

TOSHIBA TRANSISTOR SILOCON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC2459

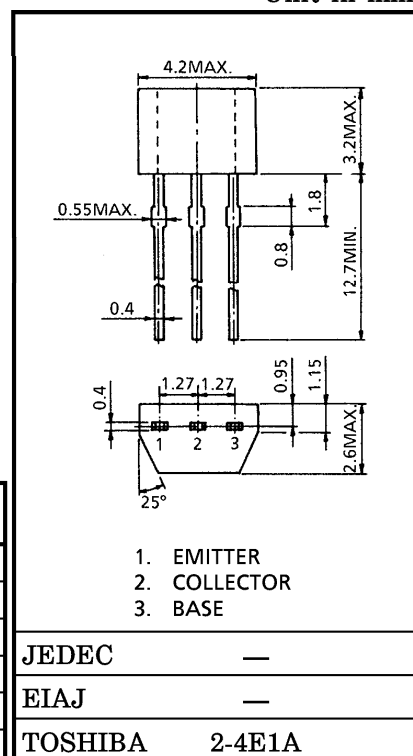
AUDIO AMPLIFIER APPLICATIONS

Unit in mm

- High Breakdown Voltage : $V_{CEO} = 120 \text{ V (Max.)}$
- High DC Current Gain : $h_{FE} = 200 \sim 700$
- Excellent h_{FE} Linearity
: $h_{FE}(I_C = 0.1 \text{ mA}) / h_{FE}(I_C = 2 \text{ mA}) = 0.95 \text{ (Typ.)}$
- Low Noise : $NF = 1 \text{ dB (Typ.)}, 10 \text{ dB (Max.)}$
- Complementary to 2SA1049.
- Small Package.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Base Current	I_B	20	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim 125$	$^\circ\text{C}$



Weight : 0.13 g

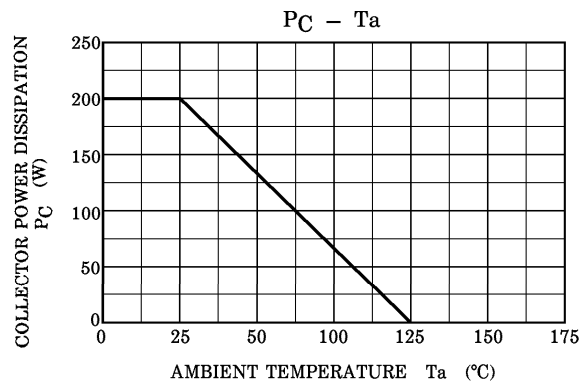
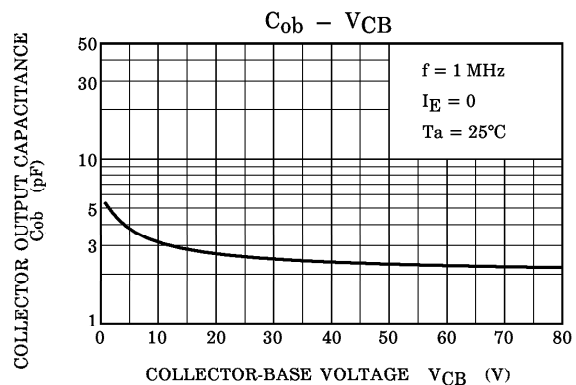
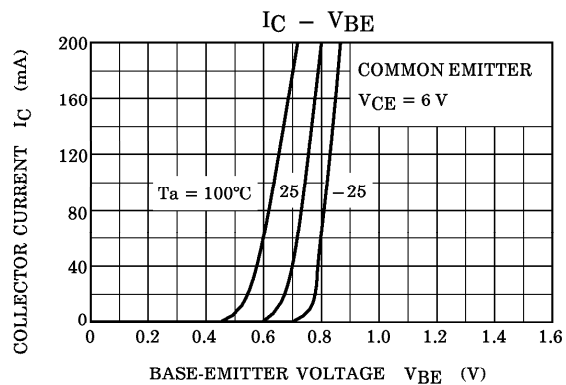
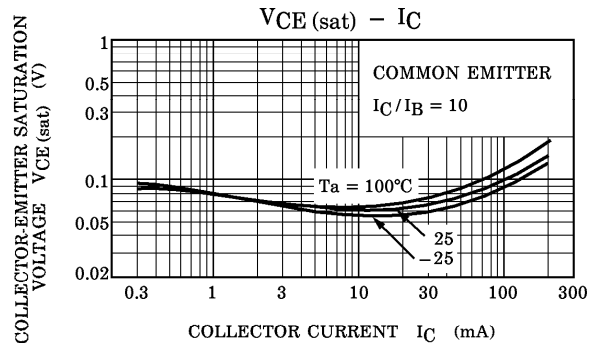
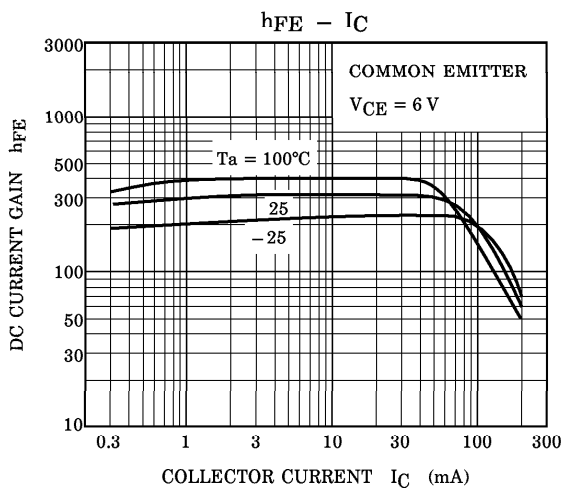
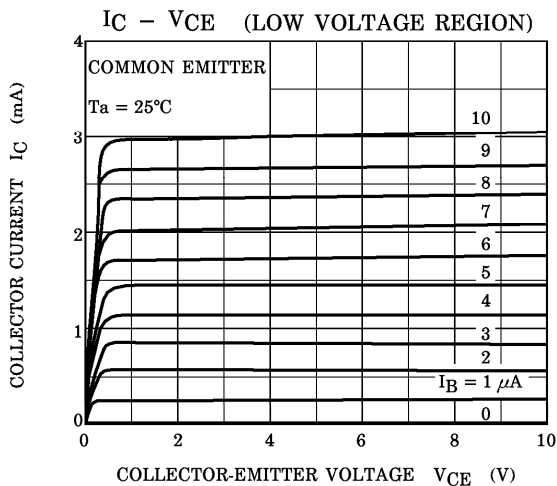
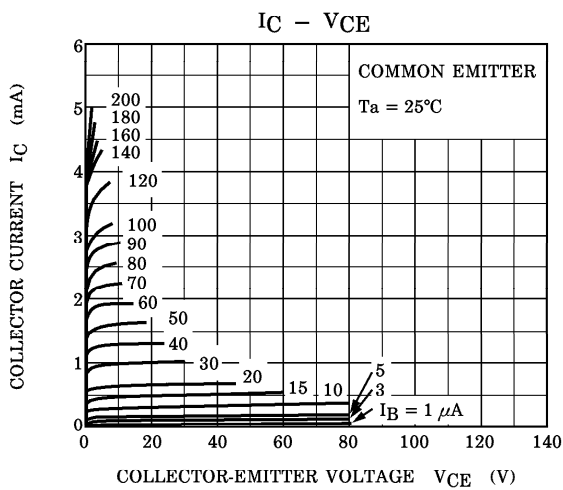
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 120 \text{ V}, I_E = 0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	0.1	μA
DC Current Gain	$h_{FE} \text{ (Note)}$	$V_{CE} = 6 \text{ V}, I_C = 2 \text{ mA}$	200	—	700	
Collector-Emitter Saturation Voltage	$V_{CE} \text{ (sat)}$	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$	—	—	0.3	V
Transition Frequency	f_T	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$	—	100	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	3.0	—	pF
Noise Figure	NF	$V_{CE} = 6 \text{ V}, I_C = 0.1 \text{ mA}, f = 1 \text{ kHz}, R_G = 10 \text{ k}\Omega$	—	1.0	10	dB

(Note) : h_{FE} Classification GR : 200~400, BL : 350~700

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