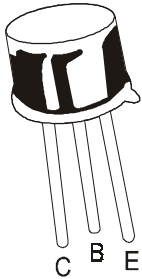


**PNP SILICON PLANAR TRANSISTOR**

**BFX30**



**TO-39  
Metal Can Package**

**INTENDED FOR SWITCHING APPLICATIONS.**

**ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)**

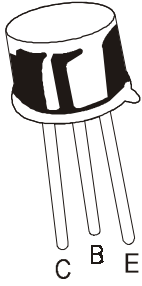
| DESCRIPTION                                      | SYMBOL         | VALUE       | UNITS |
|--------------------------------------------------|----------------|-------------|-------|
| Collector Emitter Voltage                        | $V_{CEO}$      | 65          | V     |
| Collector Base Voltage                           | $V_{CBO}$      | 65          | V     |
| Emitter Base Voltage                             | $V_{EBO}$      | 5.0         | V     |
| Collector Current Continuous                     | $I_C$          | 600         | mA    |
| Peak                                             | $I_{CM}$       | 600         | mA    |
| Emitter Current (Peak Value)                     | $I_{EM}$       | 600         | mA    |
| Total Device Dissipation @ Ta=25°C               | $P_{tot}$      | 600         | mW    |
| Operating And Storage Junction Temperature Range | $T_j, T_{stg}$ | -65 to +200 | °C    |

**THERMAL RESISTANCE**

|                     |               |     |     |
|---------------------|---------------|-----|-----|
| Junction to Ambient | $R_{th(j-a)}$ | 300 | K/W |
|---------------------|---------------|-----|-----|

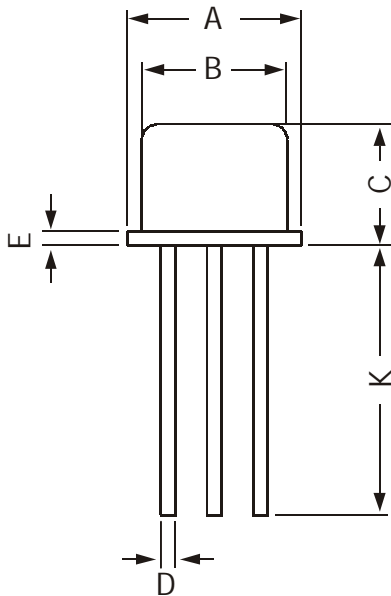
**ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)**

| DESCRIPTION                     | SYMBOL        | TEST CONDITION                 | VALUE |     | UNITS |
|---------------------------------|---------------|--------------------------------|-------|-----|-------|
|                                 |               |                                | MIN   | MAX |       |
| Collector Cut off Current       | $I_{CBO}$     | $V_{CB}=65V, I_E=0$            |       | 500 | nA    |
|                                 |               | $V_{CB}=50V, I_E=0$            |       | 50  | nA    |
|                                 |               | $V_{CB}=50V, I_E=0, T_j=100°C$ |       | 2.0 | µA    |
| Emitter Cut off Current         | $I_{EBO}$     | $V_{EB}=5V, I_C=0$             |       | 500 | nA    |
|                                 |               | $V_{EB}=3V, I_C=0$             |       | 100 | nA    |
| DC Current Gain                 | $h_{FE}$      | $I_C=1.0mA, V_{CE}=0.4V$       | 40    |     |       |
|                                 |               | $I_C=10mA, V_{CE}=0.4V$        | 50    | 200 |       |
|                                 |               | $I_C=50mA, V_{CE}=0.4V$        | 20    |     |       |
|                                 |               | $I_C=150mA, V_{CE}=0.4V$       | 10    |     |       |
| Base Emitter Saturation Voltage | $V_{BE(Sat)}$ | $I_C=30mA, I_B=1.0mA$          | 0.9   |     | V     |
|                                 |               | $I_C=150mA, I_B=15mA$          | 1.3   |     | V     |

**PNP SILICON PLANAR TRANSISTOR****BFX30****TO-39  
Metal Can Package****ELECTRICAL CHARACTERISTICS (Ta=25° C unless specified otherwise)**

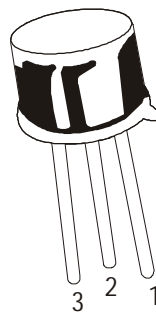
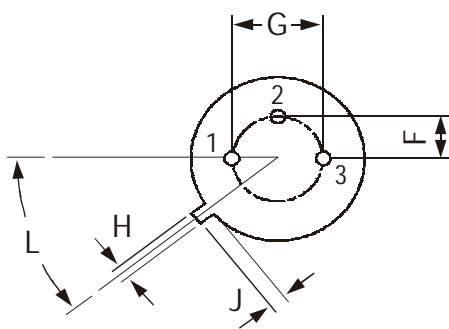
| DESCRIPTION                                | SYMBOL    | TEST CONDITION                       | VALUE |     | UNITS |
|--------------------------------------------|-----------|--------------------------------------|-------|-----|-------|
|                                            |           |                                      | MIN   | MAX |       |
| <b><u>SMALL SIGNAL CHARACTERISTICS</u></b> |           |                                      |       |     |       |
| <b>Collector Capacitance</b>               | $C_{tc}$  | $V_{CB}=10V, I_E=I_C=0, f=1MHz$      | typ.  | 6.0 | pF    |
| <b>Emitter Capacitance</b>                 | $C_{te}$  | $V_{EB}=2.0V, I_C=, f=1MHz$          | typ.  | 18  | pF    |
| <b><u>SWITCHING TIMES</u></b>              |           |                                      |       |     |       |
| <b>Delay Time</b>                          | $t_d$     |                                      |       | 15  | ns    |
| <b>Rise Time</b>                           | $t_r$     |                                      |       | 40  | ns    |
| <b>Turn on time (td+ tr)</b>               | $t_{on}$  | $I_C=100mA, I_{B on}=I_{B off}=10mA$ |       | 50  | ns    |
| <b>Storage time</b>                        | $t_s$     |                                      |       | 250 | ns    |
| <b>Fall time</b>                           | $t_f$     |                                      |       | 50  | ns    |
| <b>Turn off time (ts+tf)</b>               | $t_{off}$ |                                      |       | 290 | ns    |

**TO-39 Metal Can Package**



All dimensions are in mm

| DIM | MIN    | MAX    |
|-----|--------|--------|
| A   | 8.50   | 9.39   |
| B   | 7.74   | 8.50   |
| C   | 6.09   | 6.60   |
| D   | 0.40   | 0.53   |
| E   | —      | 0.88   |
| F   | 2.41   | 2.66   |
| G   | 4.82   | 5.33   |
| H   | 0.71   | 0.86   |
| J   | 0.73   | 1.02   |
| K   | 12.70  | —      |
| L   | 42 DEG | 48 DEG |



**PIN CONFIGURATION**  
 1. EMITTER  
 2. BASE  
 3. COLLECTOR

**Packing Detail**

| PACKAGE | STANDARD PACK   |                | INNER CARTON BOX |     | OUTER CARTON BOX  |     |        |
|---------|-----------------|----------------|------------------|-----|-------------------|-----|--------|
|         | Details         | Net Weight/Qty | Size             | Qty | Size              | Qty | Gr Wt  |
| TO-39   | 500 pcs/polybag | 540 gm/500 pcs | 3" x 7.5" x 7.5" | 20K | 17" x 15" x 13.5" | 32K | 40 kgs |

### **Disclaimer**

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**Continental Device India Limited**

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290

e-mail [sales@cdil.com](mailto:sales@cdil.com) [www.cdil.com](http://www.cdil.com)