

TD62M2702F

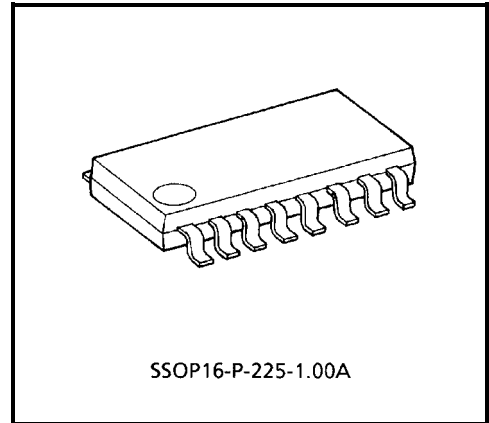
LOW SATURATION VOLTAGE H-BRIDGE DRIVER

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.

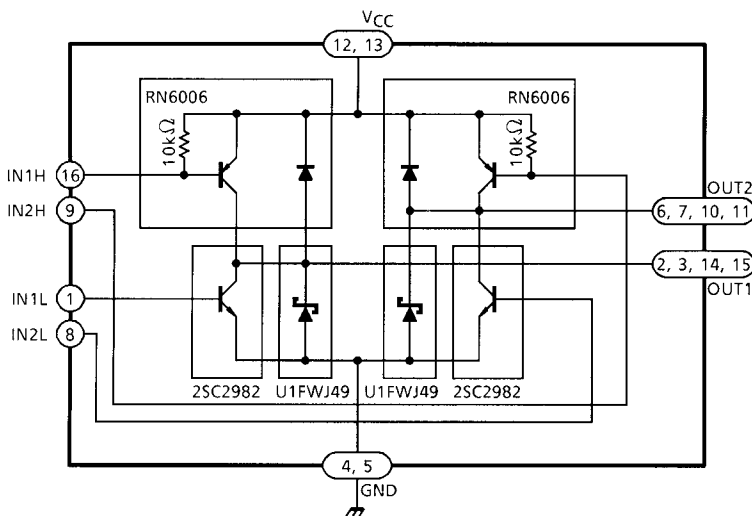
FEATURES

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

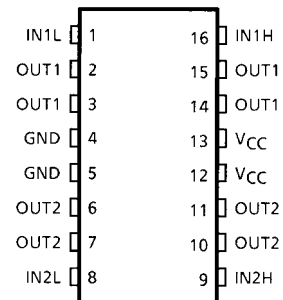


Weight: 0.14 g (Typ.)

BLOCK DIAGRAM



PIN CONNECTION (TOP VIEW)



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	10	V
Breakdown Voltage	V _{CBO}	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

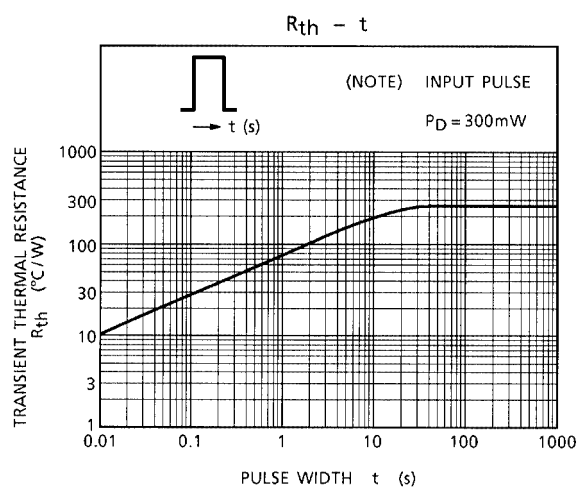
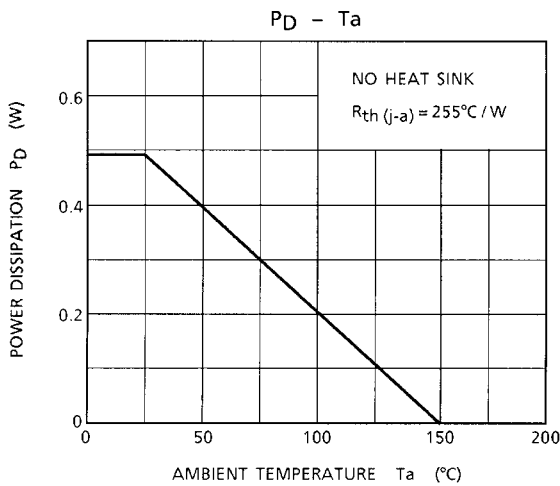
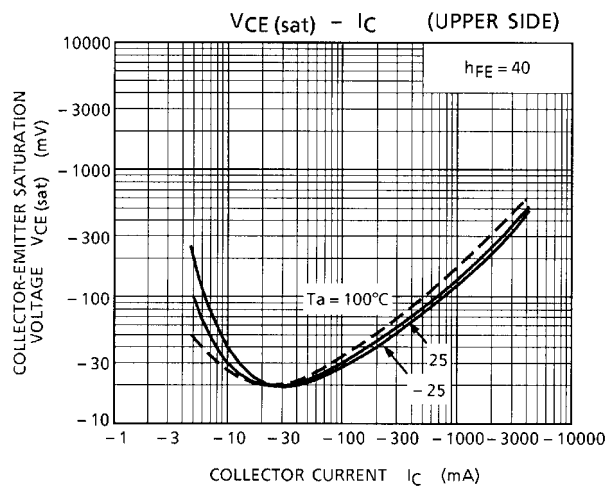
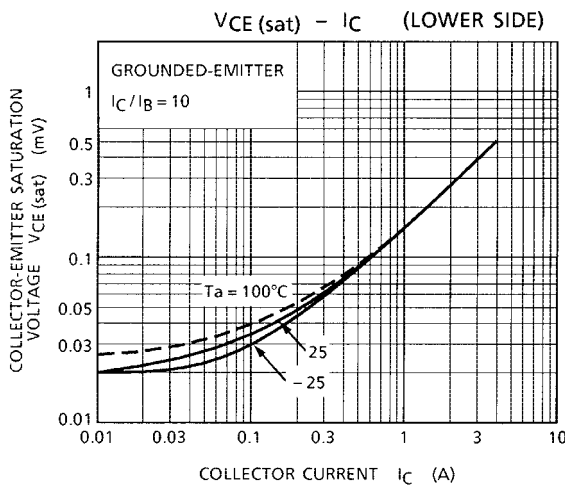
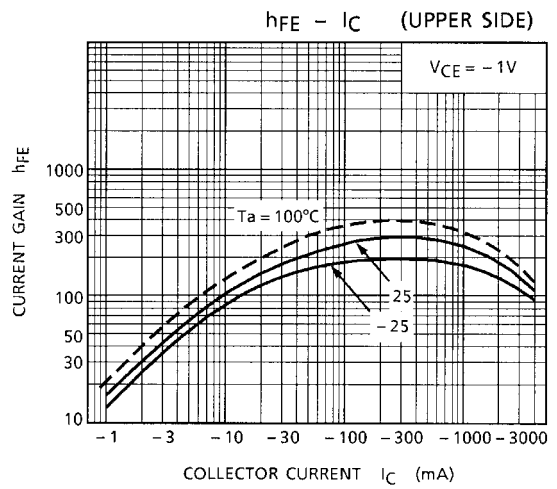
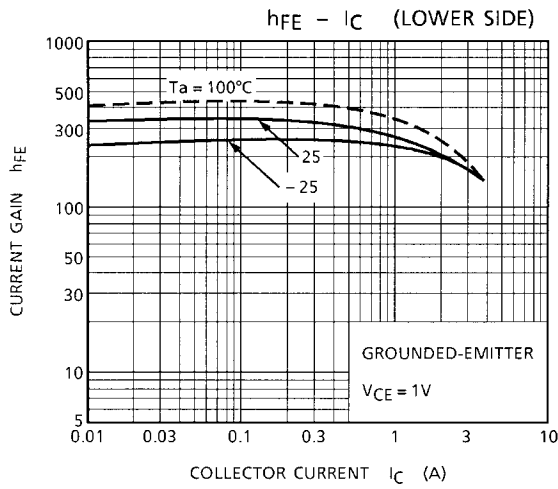
Note 1: T = 10 ms Max. and maximum duty is less than 30%.

Note 2: T = 10 ms 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} = 1 V, I _C = 0.5 A	160	—	600	—
	Lower Side	h _{FE (1)}	—	V _{CE} = 1 V, I _C = 0.5 A	200	—	650	
		h _{FE (2)}	—	V _{CE} = 1 V, I _C = 2.0 A	60	130	—	
Saturation Voltage	Upper Side	V _{CE (sat)}	—	I _C = 1 A, I _B = 25 mA	—	0.1	0.22	V
				I _C = 2 A, I _B = 50 mA	—	0.2	0.45	
	Lower Side			I _C = 1 A, I _B = 25 mA	—	0.1	0.22	
				I _C = 2 A, I _B = 50 mA	—	0.2	0.45	
	Summing Total			I _C = 1 A, I _B = 25 mA	—	0.2	0.42	
				I _C = 2 A, I _B = 50 mA	—	0.4	0.85	
Transition Frequency		f _T	—	V _{CE} = 2 V, I _C = 0.5 A	—	150	—	MHz
Leakage Current	Upper Side	I _{OL}	—	V _{CC} = 10 V	—	0	5	μA
	Lower Side				—	—	200	
	V _{CC} - GND				—	—	5	
Diode Forward Voltage (Note)	Upper Side	V _F	—	I _F = 300 mA	—	0.89	1.2	V
				I _F = 450 mA, 10 ms	—	1.60	—	
	Lower Side			I _F = 1 A	—	—	0.58	
Base-Emitter Resistance		R _{BE}	—	—	7	10	13	kΩ
Base-Emitter Forward Voltage		V _{BE}	—	V _{CE} = 1 V, I _C = 2 A	—	0.84	1.5	V

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



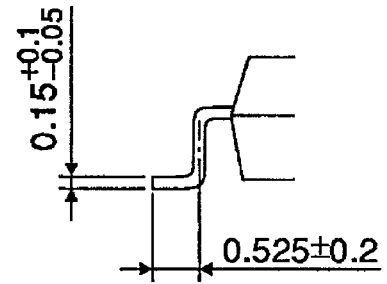
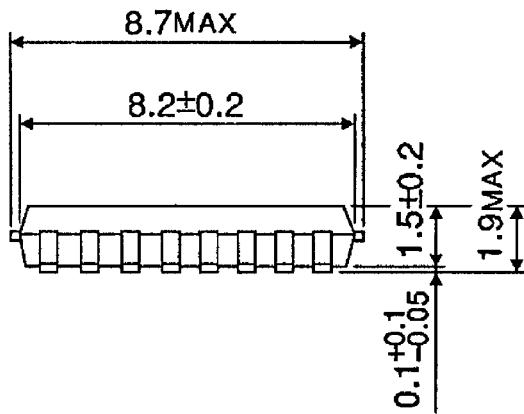
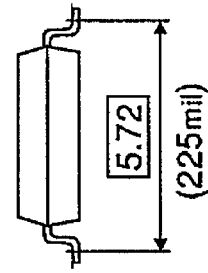
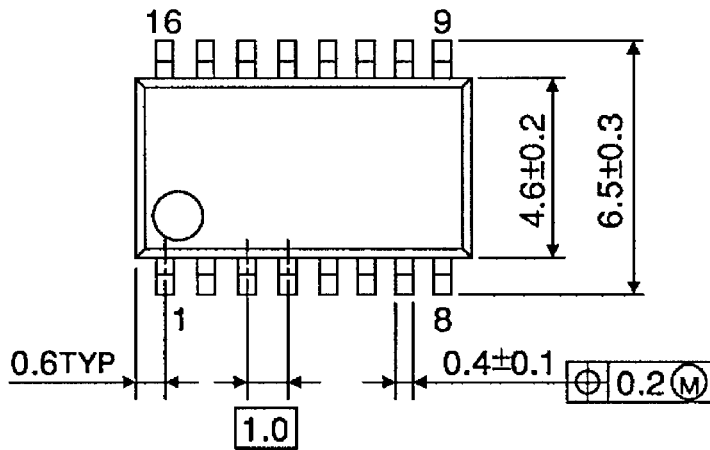
PRECAUTIONS for USING

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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