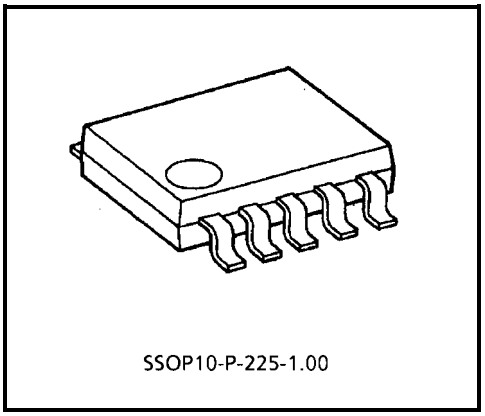
TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

TD62M3600F

3CH LOW SATURATION VOLTAGE SOURCE DRIVER

TD62M3600F is multi chip driver IC incorporates 3 low saturation voltage discrete PNP transistors which equipped bias resistor and fly−wheeling diode.

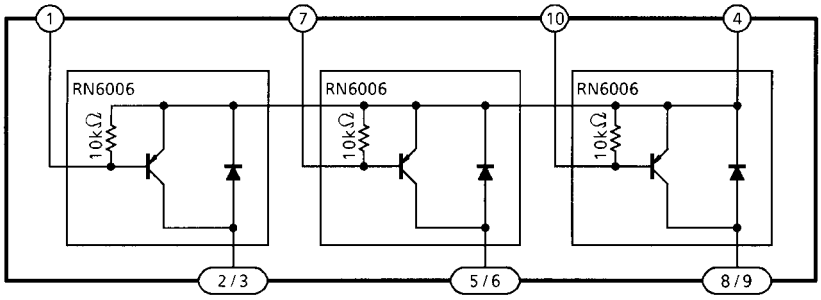


Weight: 0.10 g (Typ.)

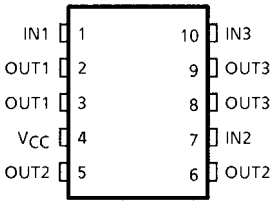
FEATURES

- Built−in fly−wheeling diode
- Built−in bias resistor : R = 10 kΩ (Typ.)
- SSOP10 (1 mm pitch) small package sealed
- Low saturation voltage
  $V_{CE\ (sat)}$ = 0.16 V (Typ.) at I_O = −1 A
  $V_{CE\ (sat)}$ = 0.28 V (Typ.) at I_O = −2 A

BLOCK DIAGRAM



PIN CONNECTION



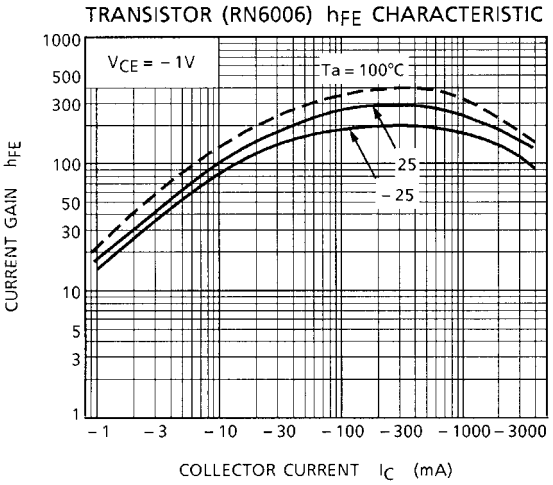
MAXIMUM RATINGS (Ta = 25°C)

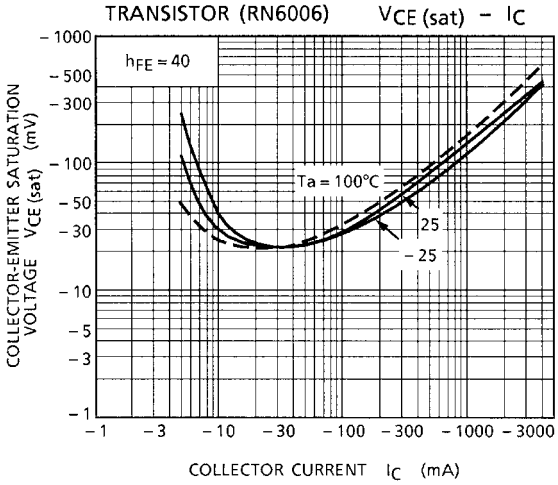
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	−10	V
Collector−Base Voltage	V_{CBO}	−10	V
Collector−Emitter Voltage	V_{CEO}	−10	V
Emitter−Base Voltage	V_{EBO}	−6	V
Output Transistor Current	I_O	−2	A / ch
	$I_{O\ (PEAK)}$	−4 (Note 1)	
Base Current	I_B	−0.4	A
	$I_{B\ (PEAK)}$	−0.8 (Note 1)	
Diode Forward Current	I_F	−2 (Note 2)	A
Power Dissipation	P_D	590	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 = 2.0 A	60	130	—	
Saturation Voltage	$V_{CE\ (sat)}$	—	I_C = 1 A, I_B = 25 mA	—	0.13	0.25	V
			I_C = 2 A, I_B = 50 mA	—	0.25	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
Diode Forward Voltage	V_F	—	I_F = 300 mA	—	0.89	1.2	V
			I_F = 450 mA, 10 ms	—	1.60	—	
Base−Emitter Resistance	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



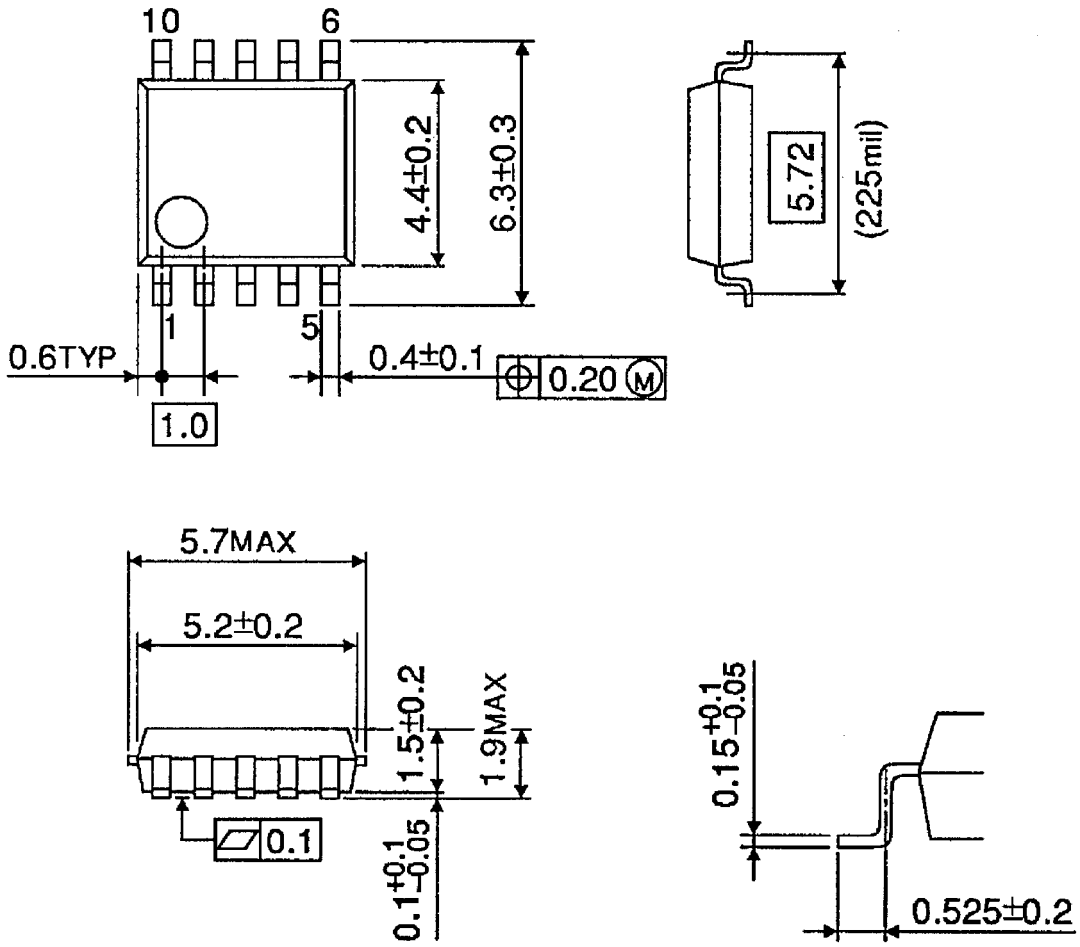


PRECAUTIONS for USING

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

SSOP10−P−225−1.00 Unit: mm



Weight: 0.10 g (Typ.)

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