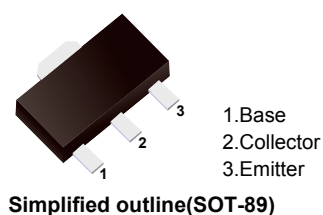


## FEATURES

Low Saturation Voltage

Excellent  $h_{FE}$  Characteristics

Complementary to 2SA1797



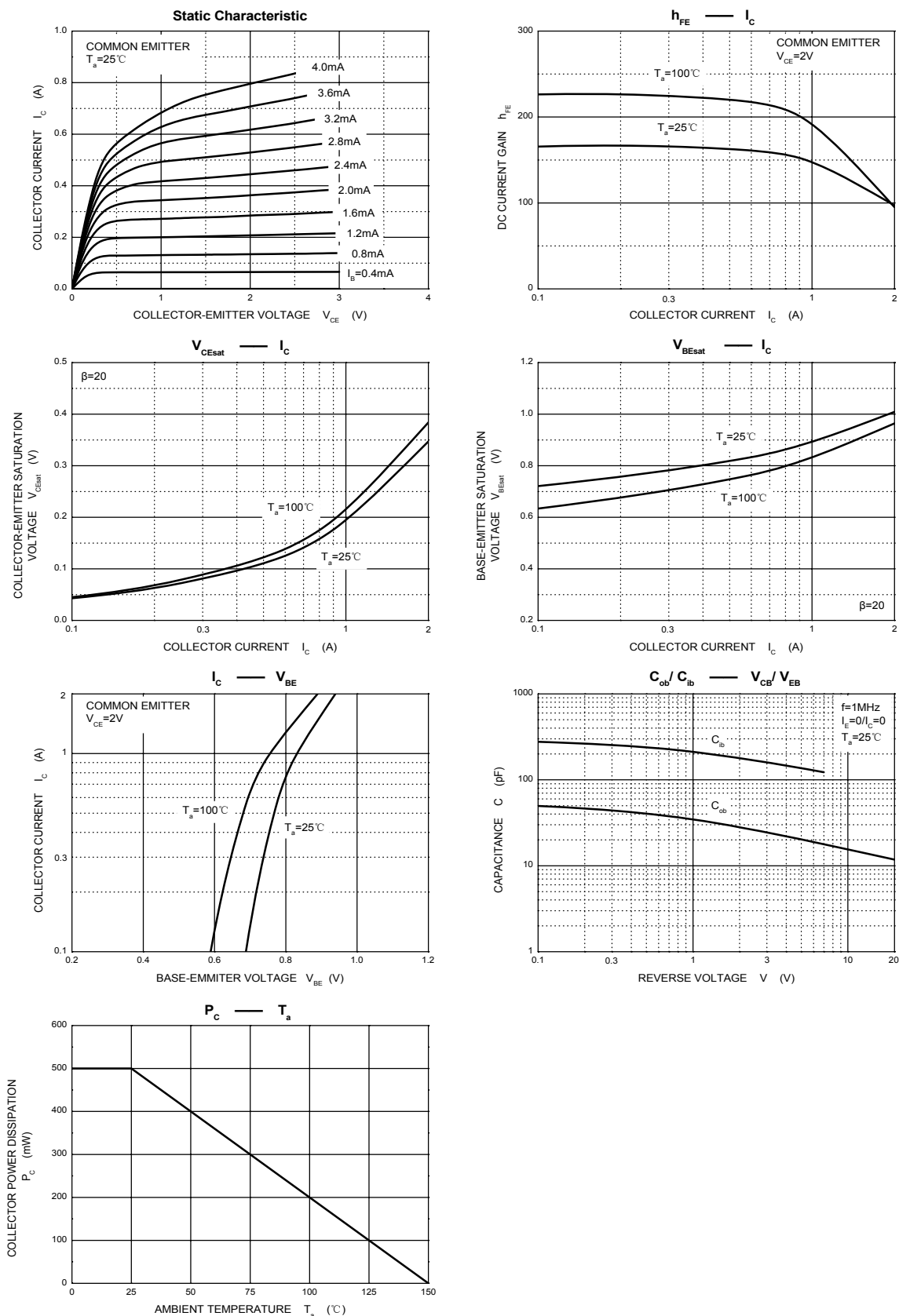
## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| Parameter                                   | Symbol          | Rating     | Unit                      |
|---------------------------------------------|-----------------|------------|---------------------------|
| Collector - Base Voltage                    | $V_{CB0}$       | 60         | V                         |
| Collector - Emitter Voltage                 | $V_{CE0}$       | 50         |                           |
| Emitter - Base Voltage                      | $V_{EB0}$       | 6          |                           |
| Collector Current - Continuous              | $I_C$           | 2          | A                         |
| Collector Power Dissipation                 | $P_C$           | 500        | mW                        |
| Thermal Resistance From Junction To Ambient | $R_{\theta JA}$ | 250        | $^\circ\text{C}/\text{W}$ |
| Junction Temperature                        | $T_J$           | 150        | $^\circ\text{C}$          |
| Storage Temperature Range                   | $T_{stg}$       | -55 to 150 |                           |

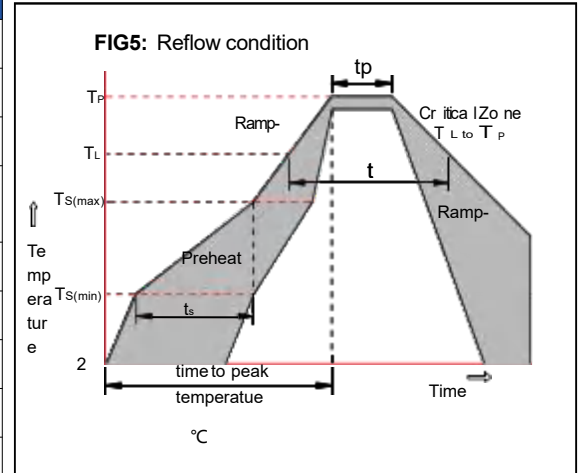


RATING AND CHARACTERISTIC CURVES



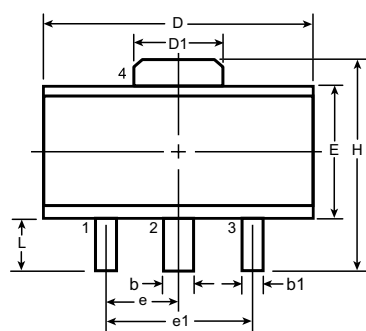
## Soldering parameters

| Reflow Condition                                        |                                   | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|-----------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ ) | +150 °C                            |
|                                                         | -Temperature Max( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)           | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3 °C/sec. Max                      |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3 °C/sec. Max                      |
| Reflow                                                  | -Temperature( $T_L$ )(Liquid us)  | +217 °C                            |
|                                                         | -Temperature( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                   | +260(+0/-5) °C                     |
| Time within 5 °C of actual Peak Temp ( $t_P$ )          |                                   | 30 secs. Max                       |
| Ramp-down Rate                                          |                                   | 6 °C/sec. Max                      |
| Time 25 °C to Peak Temp ( $T_P$ )                       |                                   | 8 min. Max                         |
| Do not exceed                                           |                                   | +260 °C                            |

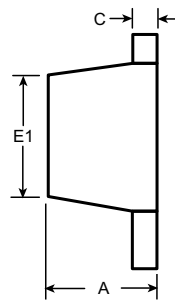


## Package Dimensions & Suggested Pad Layout

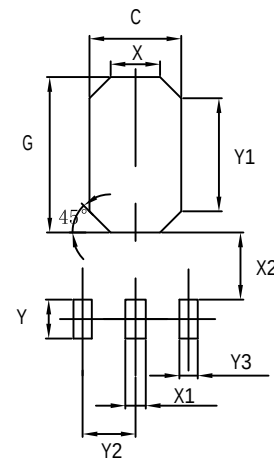
### SOT89



Top View



Side View



| Symbol             |     | A    | b    | b1   | C   | D    | D1   | E    | E1    | e           | e1          | H    | L    |
|--------------------|-----|------|------|------|-----|------|------|------|-------|-------------|-------------|------|------|
| Dimensions<br>(mm) | MIN | 1.40 | 0.44 | 0.36 | 0.3 | 4.40 | 1.50 | 2.29 | 2.00† | 1.50<br>BSC | 3.00<br>BSC | 3.94 | 0.89 |
|                    | NOM | -    | -    | -    | -   | -    | -    | -    | -     |             |             | -    | -    |
|                    | MAX | 1.60 | 0.56 | 0.48 | 0.5 | 4.60 | 1.75 | 2.60 | 2.29  |             |             | 4.25 | 1.20 |

| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 2.50          |
| G          | 3.60          |
| X          | 1.40          |
| X1         | 0.90          |
| X2         | 0.90          |
| Y          | 1.40          |
| Y1         | 2.60          |
| Y2         | 1.50          |
| Y3         | 0.90          |

