

## TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

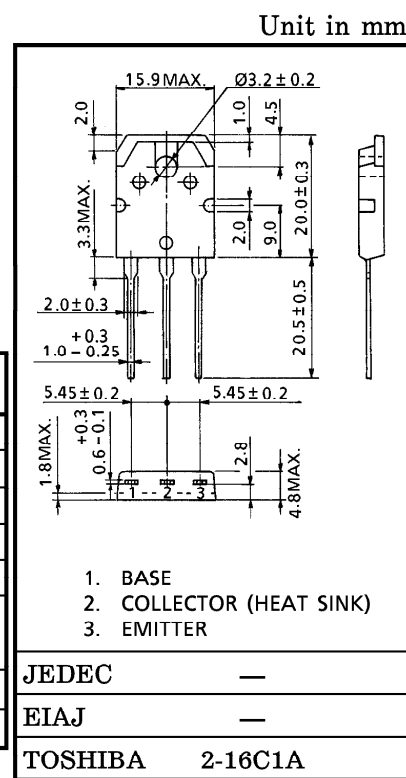
**2SC5242**

## POWER AMPLIFIER APPLICATIONS

- High Collector Breakdown Voltage :  $V_{CEO}=230V$  (Min.)
- Complementary to 2SA1962
- Recommend for 80W High Fidelity Audio Frequency Amplifier Output Stage.

MAXIMUM RATINGS (T<sub>a</sub> = 25°C)

| CHARACTERISTIC                                              | SYMBOL           | RATING         | UNIT             |
|-------------------------------------------------------------|------------------|----------------|------------------|
| Collector-Base Voltage                                      | $V_{CB0}$        | 230            | V                |
| Collector-Emitter Voltage                                   | $V_{CEO}$        | 230            | V                |
| Emitter-Base Voltage                                        | $V_{EB0}$        | 5              | V                |
| Collector Current                                           | $I_C$            | 15             | A                |
| Base Current                                                | $I_B$            | 1.5            | A                |
| Collector Power Dissipation<br>( $T_c = 25^\circ\text{C}$ ) | $P_C$            | 130            | W                |
| Junction Temperature                                        | $T_j$            | 150            | $^\circ\text{C}$ |
| Storage Temperature                                         | $T_{\text{stg}}$ | $-55 \sim 150$ | $^\circ\text{C}$ |



### ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Weight : 4.7g (Typ.)

| CHARACTERISTIC                       | SYMBOL                 | TEST CONDITION              | MIN. | TYP. | MAX. | UNIT    |
|--------------------------------------|------------------------|-----------------------------|------|------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$              | $V_{CB}=230V, I_E=0$        | —    | —    | 5.0  | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$              | $V_{EB}=5V, I_C=0$          | —    | —    | 5.0  | $\mu A$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR) CEO}$         | $I_C=50mA, I_B=0$           | 230  | —    | —    | V       |
| DC Current Gain                      | $h_{FE} (1)$<br>(Note) | $V_{CE}=5V, I_C=1A$         | 55   | —    | 160  |         |
|                                      | $h_{FE} (2)$           | $V_{CE}=5V, I_C=7A$         | 35   | 60   | —    |         |
| Collector-Emitter Saturation Voltage | $V_{CE (sat)}$         | $I_C=8A, I_B=0.8A$          | —    | 0.4  | 3.0  | V       |
| Base-Emitter Voltage                 | $V_{BE}$               | $V_{CE}=5V, I_C=7A$         | —    | 1.0  | 1.5  | V       |
| Transition Frequency                 | $f_T$                  | $V_{CE}=5V, I_C=1A$         | —    | 30   | —    | MHz     |
| Collector Output Capacitance         | $C_{ob}$               | $V_{CB}=10V, I_E=0, f=1MHz$ | —    | 200  | —    | pF      |

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

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