

9097250 TOSHIBA (DISCRETE/OPTO)

SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

56C 07251

D T-33-21

**2SA1093**

AUDIO FREQUENCY POWER AMPLIFIER APPLICATIONS.

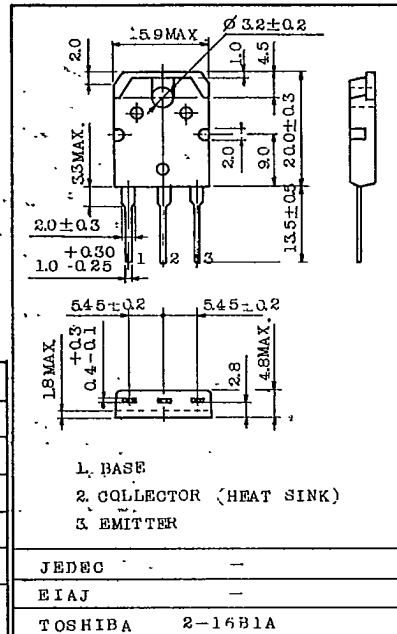
## FEATURES:

- Complementary to 2SC2563.
- Recommended for 50W audio amplifier output stage.
- High transition frequency :  $f_T=90\text{MHz(Typ.)}$

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

| CHARACTERISTIC                                            | SYMBOL    | RATING  | UNIT             |
|-----------------------------------------------------------|-----------|---------|------------------|
| Collector-Base Voltage                                    | $V_{CB0}$ | -120    | V                |
| Collector-Emitter Voltage                                 | $V_{CE0}$ | -120    | V                |
| Emitter-Base Voltage                                      | $V_{EB0}$ | -5      | V                |
| Collector Current                                         | $I_C$     | -8      | A                |
| Base Current                                              | $I_B$     | -0.8    | A                |
| Collector Power Dissipation<br>( $T_c=25^\circ\text{C}$ ) | $P_C$     | 80      | W                |
| Junction Temperature                                      | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature Range                                 | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |

Unit in mm

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

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION                             | MIN. | TYP. | MAX. | UNIT          |
|--------------------------------------|-----------------------|--------------------------------------------|------|------|------|---------------|
| Collector Cut-off Current            | $I_{CB0}$             | $V_{CB}=-120\text{V}, I_E=0$               | —    | —    | -50  | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EB0}$             | $V_{EB}=-5\text{V}, I_C=0$                 | —    | —    | -50  | $\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CE0}$         | $I_C=-0.05\text{A}, I_B=0$                 | -120 | —    | —    | V             |
| DC Current Gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE}=-5\text{V}, I_C=-1\text{A}$        | 55   | —    | 240  |               |
|                                      | $h_{FE(2)}$           | $V_{CE}=-5\text{V}, I_C=-4\text{A}$        | 30   | —    | —    |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C=-4\text{A}, I_B=-0.4\text{A}$         | —    | -1.0 | -2.0 | V             |
| Base-Emitter Voltage                 | $V_{BE}$              | $V_{CE}=-5\text{V}, I_C=-4\text{A}$        | —    | -1.5 | -2.5 | V             |
| Transition Frequency                 | $f_T$                 | $V_{CE}=-10\text{V}, I_C=-1\text{A}$       | —    | 90   | —    | MHz           |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$ | —    | 150  | —    | pF            |

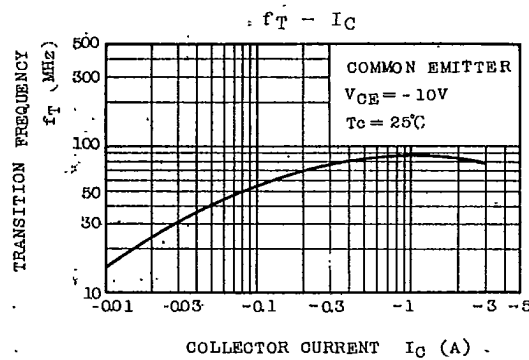
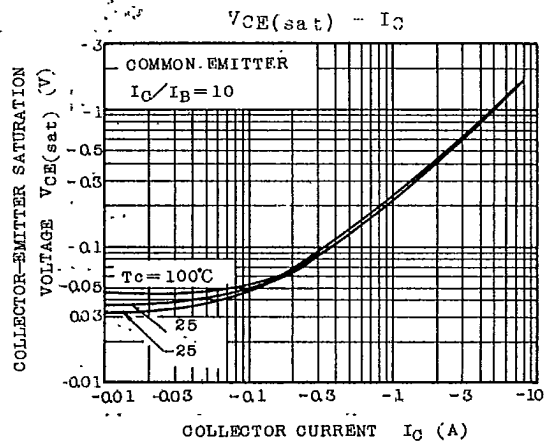
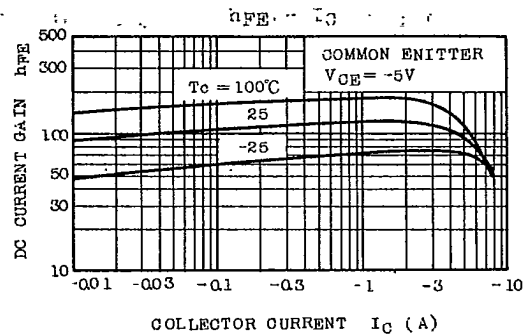
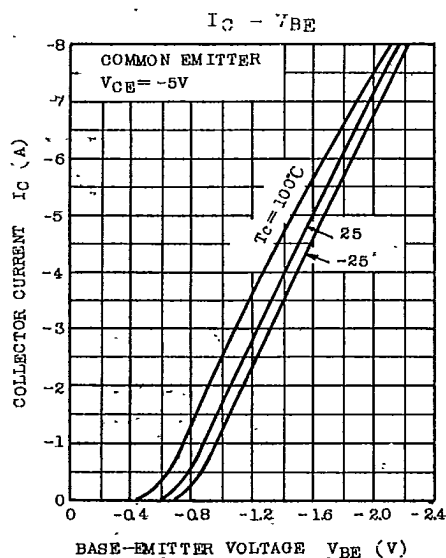
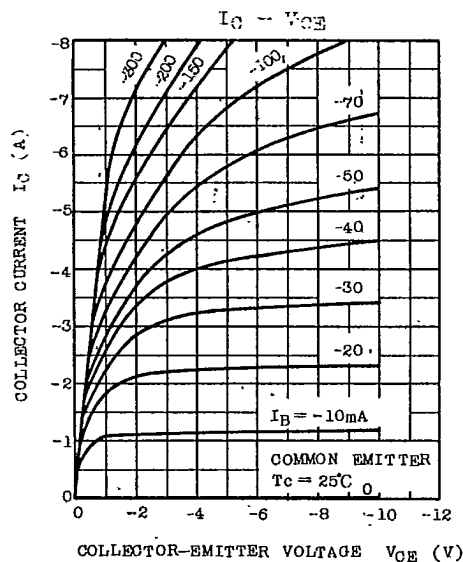
Note:  $h_{FE(1)}$  Classification. R:55~110, O:80~160, Y:120~240

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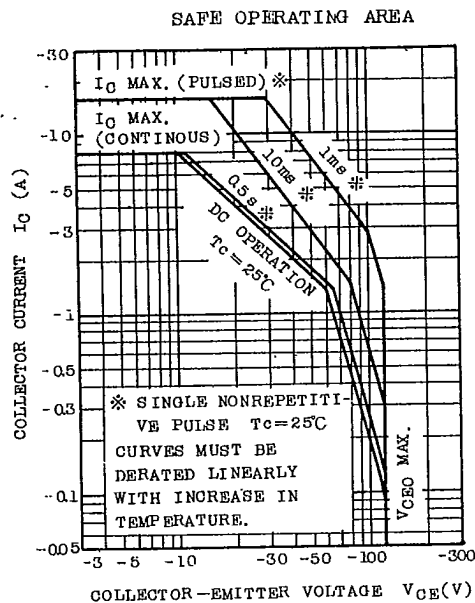
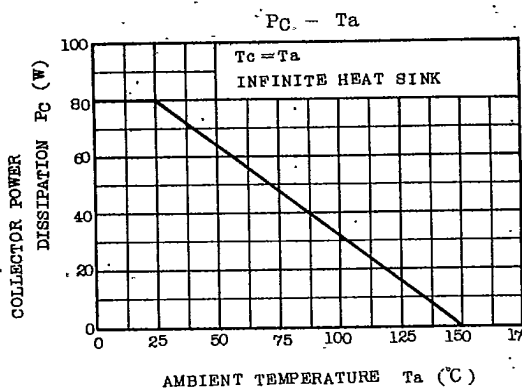
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