

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1242

STROBE FLASH APPLICATIONS

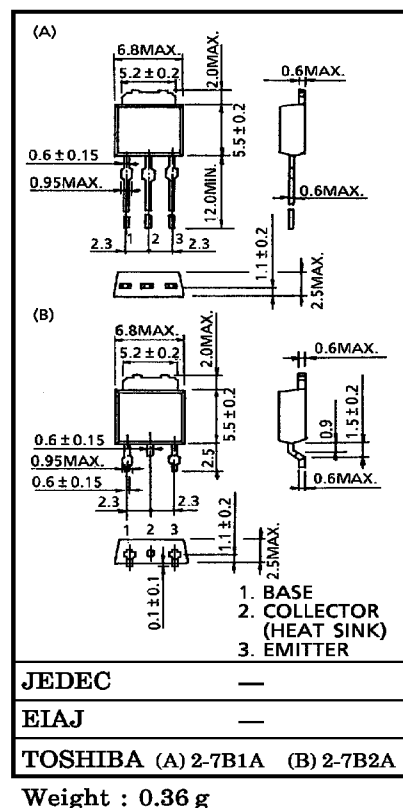
MEDIUM POWER AMPLIFIER APPLICATIONS

- $h_{FE} = 100 \sim 320$ ($V_{CE} = -2\text{ V}$, $I_C = -0.5\text{ A}$)
- $h_{FE} = 70$ (Min.) ($V_{CE} = -2\text{ V}$, $I_C = -4\text{ A}$)
- Low Collector Saturation Voltage
: $V_{CE(sat)} = -1.0\text{ V}$ (Max.) ($I_C = -4\text{ A}$, $I_B = -0.1\text{ A}$)
- High Power Dissipation
: $P_C = 10\text{ W}$ ($T_c = 25^\circ\text{C}$), $P_C = 1.0\text{ W}$ ($T_a = 25^\circ\text{C}$)

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	-35	V
Collector-Emitter Voltage		V_{CEO}	-20	V
Emitter-Base Voltage		V_{EBO}	-8	V
Collector Current	DC	I_C	-5	A
	Pulsed (Note 1)	I_{CP}	-8	A
Base Current		I_B	-0.5	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		10	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$

Unit in mm



Note 1 : Pulse Test : Pulse width = 10 ms (Max.), Duty cycle = 30% (Max.)

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -35\text{ V}, I_E = 0$	—	—	-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -8\text{ V}, I_C = 0$	—	—	-100	nA
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = -10\text{ mA}, I_B = 0$	-20	—	—	V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = -1\text{ mA}, I_C = 0$	-8	—	—	V
DC Current Gain	$h_{FE} (1)$ (Note 2)	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	100	—	320	
	$h_{FE} (2)$	$V_{CE} = -2\text{ V}, I_C = -4\text{ A}$	70	—	—	
Collector-Emitter Saturation Voltage	$V_{CE} (\text{sat})$	$I_C = -4\text{ A}, I_B = -0.1\text{ A}$	—	—	-1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -2\text{ V}, I_C = -4\text{ A}$	—	—	-1.5	V
Transition Frequency	f_T	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	—	170	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	62	—	pF

Note 2 : $h_{FE} (1)$ Classification O : 100~200, Y : 160~320

