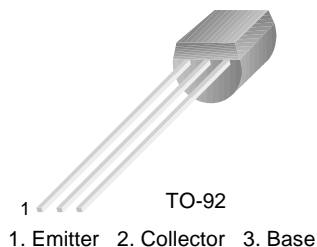


# BC63916

BC63916

## Switching and Amplifier Applications



## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol         | Parameter  | Value     | Units            |
|----------------|--|-----------|------------------|
| $V_{CER}$      | Collector-Emitter Voltage at $R_{BE}=1K\Omega$   | 100       | V                |
| $V_{CES}$      | Collector-Emitter Voltage                        | 100       | V                |
| $V_{CEO}$      | Collector-Emitter Voltage                        | 80        | V                |
| $V_{EBO}$      | Emitter-Base Voltage                             | 5         | V                |
| $I_C$          | Collector Current                                | 1         | A                |
| $P_C$          | Collector Power Dissipation                      | 1         | W                |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range | -55 ~ 150 | $^\circ\text{C}$ |

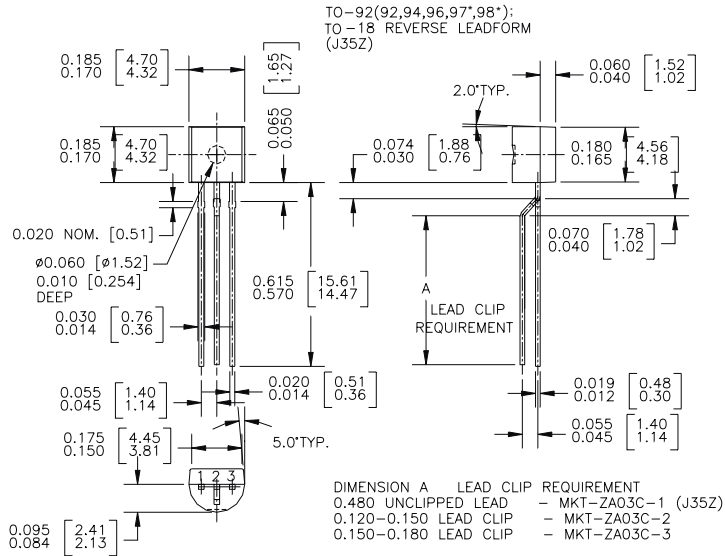
•  $PW=5\text{ms}$ , Duty Cycle=10%

### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol        | Parameter                            | Test Condition  | Min. | Typ. | Max. | Units         |
|---------------|--------------------------------------|---|------|------|------|---------------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C = 100\mu\text{A}, I_E = 0$                           | 100  |      |      | V             |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = 10\text{mA}, I_B = 0$                              | 80   |      |      | V             |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = 10\mu\text{A}, I_C = 0$                            | 5.0  |      |      | V             |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = 30\text{V}, I_E = 0$                            |      |      | 100  | nA            |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{EB} = 5\text{V}, I_C = 0$                             |      |      | 10   | $\mu\text{A}$ |
| $h_{FE1}$     | DC Current Gain                      | $V_{CE} = 2\text{V}, I_C = 5\text{mA}$                    | 25   |      |      |               |
| $h_{FE2}$     |                                      | $V_{CE} = 2\text{V}, I_C = 150\text{mA}$                  | 100  |      | 250  |               |
| $h_{FE3}$     |                                      | $V_{CE} = 2\text{V}, I_C = 500\text{mA}$                  | 25   |      |      |               |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 500\text{mA}, I_B = 50\text{mA}$                   |      |      | 0.5  | V             |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $V_{CE} = 2\text{V}, I_C = 500\text{mA}$                  |      |      | 1    | V             |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE} = 5\text{V}, I_C = 10\text{mA}, f = 50\text{MHz}$ |      | 100  |      | MHz           |

Package Dimensions

TO-92



**Note:** All package 97 or 98 transistors are leadformed to this configuration prior to bulk shipment. Order L34Z option if in-line leads are preferred on package 97 or 98.

\* Standard Option on 97 & 98 package code

Dimensions in Millimeters

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| ActiveArray <sup>™</sup>                         | FACT Quiet series <sup>™</sup>  | ISOPLANAR <sup>™</sup>         | POP <sup>™</sup>                | Stealth <sup>™</sup>        |
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| CoolFET <sup>™</sup>                             | FAST <sup>r</sup> <sup>™</sup>  | MicroFET <sup>™</sup>          | PowerTrench <sup>®</sup>        | SuperSOT <sup>™</sup> -6    |
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|--------------------------|------------------------|---|
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