

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE

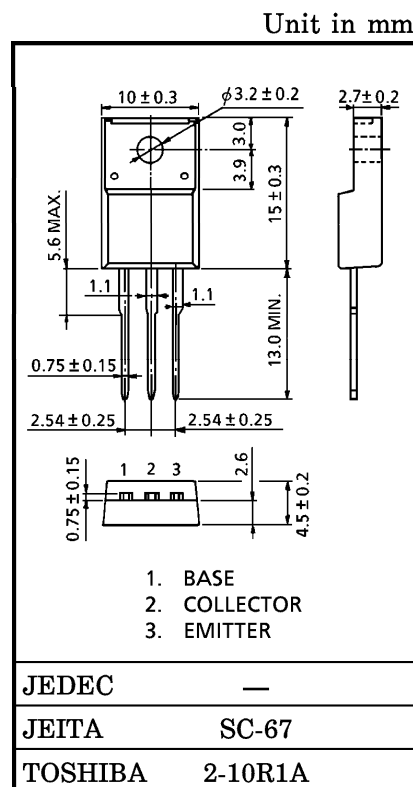
# 2SB1642

AUDIO FREQUENCY POWER AMPLIFIER APPLICATIONS

- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = -1.5V$  (Max.) ( $I_C = -2.5A$ ,  $I_B = -0.25A$ )
- Collector Power Dissipation :  $P_C = 25W$  ( $T_c = 25^\circ C$ )
- Collector Metal (Fin) is Fully Covered with Mold Resin

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

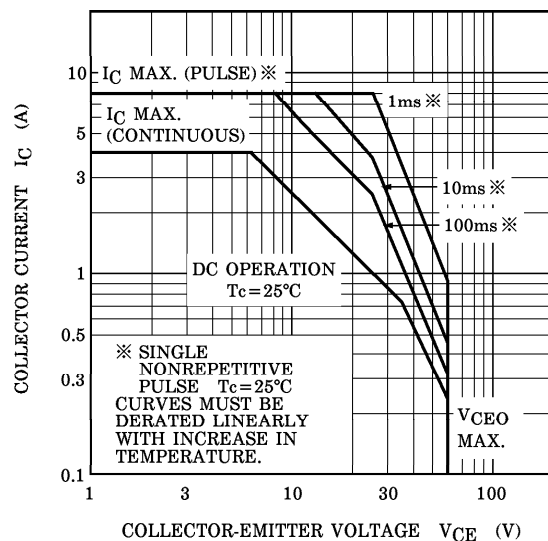
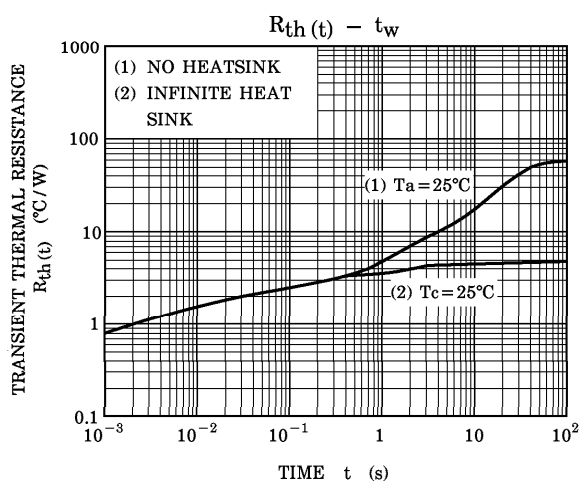
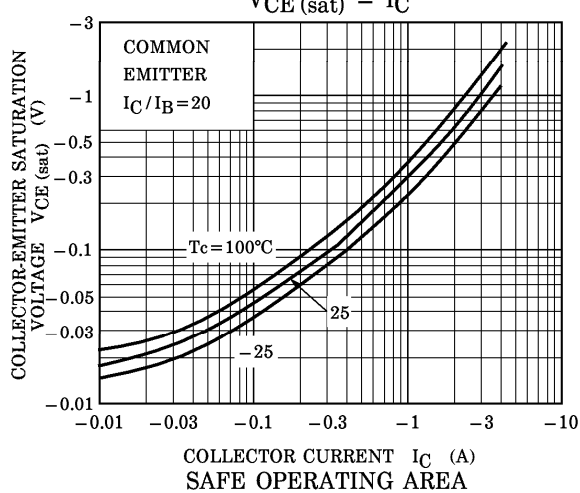
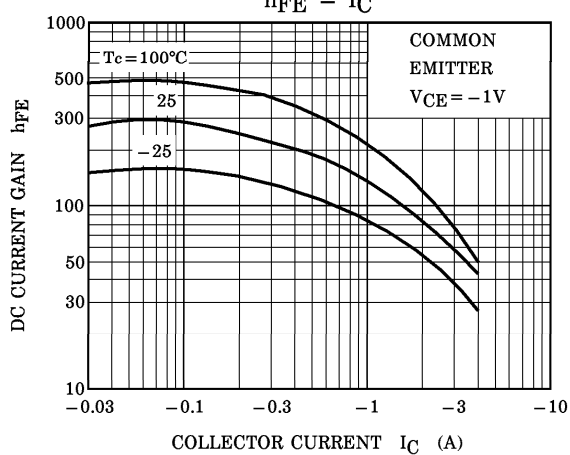
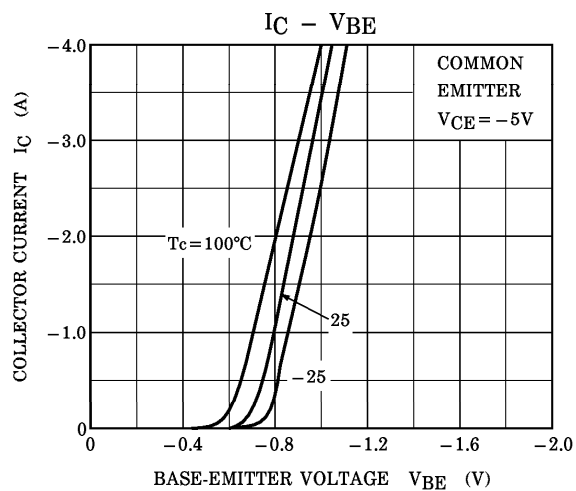
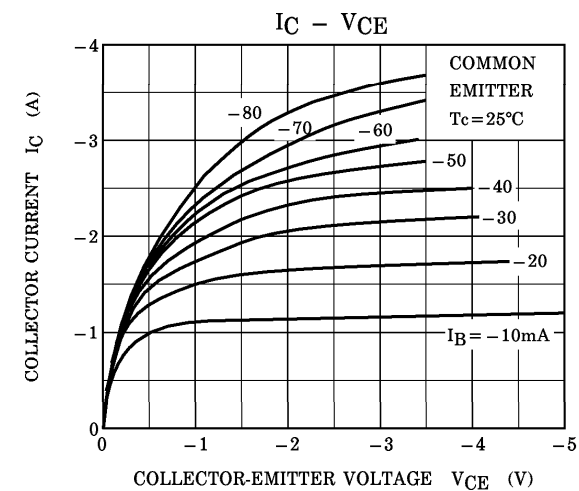
| CHARACTERISTIC              | SYMBOL                                   | RATING  | UNIT       |
|-----------------------------|------------------------------------------|---------|------------|
| Collector-Base Voltage      | $V_{CBO}$                                | -60     | V          |
| Collector-Emitter Voltage   | $V_{CEO}$                                | -60     | V          |
| Emitter-Base Voltage        | $V_{EBO}$                                | -7      | V          |
| Collector Current           | $I_C$                                    | -4      | A          |
| Base Current                | $I_B$                                    | -1      | A          |
| Collector Power Dissipation | $T_a = 25^\circ C$<br>$T_c = 25^\circ C$ | $P_C$   | W          |
|                             |                                          |         |            |
| Junction Temperature        | $T_j$                                    | 150     | $^\circ C$ |
| Storage Temperature Range   | $T_{stg}$                                | -55~150 | $^\circ C$ |



Weight : 1.7g (Typ.)

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

| CHARACTERISTIC                       | SYMBOL        | TEST CONDITION                           | MIN. | TYP.  | MAX. | UNIT    |
|--------------------------------------|---------------|------------------------------------------|------|-------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = -60V$ , $I_E = 0$              | —    | —     | -10  | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = -7V$ , $I_C = 0$               | —    | —     | -10  | $\mu A$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = -10mA$ , $I_B = 0$                | -60  | —     | —    | V       |
| DC Current Gain                      | $h_{FE}(1)$   | $V_{CE} = -5V$ , $I_C = -0.5A$           | 100  | —     | 320  |         |
|                                      | $h_{FE}(2)$   | $V_{CE} = -5V$ , $I_C = -3A$             | 20   | —     | —    |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -2.5A$ , $I_B = -0.25A$           | —    | -0.7  | -1.5 | V       |
| Base-Emitter Voltage                 | $V_{BE}$      | $V_{CE} = -5V$ , $I_C = -0.5A$           | —    | -0.75 | -1.0 | V       |
| Transition Frequency                 | $f_T$         | $V_{CE} = -5V$ , $I_C = -0.5A$           | —    | 9     | —    | MHz     |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB} = -10V$ , $I_E = 0$ , $f = 1MHz$ | —    | 50    | —    | pF      |



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