

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

# 2SA1204

AUDIO FREQUENCY AMPLIFIER APPLICATIONS

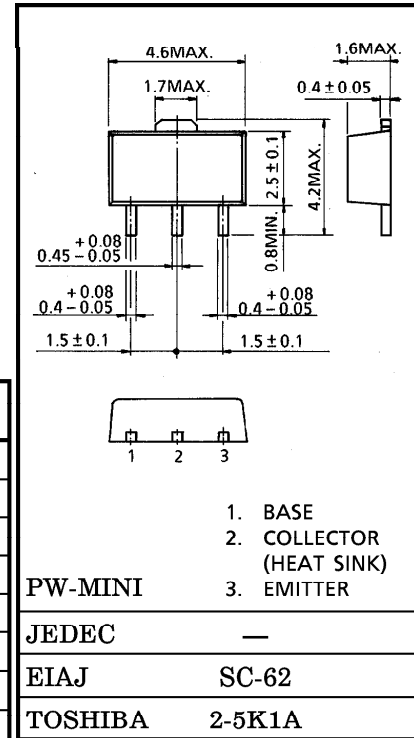
Unit in mm

- High DC Current Gain :  $h_{FE} = 100 \sim 320$
- Suitable for Output Stage of 1 Watts Amplifier
- $P_C = 1 \sim 2W$  (Mounted on Ceramic Substrate)
- Small Flat Package
- Complementary to 2SC2884

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	-35	V
Collector-Emitter Voltage	$V_{CEO}$	-30	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-800	mA
Base Current	$I_B$	-160	mA
Collector Power Dissipation	$P_C$	500	mW
Collector Power Dissipation	$P_C^*$	1000	mW
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

$P_C^*$  : Mounted on ceramic substrate ( $250mm^2 \times 0.8t$ )



Weight : 0.05g

Marking Type Name  
 $h_{FE}$  Rank



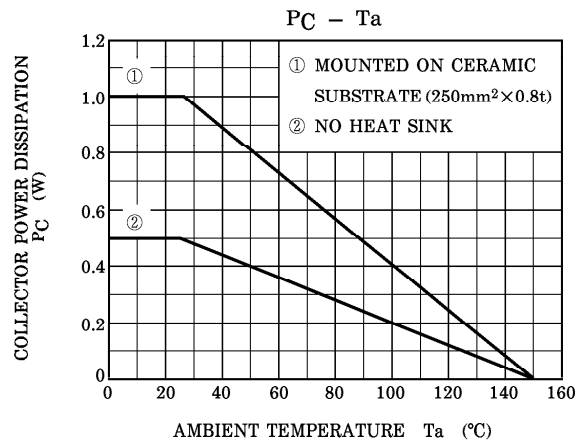
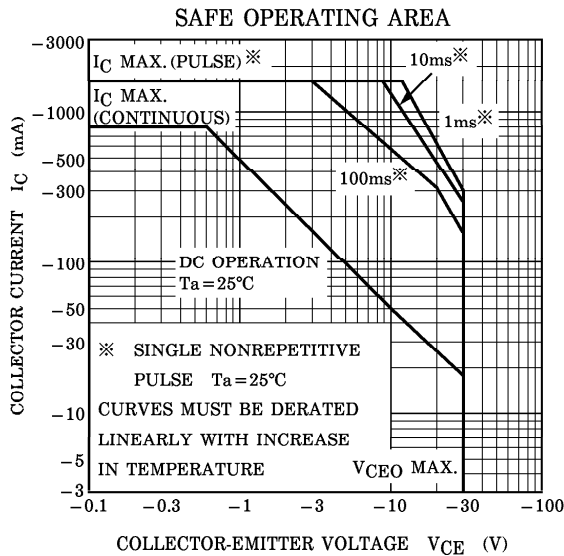
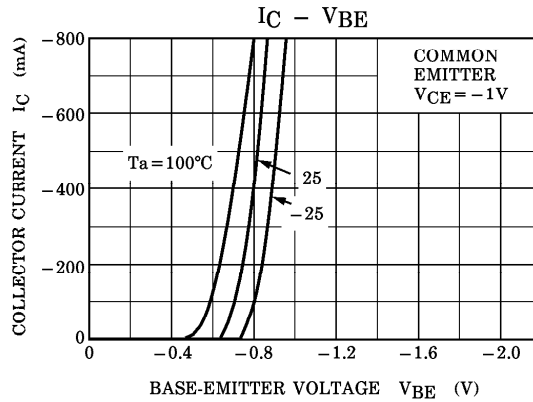
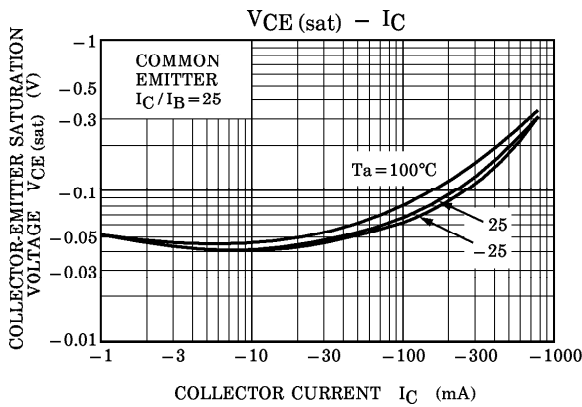
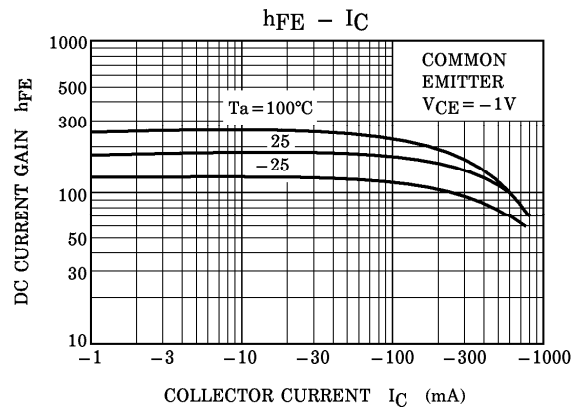
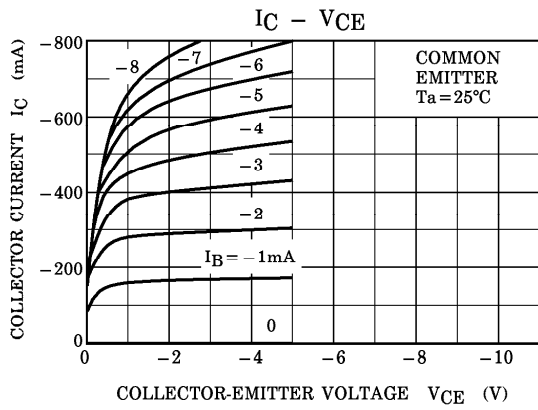
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -35V, I_E = 0$	—	—	-0.1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$	—	—	-0.1	$\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-30	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = -1V, I_C = -100mA$	100	—	320	
	$h_{FE(2)}$	$V_{CE} = -1V, I_C = -700mA$	35	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -20mA$	—	—	-0.7	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = -1V, I_C = -10mA$	-0.5	—	-0.8	V
Transition Frequency	$f_T$	$V_{CE} = -5V, I_C = -10mA$	—	120	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	19	—	pF

Note :  $h_{FE}$  (1) Classification, O : 100~200, Y : 160~320

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