

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

2SD1221

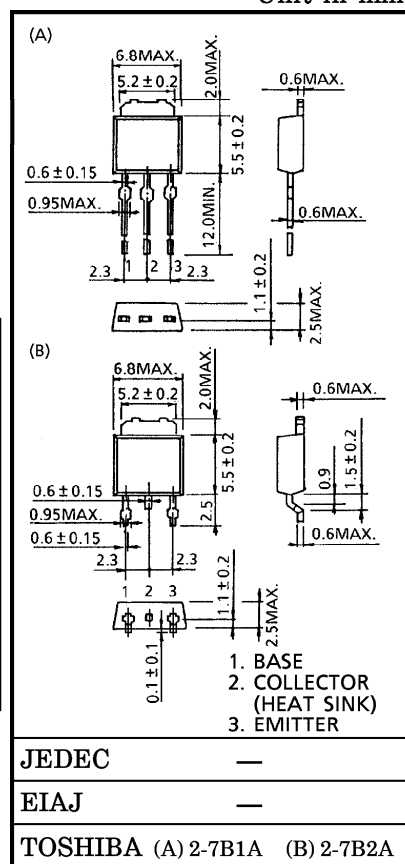
AUDIO FREQUENCY POWER AMPLIFIER APPLICATION

Unit in mm

- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.4\text{ V (Typ.)}$
- High Power Dissipation : $P_C = 20\text{ W}$
- Complementary to 2SB906

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	60	V
Collector-Emitter Voltage		V_{CEO}	60	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current		I_C	3	A
Base Current		I_B	0.5	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		20	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$

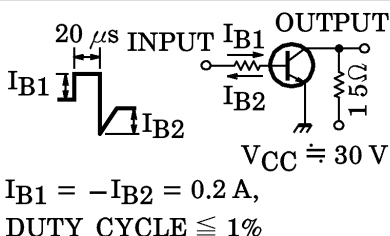


Weight : 0.36 g (Typ.)

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 60 V, I _E = 0	—	—	100	μA
Emitter Cut-off Current		IEBO	V _{EB} = 7 V, I _C = 0	—	—	100	μA
Collector-Emitter Breakdown Voltage		V (BR) CEO	I _C = 50 mA, I _B = 0	60	—	—	V
DC Current Gain		h _{FE} (1) (Note)	V _{CE} = 5 V, I _C = 0.5 A	60	—	300	
		h _{FE} (2)	V _{CE} = 5 V, I _C = 3 A	20	—	—	
Collector-Emitter Saturation Voltage		V _{CE} (sat)	I _C = 3 A, I _B = 0.3 A	—	0.4	1.0	V
Base-Emitter Voltage		V _{BE}	V _{CE} = 5 V, I _C = 0.5 A	—	0.7	1.0	V
Transition Frequency		f _T	V _{CE} = 5 V, I _C = 0.5 A	—	3.0	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	70	—	pF
Switching Time	Turn-on Time	t _{on}	 <p> $I_{B1} = -I_{B2} = 0.2 \text{ A}$, DUTY CYCLE $\leq 1\%$ </p>	—	0.8	—	μs
	Storage Time	t _{stg}		—	1.5	—	
	Fall Time	t _f		—	0.8	—	

Note : h_{FE} (1) Classification O : 60~120, Y : 100~200, GR : 150~300

