

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1300

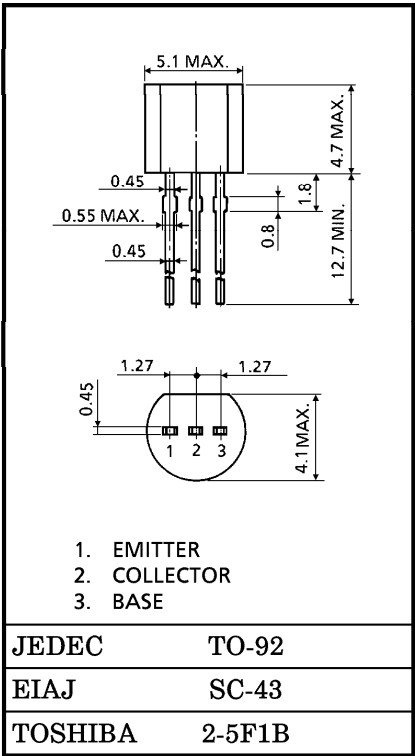
Unit in mm

STROBO FLASH APPLICATIONS
MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain and Excellent h_{FE} Linearity
: $h_{FE}(1) = 140 \sim 600$ ($V_{CE} = -1\text{ V}$, $I_C = -0.5\text{ A}$)
: $h_{FE}(2) = 60$ (Min.), 120 (Typ.) ($V_{CE} = -1\text{ V}$, $I_C = -4\text{ A}$)
- Low Saturation Voltage
: $V_{CE(sat)} = -0.5\text{ V}$ (Max.) ($I_C = -2\text{ A}$, $I_B = -50\text{ mA}$)

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	-20	V
Collector-Emitter Voltage		V_{CES}	-20	V
		V_{CEO}	-10	
Emitter-Base Voltage		V_{EBO}	-6	V
Collector Current	DC	I_C	-2	A
	Pulsed (Note 1)	I_{CP}	-5	
Base Current		I_B	-0.2	A
Collector Power Dissipation		P_C	750	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$



Weight : 0.21 g

(Note 1) : 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}	$V_{CB} = -20\text{ V}, I_E = 0$	—	—	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -6\text{ V}, I_C = 0$	—	—	-0.1	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-10	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -1\text{ mA}, I_C = 0$	-6	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note 2)	$V_{CE} = -1\text{ V}, I_C = -0.5\text{ A}$	140	—	600	
	$h_{FE(2)}$	$V_{CE} = -1\text{ V}, I_C = -4\text{ A}$	60	120	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -2\text{ A}, I_B = -50\text{ mA}$	—	-0.2	-0.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -1\text{ V}, I_C = -2\text{ A}$	—	-0.83	-1.5	V
Transition Frequency	f_T	$V_{CE} = -1\text{ V}, I_C = -0.5\text{ A}$	—	140	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	50	—	pF

(Note 2) : $h_{FE(1)}$ Classification Y : 140~280, GR : 200~400, BL : 300~600

