

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1241

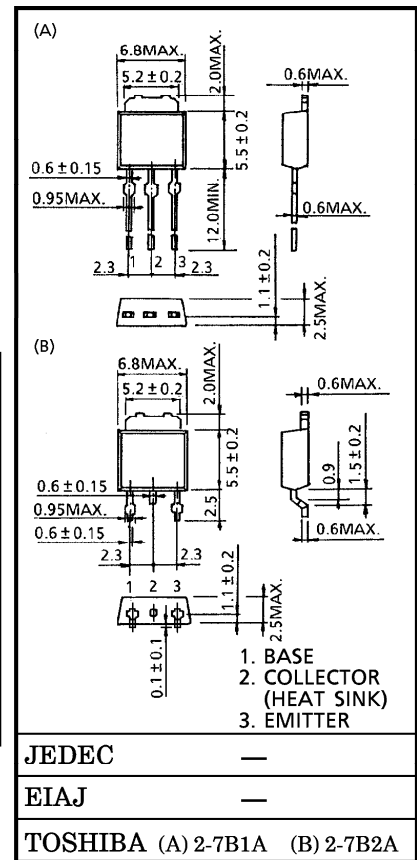
POWER AMPLIFIER APPLICATIONS
POWER SWITCHING APPLICATIONS

Unit in mm

- 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 2SC3076

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

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	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		10	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$



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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 _B = -1.5 A	40	—	—	
Collector-Emitter Saturation Voltage		V _{CE} (sat)	I _C = -1 A, I _B = -0.05 A	—	—	-0.5	V
Base-Emitter Saturation Voltage		V _{BE} (sat)	I _C = -1 A, I _B = -0.05 A	—	—	-1.2	V
Transition Frequency		f _T	V _{CE} = -2 V, I _C = -0.5 A	—	100	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz	—	40	—	pF
Switching Time	Turn-on Time	t _{on}	<p> $20 \mu s$ INPUT I_{B2} I_{B1} OUTPUT 30Ω $V_{CC} = -30 V$ $-I_{B1} = I_{B2} = 0.05 A$ 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

