

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC3076

POWER AMPLIFIER APPLICATIONS

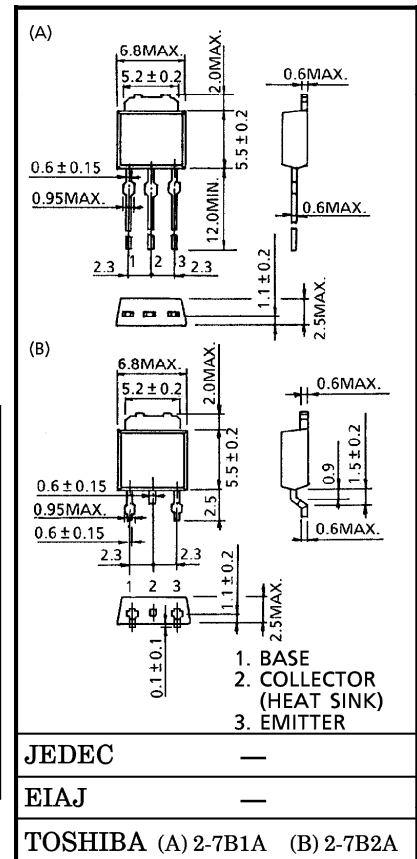
POWER SWITCHING APPLICATIONS

- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.5 \text{ V (Max.) (I}_C = 1 \text{ A)}$
- Excellent Switching Time : $t_{stg} = 1.0 \mu\text{s (Typ.)}$
- Complementary to 2SA1241

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	50	V
Collector-Emitter Voltage		V_{CEO}	50	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	2	A
Base Current		I_B	1	A
Collector Power Dissipation	Ta = 25°C	PC	1.0	W
	Tc = 25°C		10	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55~150	°C

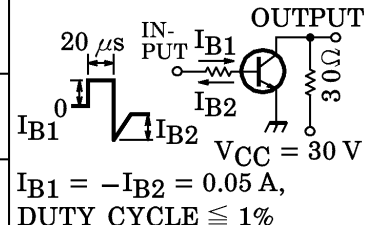
Unit in mm



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 50 V, I _E = 0	—	—	1.0	μA
Emitter Cut-off Current		IEBO	V _{EB} = 5 V, I _C = 0	—	—	1.0	μA
Collector-Emitter Breakdown Voltage		V _{(BR) CEO}	I _C = 10 mA, I _B = 0	50	—	—	V
DC Current Gain		h _{FE} (1) (Note)	V _{CE} = 2 V, I _C = 0.5 A	70	—	240	
		h _{FE} (2)	V _{CE} = 2 V, I _C = 1.5 A	40	—	—	
Saturation Voltage	Collector-Emitter	V _{CE(sat)}	I _C = 1 A, I _B = 0.05 A	—	—	0.5	V
	Base-Emitter	V _{BE(sat)}	I _C = 1 A, I _B = 0.05 A	—	—	1.2	
Transition Frequency		f _T	V _{CE} = 2 V, I _C = 0.5 A	—	80	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	30	—	pF
Switching Time	Turn-on Time	t _{on}	 <p> $I_{B1} = -I_{B2} = 0.05 \text{ A}$, DUTY CYCLE $\leq 1\%$ </p>	—	0.1	—	μs
	Storage Time	t _{stg}		—	1.0	—	
	Fall Time	t _f		—	0.1	—	

Note : h_{FE}(1) Classification O : 70~140, Y : 120~240

