



Micro Commercial Components

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BC846A THRU BC848C

NPN Plastic-Encapsulate Transistors

Features

- Power Dissipation: 0.225W ($T_{amb}=25^{\circ}C$)(Note 1)
- Collector Current: 0.1A
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

Maximum Ratings

- Operating temperature : $-55^{\circ}C$ to $+150^{\circ}C$
- Storage temperature : $-55^{\circ}C$ to $+150^{\circ}C$

DEVICE MARKING

BC846A=1A,46A; BC846B=1B,46B;
BC847A=1E,47A; BC847B=1F,47B; BC847C=1G,47C;
BC848A=1J,48A; BC848B=1K,48B; BC848C=1L,48C

Electrical Characteristics @ 25°C Unless Otherwise Specified

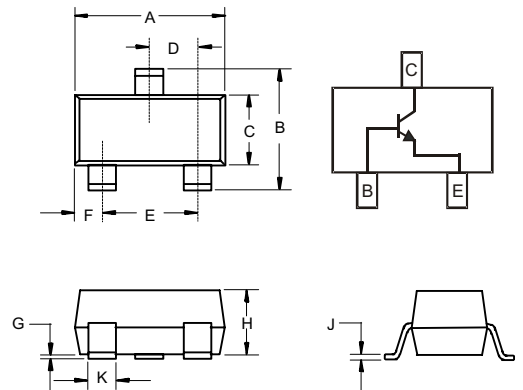
| Symbol | Parameter | Min | Max | Units |
|--------|-----------|-----|-----|-------|
|--------|-----------|-----|-----|-------|

OFF CHARACTERISTICS

| | | | | |
|---------------|---|-------------------|-------------------|---------|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage ($I_C=10\mu A$, $I_E=0$) | | | Vdc |
| | BC846 | --- | 80 | |
| | BC847 | --- | 50 | |
| | BC848 | --- | 30 | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage ($I_C=10mA$, $I_B=0$) | | | Vdc |
| | BC846 | --- | 65 | |
| | BC847 | --- | 45 | |
| | BC848 | --- | 30 | |
| $V_{(BR)EBO}$ | Collector-Emitter Breakdown Voltage ($I_E=10\mu A$, $I_C=0$) | | | Vdc |
| | | --- | 6 | |
| I_{CBO} | Collector Cut-off Current BC846 ($V_{CB}=80V$, $I_E=0$) BC847 ($V_{CB}=50V$, $I_E=0$) BC848 ($V_{CB}=30V$, $I_E=0$) | | | μA |
| | | --- | 0.1 | |
| I_{CEO} | Collector Cut-off Current BC846 ($V_{CE}=60V$, $I_B=0$) BC847 ($V_{CE}=45V$, $I_B=0$) BC848 ($V_{CE}=30V$, $I_B=0$) | | | μA |
| | | --- | 0.1 | |
| I_{EBO} | Emitter Cut-off Current ($V_{EB}=5V$, $I_C=0mA$) | | | μA |
| | | --- | 0.1 | |
| $H_{FE(1)}$ | DC Current Gain($V_{CE}=5V$, $I_C=2mA$) BC846A, 847A, 848A BC846B, 847B, 848B BC847C, BC848C | 110 200 420 | 220 450 800 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_C=100mA$, $I_B=5mA$) | | | Vdc |
| | | --- | 0.5 | |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage ($I_C=100mA$, $I_B=5mA$) | | | Vdc |
| | | --- | 1.1 | |
| f_T | Transition Frequency ($V_{CE}=5V$, $I_C=10mA$, $f=100MHz$) | 100 | --- | MHz |

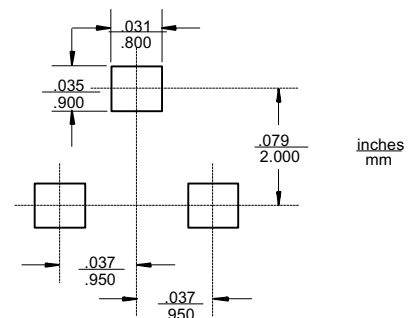
Note 1: Transistor mounted on an FR4 printed-circuit board

SOT-23



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .110 | .120 | 2.80 | 3.04 | |
| B | .083 | .098 | 2.10 | 2.64 | |
| C | .047 | .055 | 1.20 | 1.40 | |
| D | .035 | .041 | .89 | 1.03 | |
| E | .070 | .081 | 1.78 | 2.05 | |
| F | .018 | .024 | .45 | .60 | |
| G | .0005 | .0039 | .013 | .100 | |
| H | .035 | .044 | .89 | 1.12 | |
| J | .003 | .007 | .085 | .180 | |
| K | .015 | .020 | .37 | .51 | |

Suggested Solder Pad Layout





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Ordering Information

| Device | Packing |
|------------------|----------------------|
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |

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