

# NPN General Purpose Transistor

## BC847B / BC847C

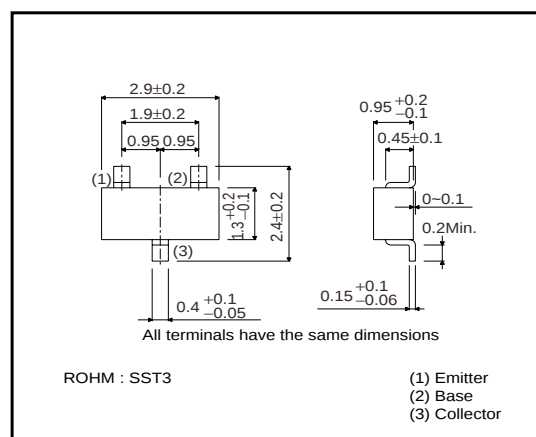
### ●Features

- 1)  $BV_{CEO} < 45V$  ( $I_C=1mA$ )
- 2) Complements the BC857B.

### ●Package, marking, and Packaging specifications

| Part No.                     | BC847B | BC847C |
|------------------------------|--------|--------|
| Packaging type               | SST3   | SST3   |
| Marking                      | G1F    | G1G    |
| Code                         | T116   | T116   |
| Basic ordering unit (pieces) | 3000   | 3000   |

### ●External dimensions (Units : mm)



### ●Absolute maximum ratings ( $T_a=25^{\circ}C$ )

| Parameter                   | Symbol    | Limits   | Unit        |
|-----------------------------|-----------|----------|-------------|
| Collector-base voltage      | $V_{CBO}$ | 50       | V           |
| Collector-emitter voltage   | $V_{CEO}$ | 45       | V           |
| Emitter-base voltage        | $V_{EBO}$ | 6        | V           |
| Collector current           | $I_C$     | 0.1      | A           |
| Collector power dissipation | $P_C$     | 0.2      | W *         |
|                             |           | 0.35     |             |
| Junction temperature        | $T_J$     | 150      | $^{\circ}C$ |
| Storage temperature         | $T_{stg}$ | -55~+150 | $^{\circ}C$ |

\* When mounted on a 7×5×0.6mm ceramic board.

### ●Electrical characteristics ( $T_a=25^{\circ}C$ )

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit    | Conditions                       |
|--------------------------------------|---------------|------|------|------|---------|----------------------------------|
| Collector-base breakdown voltage     | $BV_{CBO}$    | 50   | —    | —    | V       | $I_C=50\mu A$                    |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | 45   | —    | —    | V       | $I_C=1mA$                        |
| Emitter-base breakdown voltage       | $BV_{EBO}$    | 6    | —    | —    | V       | $I_E=50\mu A$                    |
| Collector cutoff current             | $I_{CBO}$     | —    | —    | 15   | nA      | $V_{CB}=30V$                     |
|                                      |               | —    | —    | 5    | $\mu A$ | $V_{CB}=30V, T_a=150^{\circ}C$   |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | —    | —    | 0.25 | V       | $I_C/I_B=10mA/0.5mA$             |
|                                      |               | —    | —    | 0.6  | V       | $I_C/I_B=100mA/5mA$              |
| Base-emitter saturation voltage      | $V_{BE(on)}$  | 0.58 | —    | 0.77 | V       | $V_{CE}/I_C=5V/10mA$             |
| DC current transfer ratio            | $h_{FE}$      | 200  | —    | 450  | —       | $V_{CE}/I_C=5V/2mA$ BC847B       |
|                                      |               | 420  | —    | 800  | —       | $V_{CE}/I_C=5V/2mA$ BC847C       |
| Transition frequency                 | $f_T$         | —    | 200  | —    | MHz     | $V_{CE}=5V, I_E=-20mA, f=100MHz$ |
| Collector output capacitance         | $C_{ob}$      | —    | 3    | —    | pF      | $V_{CB}=-10V, I_E=0, f=1MHz$     |
| Emitter input capacitance            | $C_{ib}$      | —    | 8    | —    | pF      | $V_{EB}=0.5V, I_C=0, f=1MHz$     |

### ●Electrical characteristic curves

The electrical characteristic curves for these products are the same as those of UMT222A, SST222A, MMST2222A and PN2222A.

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