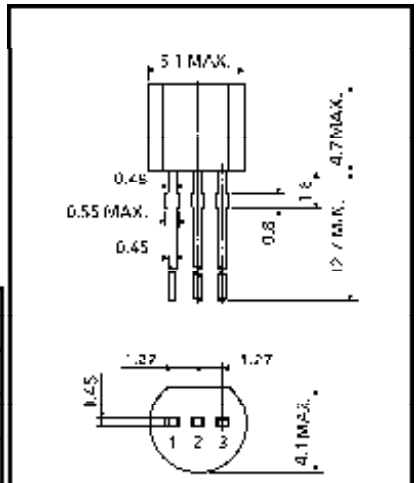
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC2120

AUDIO POWER AMPLIFIER APPLICATIONS

Unit in mm

- High $h_{FE}$ : $h_{FE\,(1)}$=100~320
- 1 Watts Amplifier Applications.
- Complementary to 2SA950




1. EMITTER
2. COLLECTOR
3. BASE

| | |
|---|---|
| JEDEC | TO-92 |
| EIAJ | SC-43 |
| TOSHIBA | 2-5F1B |

Weight : 0.21g

MAXIMUM RATINGS (Ta = 25°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 | $P_C$ | 600 | mW |
| Junction Temperature | $T_j$ | 150 | °C |
| Storage Temperature Range | $T_{stg}$ | −55~150 | °C |

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$=35V, $I_E$=0 | | | 0.1 | μA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$=5V, $I_C$=0 | — | — | 0.1 | μA |
| 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 Breakdown Voltage | $V_{CE\,(sat)}$ | $I_C$=500mA, $I_B$=20mA | — | — | 0.5 | V |
| Base-Emitter Voltage | $V_{BE}$ | $V_{CE}$=1V, $I_C$=10mA | 0.6 | — | 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 | — | 13 | — | pF |

Note : $h_{FE\,(1)}$ Classification O : 100~200, Y : 160~3200

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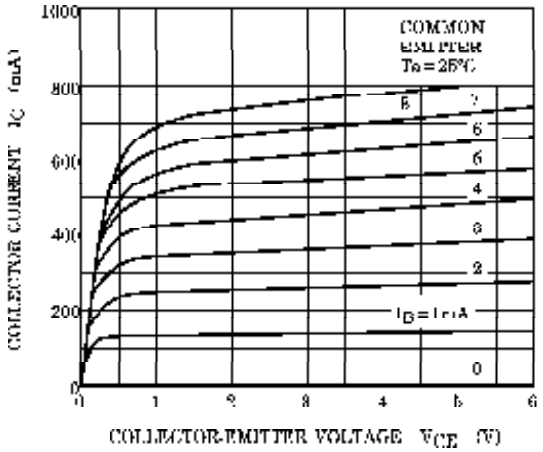
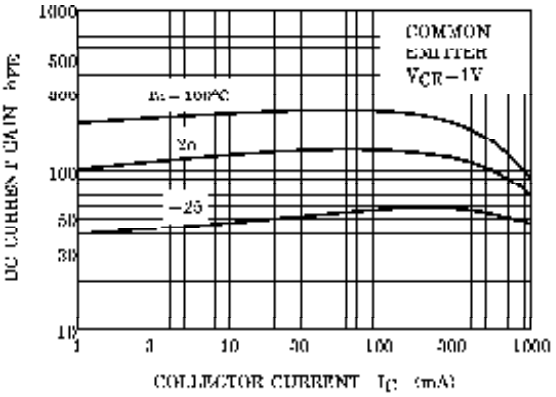
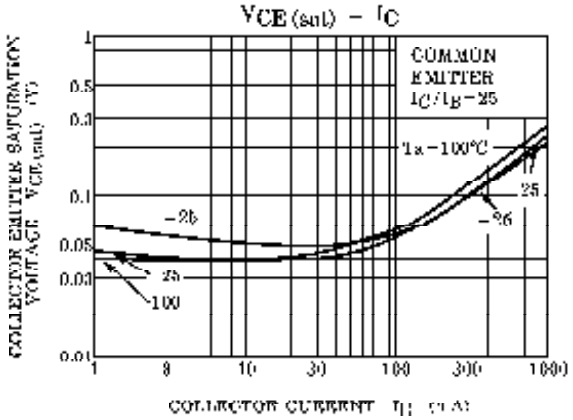
$I_C - V_{CE}$



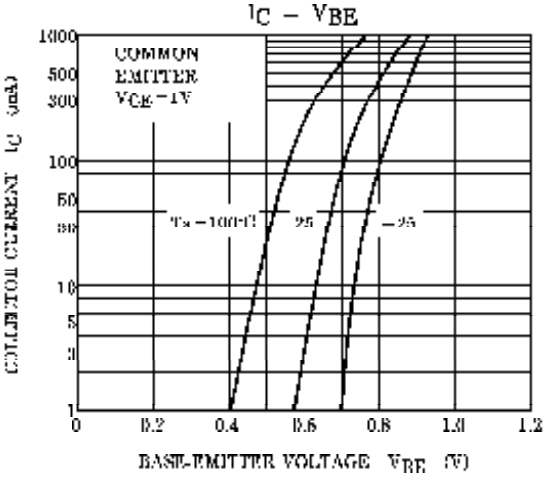

$h_{FE} - I_C$




$V_{CE(sat)} - I_C$




$I_C - V_{BE}$




$P_C - Ta$