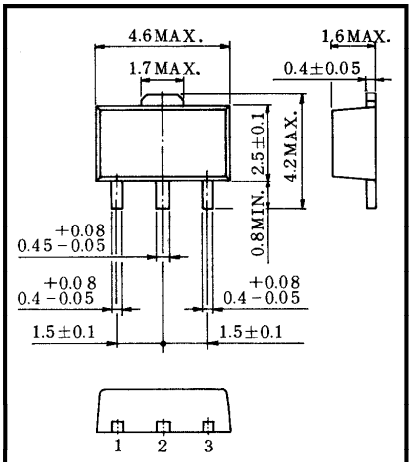
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

RN5006

MOTOR DRIVE CIRCUIT APPLICATIONS.
POWER AMPLIFIER APPLICATIONS.
POWER SWITCHING APPLICATIONS.

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Small Flat Package
- P_C=1~2W (Mounted on Ceramic substrate)
- Complementary to RN6006

Unit in mm

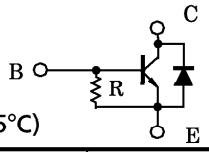


1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

PW-MINI	
JEDEC	—
EIAJ	SC-62
TOSHIBA	2-5K1A

Weight : 0.05g

EQUIVALENT CIRCUIT

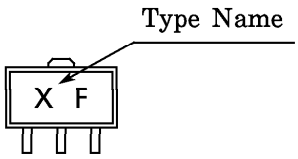


R=10kΩ (TYP.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	10	V
Collector-Emitter Voltage		V_{CES}	10	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current	DC	I_C	2	A
	Pulse (Note1)	I_{CP}	4	
Base Current		I_B	0.4	A
Collector Power Dissipation		P_C	500	mW
Collector Power Dissipation		P_C*	1000	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

MARKING



Note : Pulse Width ≦ 10ms, Duty Cycle ≦ 30%
* : Mounted on ceramic substrate (250mm²×0.8t)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=10V, I_E=0	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=6V, I_C=0	0.462	0.60	0.857	mA
Collector-Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C=1mA	10	—	—	V
DC Current Gain	$h_{FE(1)}$	V_{CE}=1V, I_C=0.5A	160	—	600	
	$h_{FE(2)}$	V_{CE}=1V, I_C=4.0A	60	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2A, I_B=0.05A	—	—	0.5	V
Transition Frequency	f_T	V_{CE}=1V, I_C=0.5A	—	140	—	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	—	30	—	pF
Resistor	R		7	10	13	kΩ

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