

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC3112

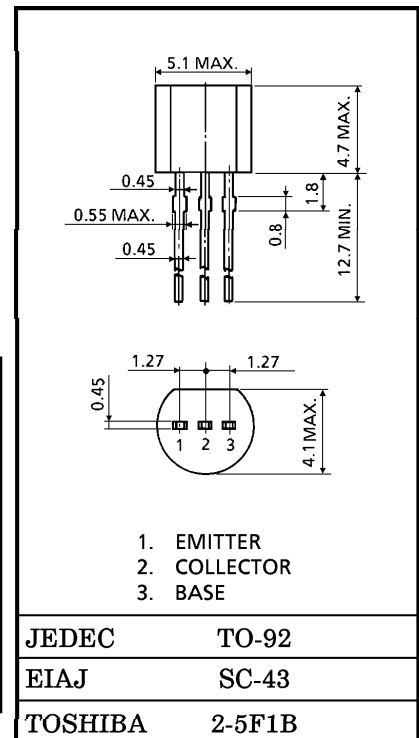
FOR AUDIO AMPLIFIER AND SWITCHING APPLICATIONS

Unit in mm

- High DC Current Gain : $h_{FE} = 600 \sim 3600$
- High Breakdown Voltage : $V_{CEO} = 50V$
- High Collector Current : $I_C = 150mA$ (Max.)

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

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	150	mA
Base Current	I_B	30	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	125	$^\circ C$
Storage Temperature Range	T_{stg}	-55~125	$^\circ C$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 50V, I_E = 0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	0.1	μA
DC Current Gain	h_{FE} (Note)	$V_{CE} = 6V, I_C = 2mA$	600	—	3600	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 10mA$	—	0.12	0.25	V
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 10mA$	100	250	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	3.5	—	pF
Noise Figure	NF (1)	$V_{CE} = 6V, I_C = 0.1mA, f = 100Hz, R_G = 10k\Omega$	—	0.5	—	dB
	NF (2)	$V_{CE} = 6V, I_C = 0.1mA, f = 1kHz, R_G = 10k\Omega$	—	0.3	—	dB

(Note) : h_{FE} Classification A : 600~1800, B : 1200~3600

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