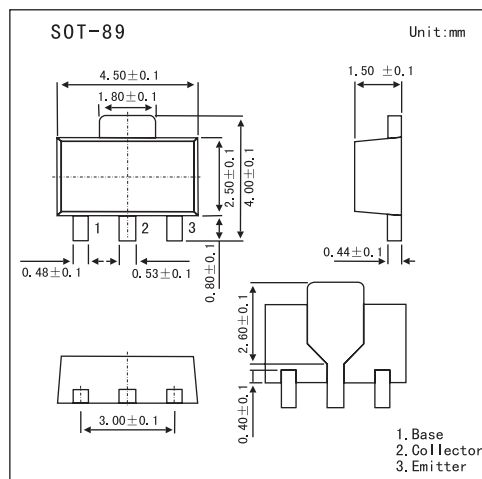


■ Features

- Low Collector Saturation Voltage:  $V_{CE(sat)} = 0.5V(max)(I_c = 1A)$
- High Speed Switching Time:  $t_{stg} = 500ns(typ.)$
- Small Flat Package
- $P_c = 1.0$  to  $2.0W$  (mounted on a ceramic substrate)
- Complementary to 2SA1681



■ Absolute Maximum Ratings  $T_a = 25^{\circ}C$

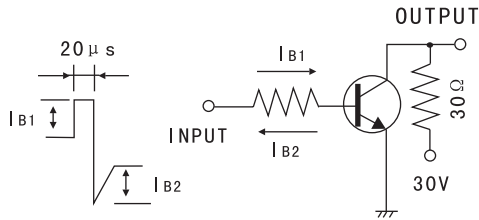
| Parameter                   | Symbol    | Rating      | Unit        |
|-----------------------------|-----------|-------------|-------------|
| Collector-Base Voltage      | $V_{CBO}$ | 80          | V           |
| Collector-Emitter Voltage   | $V_{CEO}$ | 50          | V           |
| Emitter-Base Voltage        | $V_{EBO}$ | 6           | V           |
| Collector Current           | $I_C$     | 2           | A           |
| Base Current                | $I_B$     | 0.2         | A           |
| Collector Power Dissipation | $P_C$     | 0.5         | W           |
|                             | $P_C^*$   | 1           |             |
| Junction temperature        | $T_j$     | 150         | $^{\circ}C$ |
| Storage temperature Range   | $T_{stg}$ | -55 to +150 | $^{\circ}C$ |

\* Mounted on a ceramic board (250 mm<sup>2</sup> x 0.8 t)

■ Electrical Characteristics  $T_a = 25^{\circ}C$

| Parameter                            | Symbol        | Testconditions                    | Min | Typ | Max | Unit    |
|--------------------------------------|---------------|-----------------------------------|-----|-----|-----|---------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = 80V, I_E = 0$           |     |     | 0.1 | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = 6V, I_C = 0$            |     |     | 0.1 | $\mu A$ |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 2V, I_C = 100mA$        | 120 |     | 400 |         |
|                                      |               | $V_{CE} = 2V, I_C = 1.5A$         | 40  |     |     |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 1A, I_B = 0.05A$           |     |     | 0.5 | V       |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = 1A, I_B = 0.05A$           |     |     | 1.2 | V       |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = 10mA, I_B = 0$             | 50  |     |     | V       |
| Transition Frequency                 | $f_T$         | $V_{CE} = 2V, I_C = 100mA$        |     | 100 |     | MHz     |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB} = 10V, I_E = 0, f = 1MHz$ |     | 14  |     | pF      |
| Turn-ON Time                         | $t_{on}$      | See Test Circuit                  |     | 0.1 |     | $\mu s$ |
| Storage Time                         | $t_{stg}$     |                                   |     | 0.5 |     |         |
| Fall Time                            | $t_f$         |                                   |     | 0.1 |     |         |

■ Test Circuit



$I_{B1} = -I_{B2} = 0.05A$  , DUTY CYCLE  $\leq 1\%$

■ Marking

|         |    |
|---------|----|
| Marking | KA |
|---------|----|

■ Electrical Characteristics Curves

