

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1048L

AUDIO FREQUENCY AMPLIFIER APPLICATIONS

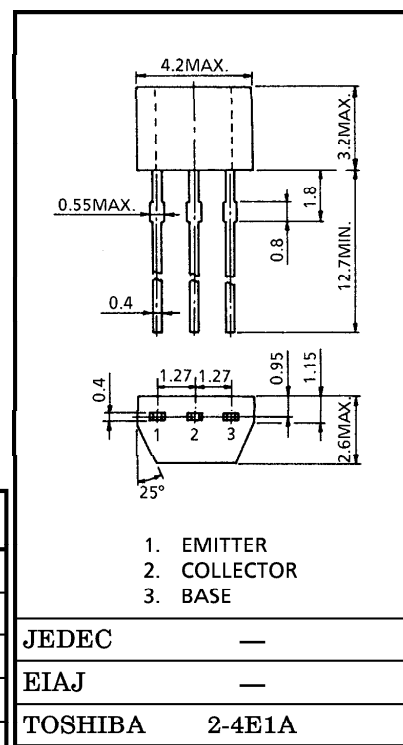
Unit in mm

LOW NOISE AUDIO FREQUENCY APPLICATIONS

- Small Package.
- High Voltage : $V_{CEO} = -50V$ (Min.)
- High h_{FE} : $h_{FE} = 70 \sim 400$
- Excellent h_{FE} Linearity
: $h_{FE}(I_C = -0.1mA) / h_{FE}(I_C = -2mA) = 0.95$ (Typ.)
- Low Noise : $NF = 0.2dB$ (Typ.), $3dB$ (Max.)
- Complementary to 2SC2458L.

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	-50	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	$^\circ C$
Storage Temperature Range	T_{stg}	-55~125	$^\circ C$



JEDEC —

EIAJ —

TOSHIBA 2-4E1A

Weight : 0.13g

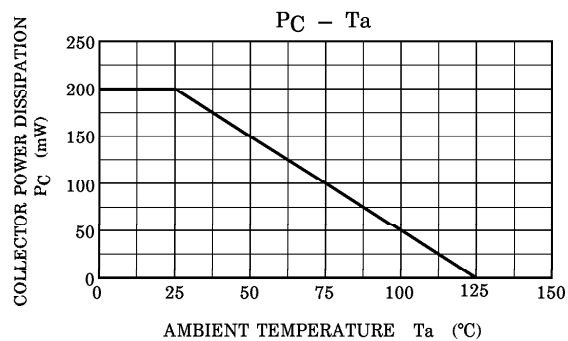
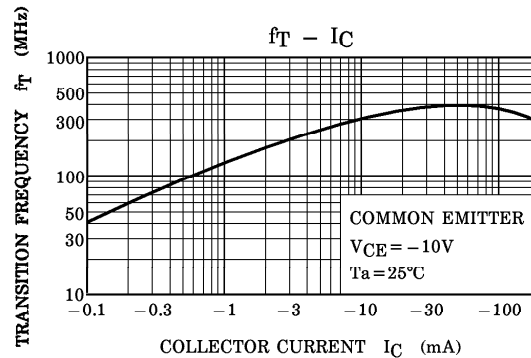
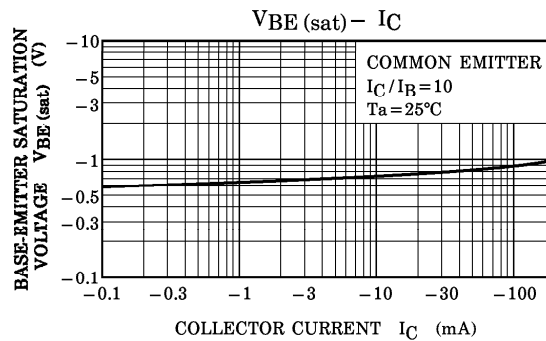
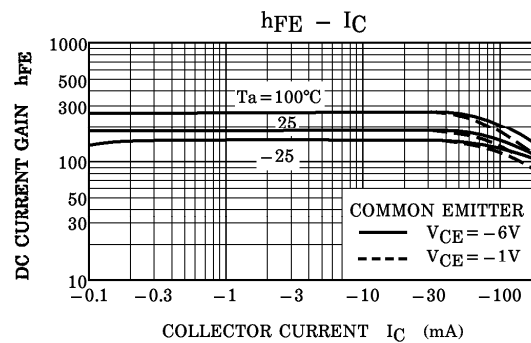
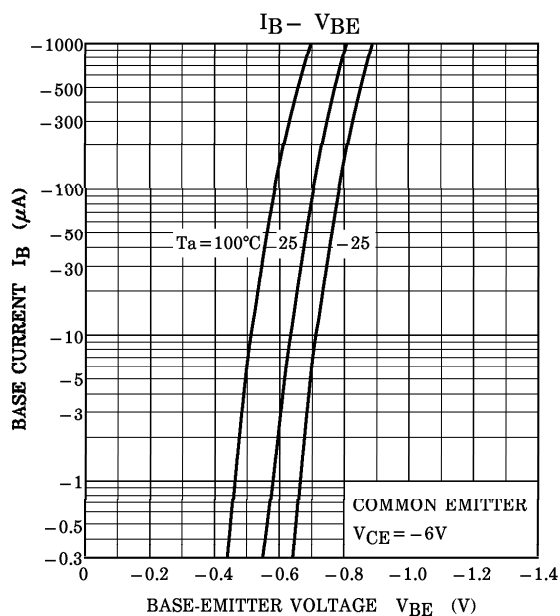
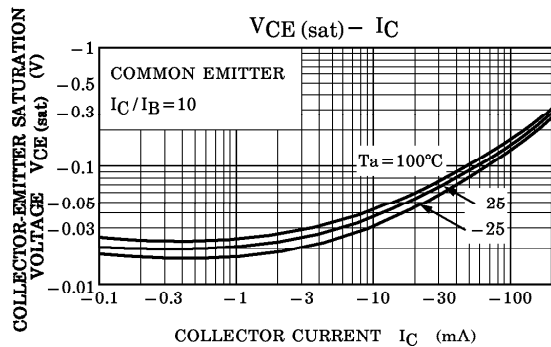
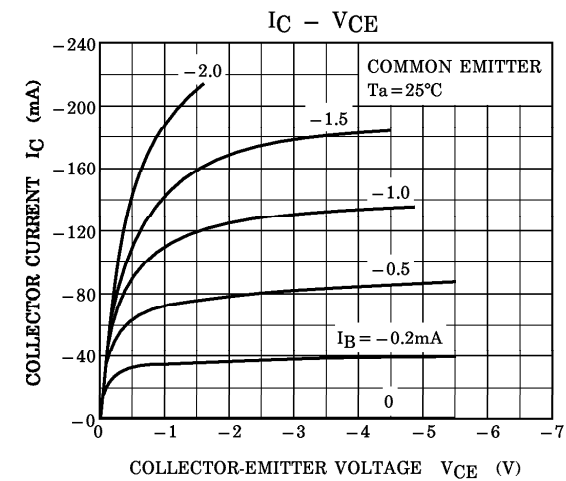
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

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)	$V_{CE} = -6V, I_C = -2mA$	70	—	400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$	—	-0.1	-0.3	V
Transition Frequency	f_T	$V_{CE} = -10V, I_C = -1mA$	80	—	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	4	7	pF
Noise Figure	NF (1)	$V_{CE} = -6V, I_C = -0.1mA, f = 100Hz, R_G = 10k\Omega$	—	0.5	6	dB
	NF (2)	$V_{CE} = -6V, I_C = -0.1mA, f = 1kHz, R_G = 10k\Omega$	—	0.2	3	

Note : h_{FE} Classification 0 : 70~140, Y : 120~240, GR : 200~400

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