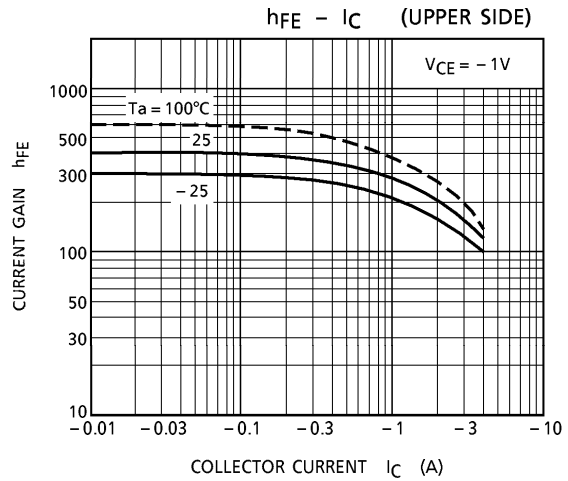
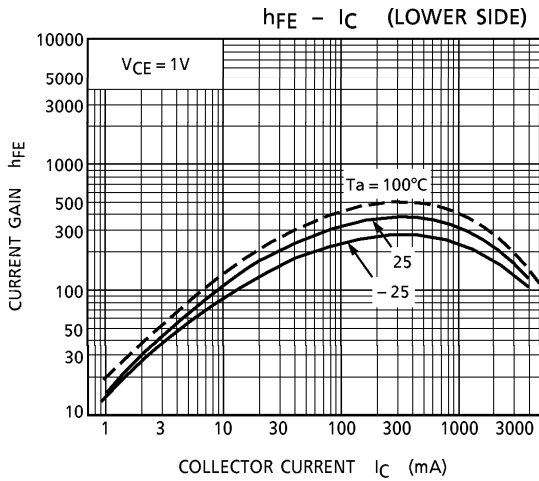
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	10	V
Collector-Base Voltage	V _{CBO}	10	V
Collector-Emitter Voltage	V _{CER}	10	V
Emitter-Base Voltage	V _{EBO}	6	V
Output Current	I _{OUT}	2	A
	I _{O (PEAK)}	4 (Note 1)	
Base Current	I _B	±0.4	A
	I _{B (PEAK)}	±0.8 (Note 1)	
Diode Forward Current	I _F	2 (Note 2)	A
Power Dissipation	P _D	490	mW
Junction Temperature	T _j	150	°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 CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Current Gain	Upper Side	h _{FE (1)}	—	V _{CE} = -1V, I _C = -0.5A	200	—	700	—
	Lower Side	h _{FE (1)}	—	V _{CE} = 1V, I _C = 0.5A	160	—	700	
		h _{FE (2)}	—	V _{CE} = 1V, I _C = 2.0A	60	130	—	
Output Saturation Voltage	Upper Side	V _{CE (sat)}	—	I _C = -1A, I _B = -25mA	—	-0.10	-0.22	V
				I _C = -2A, I _B = -50mA	—	-0.20	-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 = 0.5A, I _B = 12.5mA	—	—	0.20	
				I _C = 1A, I _B = 25mA	—	—	0.23	
	I _C = 2A, I _B = 50mA	—	—	0.45	0.85			
Transition Frequency		f _T	—	V _{CE} = 2V, I _C = 0.5A	—	150	—	MHz
Output Leakage Current	Upper Side	I _{OL}	—	V _{CC} = -10V	—	0	-5	μA
	Lower Side			V _{CC} = 10V	—	0	5	
Diode Forward Voltage (Lower Side)		V _F	—	I _F = 300mA	—	0.89	1.2	V
				I _F = 450mA 10ms	—	1.60	—	
Base-Emitter Resistance		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	

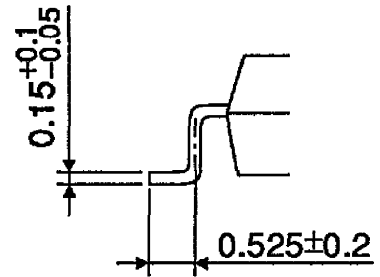
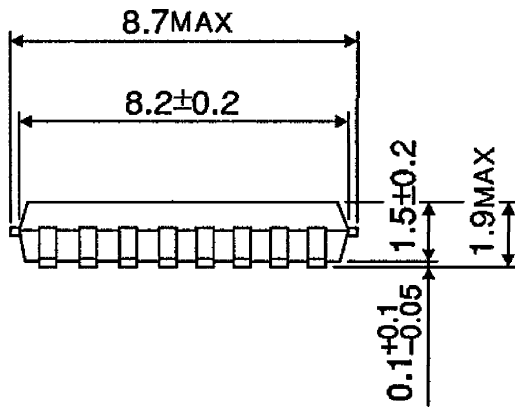
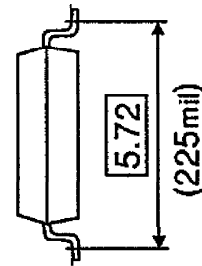
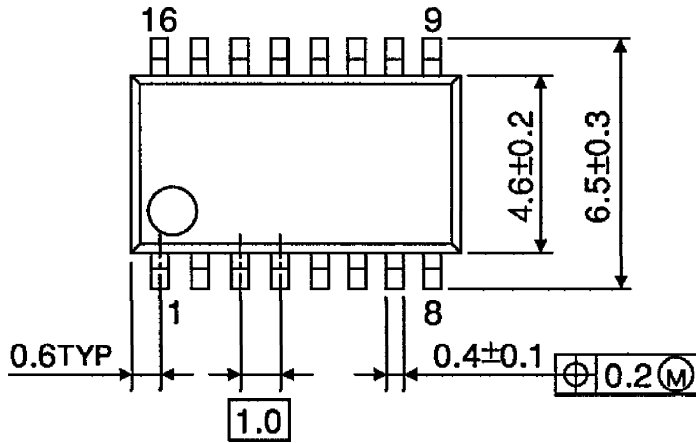


PRECAUTIONS for USING

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.)