

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL (PCT PROCESS)

# 2SA1298

LOW FREQUENCY POWER AMPLIFIER APPLICATION

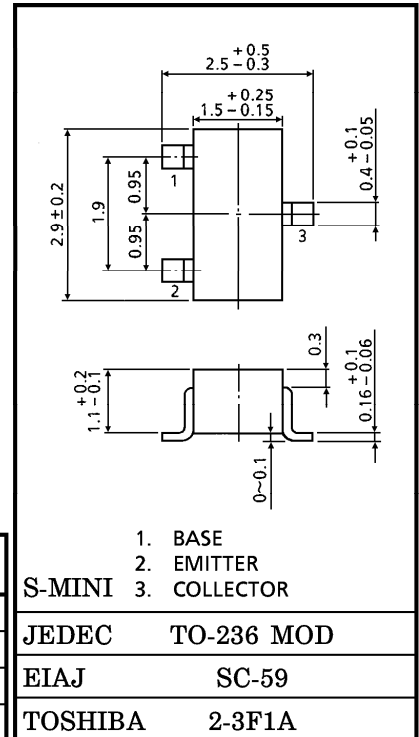
POWER SWITCHING APPLICATIONS

- High DC Current Gain :  $h_{FE} = 100 \sim 320$
- Low Saturation Voltage :  $V_{CE(sat)} = -0.4 \text{ V (Max.)}$   
( $I_C = -500 \text{ mA}$ ,  $I_B = -20 \text{ mA}$ )
- Suitable for Driver Stage of Small Motor
- Complementary to 2SC3265
- Small Package

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

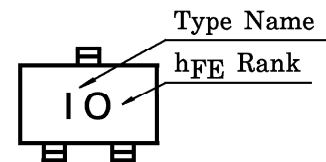
| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT             |
|-----------------------------|-----------|---------|------------------|
| Collector-Base Voltage      | $V_{CBO}$ | -30     | V                |
| Collector-Emitter Voltage   | $V_{CEO}$ | -25     | V                |
| Emitter-Base Voltage        | $V_{EBO}$ | -5      | V                |
| Collector Current           | $I_C$     | -800    | mA               |
| Base Current                | $I_B$     | -160    | mA               |
| Collector Power Dissipation | $P_C$     | 200     | mW               |
| Junction Temperature        | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature Range   | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |

Unit in mm



Weight : 0.012 g

Marking



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## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION  | MIN. | TYP. | MAX. | UNIT          |
|--------------------------------------|-----------------------|---|------|------|------|---------------|
| Collector Cut-off Current            | $I_{CBO}$             | $V_{CB} = -30\text{ V}, I_E = 0$                        | —    | —    | -0.1 | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EBO}$             | $V_{EB} = -50\text{ V}, I_C = 0$                        | —    | —    | -0.1 | $\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$         | $I_C = -10\text{ mA}, I_B = 0$                          | -25  | —    | —    | V             |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$         | $I_E = -0.1\text{ mA}, I_C = 0$                         | -5   | —    | —    | V             |
| DC Current Gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE} = -1\text{ V}, I_C = -100\text{ mA}$            | 100  | —    | 320  |               |
|                                      | $h_{FE(2)}$           | $V_{CE} = -1\text{ V}, I_C = -800\text{ mA}$            | 40   | —    | —    |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C = -500\text{ mA}, I_B = -20\text{ mA}$             | —    | —    | -0.4 | V             |
| Base-Emitter Voltage                 | $V_{BE}$              | $V_{CE} = -1\text{ V}, I_C = -10\text{ mA}$             | -0.5 | —    | -0.8 | V             |
| Transition Frequency                 | $f_T$                 | $V_{CE} = -5\text{ V}, I_C = -10\text{ mA}$             | —    | 120  | —    | MHz           |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB} = -10\text{ V}, I_E = 0,$<br>$f = 1\text{ MHz}$ | —    | 13   | —    | pF            |

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

