

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1244

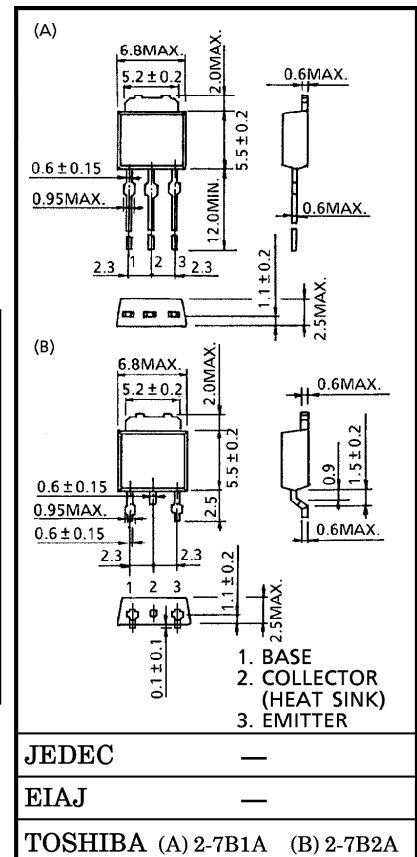
HIGH CURRENT SWITCHING APPLICATIONS

Unit in mm

- Low Collector Saturation Voltage
: $V_{CE(sat)} = -0.4\text{ V (Max.) at } I_C = -3\text{ A}$
- High Speed Switching Time : $t_{stg} = 1.0\ \mu\text{s (Typ.)}$
- Complementary to 2SC3074

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

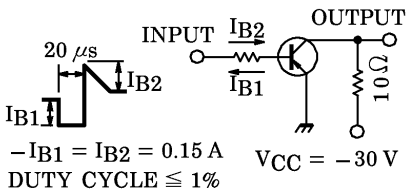
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	-60	V
Collector-Emitter Voltage		V_{CEO}	-50	V
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-5	A
Base Current		I_B	-1	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		20	
Junction 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		I_{CBO}	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-1	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-1	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-50	—	—	V
DC Current Gain		$h_{FE(1)}$ (Note)	$V_{CE} = -1\text{ V}, I_C = -1\text{ A}$	70	—	240	
		$h_{FE(2)}$	$V_{CE} = -1\text{ V}, I_C = -3\text{ A}$	30	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = -3\text{ A}, I_B = -0.15\text{ A}$	—	-0.2	-0.4	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = -3\text{ A}, I_B = -0.15\text{ A}$	—	-0.9	-1.2	
Transition Frequency		f_T	$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$	—	60	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	170	—	pF
Switching Time	Turn-on Time	t_{on}	 <p> $-I_{B1} = I_{B2} = 0.15\text{ A}$ DUTY CYCLE $\leq 1\%$ $V_{CC} = -30\text{ V}$ </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

