

# 2SC2834, 2SC2834A

## Silicon NPN Triple-Diffused Junction Mesa Type

High Breakdown Voltage, High Speed Switching

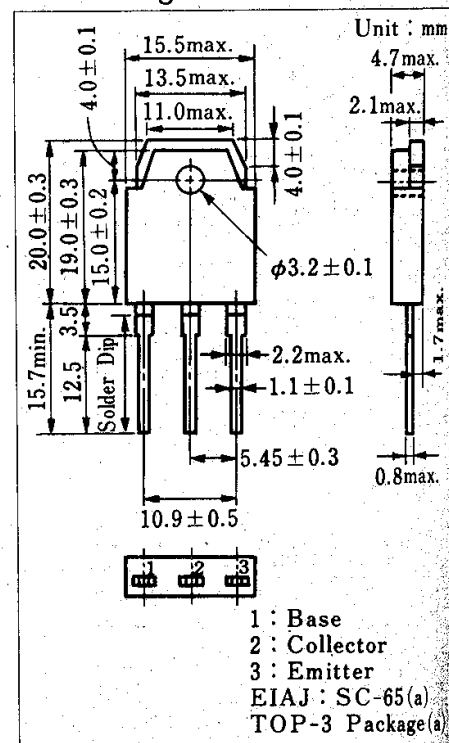
### ■ Features

- High speed switching
- High collector-base voltage ( $V_{CB0}$ )
- Low collector-emitter saturation voltage ( $V_{CE(sat)}$ )

### ■ Absolute Maximum Ratings ( $T_c=25^\circ\text{C}$ )

| Item                        | Symbol                 | Value           | Unit             |
|-----------------------------|------------------------|-----------------|------------------|
| Collector-base voltage      | 2SC2834                | 800             | V                |
|                             | 2SC2834A               | 900             |                  |
| Collector-emitter voltage   | $V_{CEO}$              | 500             | V                |
| Emitter-base voltage        | $V_{EBO}$              | 8               | V                |
| Peak collector current      | $I_{CP}$               | 15              | A                |
| Collector current           | $I_C$                  | 7               | A                |
| Base current                | $I_B$                  | 4               | A                |
| Collector power dissipation | $T_c=25^\circ\text{C}$ | $P_C$           | W                |
|                             | $T_a=25^\circ\text{C}$ | $P_C$           |                  |
| Junction temperature        | $T_j$                  | 150             | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$              | $-55 \sim +150$ | $^\circ\text{C}$ |

### ■ Package Dimensions



### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

| Item                                 | Symbol         | Condition                                                                            | min. | typ. | max. | Unit          |
|--------------------------------------|----------------|--------------------------------------------------------------------------------------|------|------|------|---------------|
| Collector cutoff current             | 2SC2834        | $V_{CB}=800\text{ V}, I_E=0$                                                         |      |      | 100  | $\mu\text{A}$ |
|                                      | 2SC2834A       | $V_{CB}=900\text{ V}, I_E=0$                                                         |      |      | 100  |               |
| Emitter cutoff current               | $I_{EBO}$      | $V_{EB}=5\text{ V}, I_C=0$                                                           |      |      | 100  | $\mu\text{A}$ |
| Collector-emitter voltage            | $V_{CEO(sus)}$ | $I_C=0.2\text{ A}, L=25\text{ mH}$                                                   | 500  |      |      | V             |
| DC current gain                      | $h_{FE1}$      | $V_{CE}=5\text{ V}, I_C=0.1\text{ A}$                                                | 15   |      |      |               |
|                                      | $h_{FE2}$      | $V_{CE}=5\text{ V}, I_C=5\text{ A}$                                                  | 8    |      |      |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$  | $I_C=5\text{ A}, I_B=1\text{ A}$                                                     |      |      | 1    | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$  | $I_C=5\text{ A}, I_B=1\text{ A}$                                                     |      |      | 1.5  | V             |
| Transition frequency                 | $f_T$          | $V_{CE}=10\text{ V}, I_C=0.5\text{ A}, f=1\text{ MHz}$                               |      | 3.5  |      | MHz           |
| Turn-on time                         | 2SC2834        | $I_C=5\text{ A}$<br>$I_{B1}=1\text{ A}, I_{B2}=-1\text{ A}$<br>$V_{CC}=200\text{ V}$ |      |      | 1    | $\mu\text{s}$ |
|                                      | 2SC2834A       |                                                                                      |      |      | 1.2  |               |
| Storage time                         | $t_{stg}$      |                                                                                      |      |      | 2.5  | $\mu\text{s}$ |
|                                      | $t_{stg}$      |                                                                                      |      |      | 1    |               |
| Collector current fall time          | 2SC2834        |                                                                                      |      |      | 1    | $\mu\text{s}$ |
|                                      | 2SC2834A       |                                                                                      |      |      | 1.2  |               |