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TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

# 2SA1242

STROBE FLASH APPLICATIONS

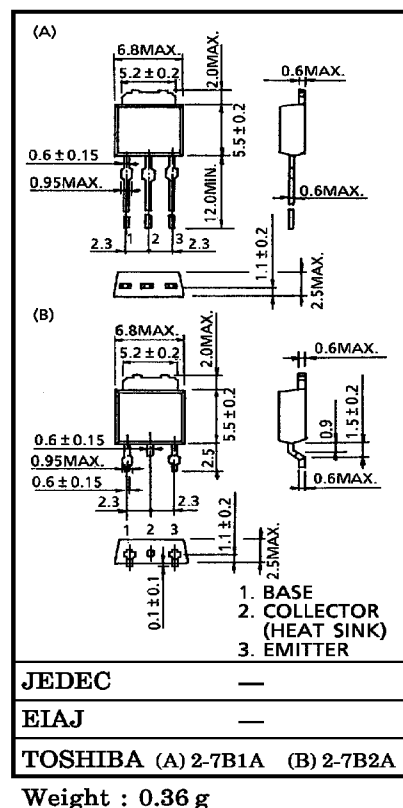
MEDIUM POWER AMPLIFIER APPLICATIONS

- $h_{FE} = 100 \sim 320$  ( $V_{CE} = -2\text{ V}$ ,  $I_C = -0.5\text{ A}$ )
- $h_{FE} = 70$  (Min.) ( $V_{CE} = -2\text{ V}$ ,  $I_C = -4\text{ A}$ )
- Low Collector Saturation Voltage  
:  $V_{CE}(\text{sat}) = -1.0\text{ V}$  (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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1999-6-16 1/3

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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

