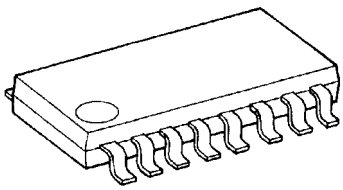
TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

TD62M4500F

4CH LOW SATURATION VOLTAGE SINK DRIVER

TD62M4500F is Multi Chip IC incorporates 4 low saturation discrete transistors which equipped fly−wheeling diodes and bias resistor.
This IC is suitable for a battery use motor drive and LED display module applications.



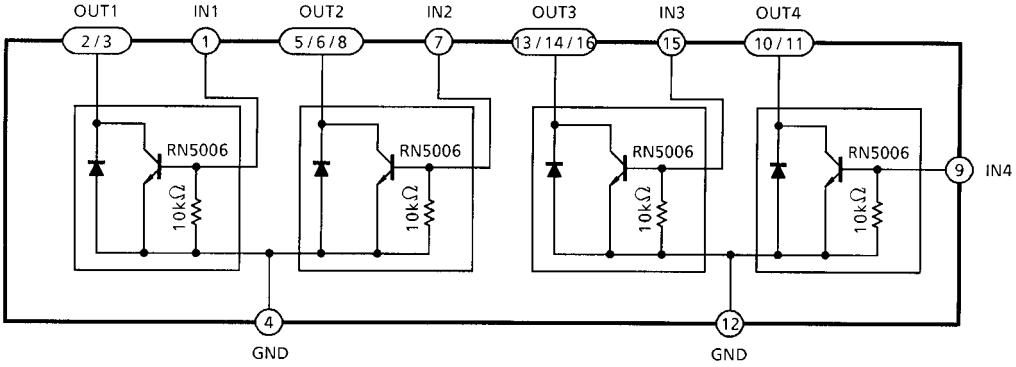
SSOP16-P-225-1.00A

Weight: 0.14 g (Typ.)

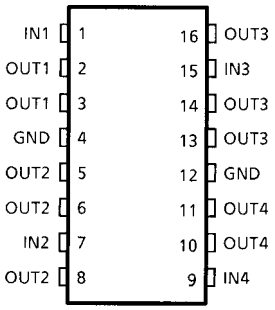
FEATURES

- Suitable for Motor drive circuit and LED display module
- Bias resistor and diodes are equipped : R = 10 kΩ
- Low Saturation Voltage
  $V_{CE\ (sat)}$ = 0.16 V (Typ.) at I_C = 1 A
  $V_{CE\ (sat)}$ = 0.30 V (Typ.) at I_C = 2 A
- SSOP16 (1 mm pitch) small package sealed

BLOCK DIAGRAM



PIN CONNECTION (TOP VIEW)



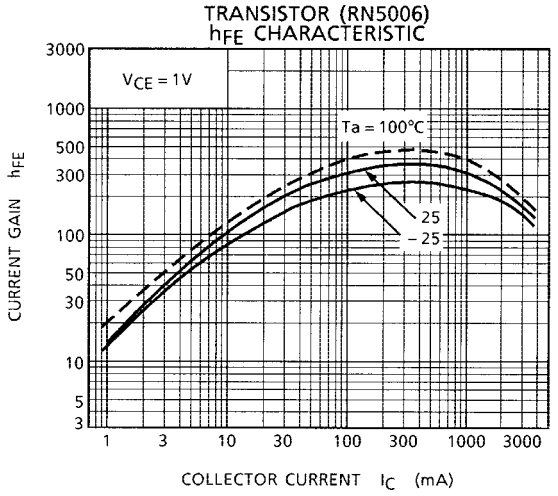
MAXIMUM RATINGS (Ta = 25°C)

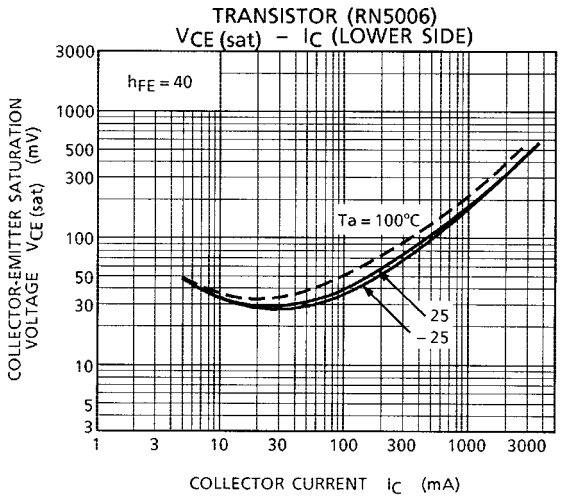
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	10	V
Breakdown Voltage	V_{CBO}	10	V
	V_{CER}	10	
	V_{EBO}	6	
Output Current	$I_{O\ (AVE)}$	2	A
	$I_{O\ (PRAK)}$	4 (Note 1)	
Base Current	$I_{B\ (AVE)}$	0.4	A
	$I_{B\ (PRAK)}$	0.8	
Fly−wheeling Diode Forward Current	I_F	2 (Note 2)	A
Power Dissipation	P_D	490	mW
Junction Temperature	T_j	150	°C
Operating Temperature	T_{opr}	−40~85	°C
Storage Temperature	T_{stg}	−55~150	°C

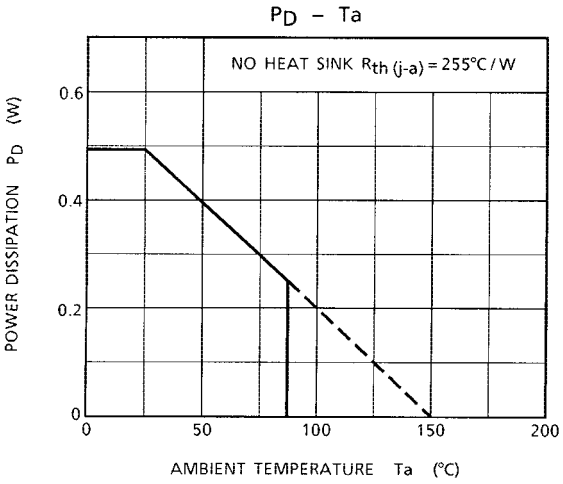
Note 1: T = 10 ms MAX. and maximum duty is less than 30%.
Note 2: T = 10 ms single pulse

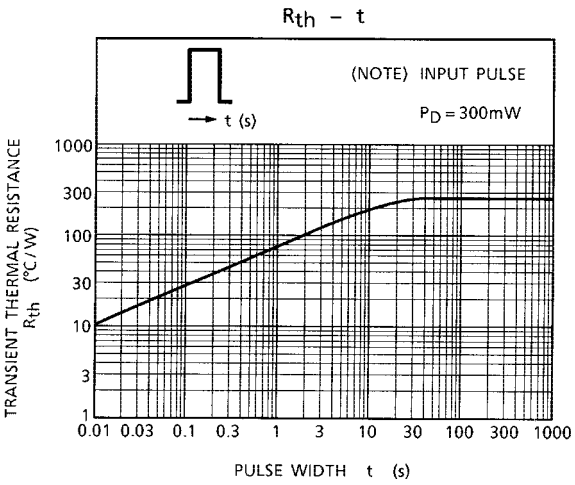
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR−CUIT	TEST CONDITION	MIN	TYP.	MAX	UNIT
Current Gain	$h_{FE\ (1)}$	—	V_{CE} = 1 V, I_C = 0.5 A	160	—	600	—
	$h_{FE\ (2)}$		V_{CE} = 1 V, I_C = 1.5 A	60	130	—	
Saturation Voltage	$V_{CE\ (sat)}$	—	I_C = 1 A, I_B = 25 mA	—	0.16	0.32	V
			I_C = 2 A, I_B = 50 mA	—	0.30	0.50	
Transition Frequency	f_T	—	V_{CE} = 2 V, I_C = 0.5 A	—	150	—	MHz
Leakage Current	I_{OL}	—	V_{CC} = 10 V	—	0	10	μA
Fly−wheeling Diode Forward Current	V_F	—	I_F = 300 mA	—	0.89	1.2	V
			I_F = 450 mA, 10 ms	—	1.60	—	
Base−Emitter Resistor	R_{BE}	—	—	7	10	13	kΩ
Base−Emitter Forward Voltage	V_{BE}	—	V_{CE} = 1 V, I_C = 2.0 A	—	0.84	1.5	V







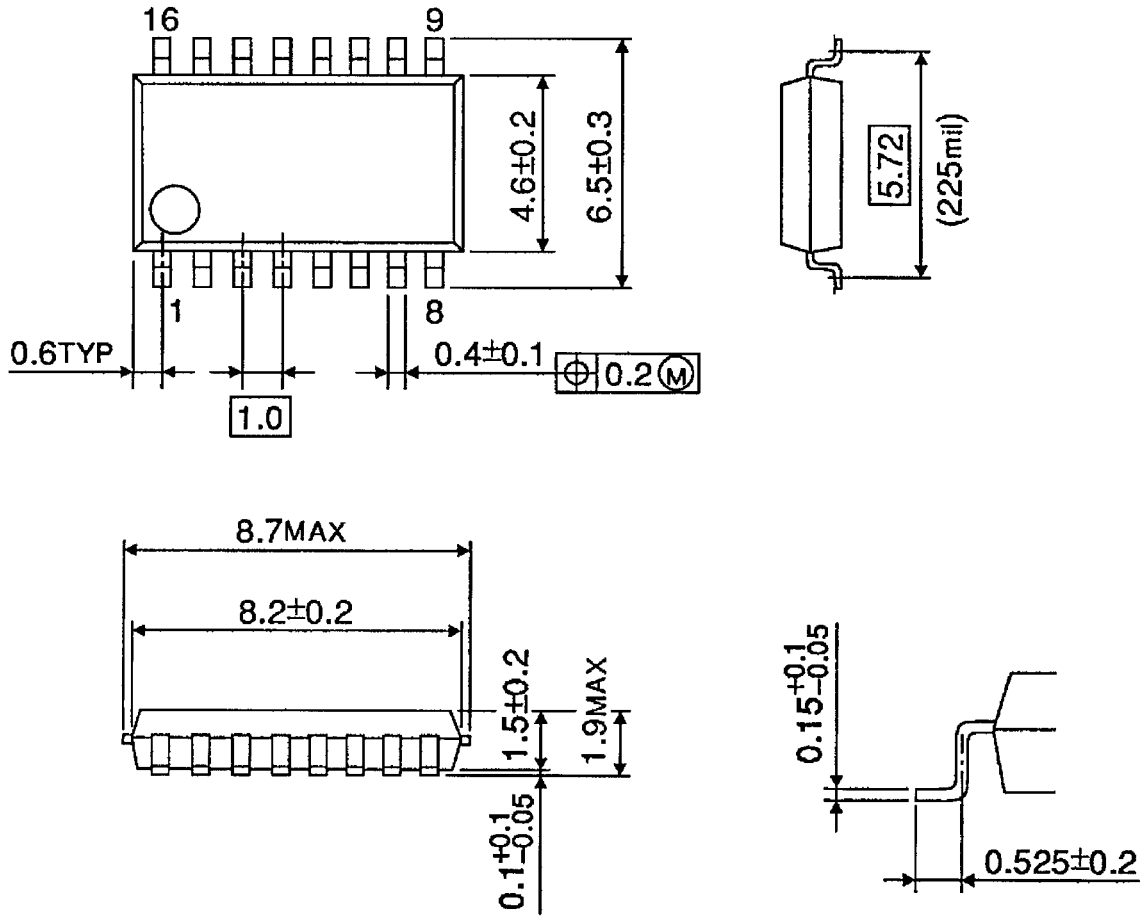


PRECAUTIONS for USING

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, V_{CC} 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

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