

**MAXIMUM RATINGS**

| Rating  | Symbol                            | BF 371      | BF 373 | Unit             |
|---|-----------------------------------|-------------|--------|------------------|
| Collector-Emitter Voltage   | V <sub>CEO</sub>                  | 30          | 45     | Vdc              |
| Collector-Base Voltage  | V <sub>CBO</sub>                  | 40          | 45     | Vdc              |
| Emitter-Base Voltage  | V <sub>EBO</sub>                  | 4.0         |        | Vdc              |
| Collector Current - Continuous  | I <sub>C</sub>                    | 100         |        | mA <sub>dc</sub> |
| Total Device Dissipation @ T <sub>A</sub> = 25°C<br>Derate above 25°C | P <sub>D</sub>                    | 350         | 2.8    | mW<br>mW/°C      |
| Total Device Dissipation @ T <sub>C</sub> = 25°C<br>Derate above 25°C | P <sub>D</sub>                    | 1.0         | 8.0    | Watt<br>mW/°C    |
| Operating and Storage Junction Temperature Range                      | T <sub>J</sub> , T <sub>stg</sub> | -55 to +150 |        | °C               |

**THERMAL CHARACTERISTICS**

| Characteristic                          | Symbol           | Max | Unit |
|---|------------------|-----|------|
| Thermal Resistance, Junction to Case    | R <sub>θJC</sub> | 125 | °C/W |
| Thermal Resistance, Junction to Ambient | R <sub>θJC</sub> | 357 | °C/W |

# BF371 BF373

**CASE 29-02, STYLE 2  
TO-92 (TO-226AA)**

NPN SILICON

**ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 25°C unless otherwise noted)

| Characteristic  | Type           | Symbol               | Min.       | Typ.       | Max.   | Unit             |
|---|----------------|----------------------|------------|------------|--------|------------------|
| <b>OFF CHARACTERISTICS</b>  |                |                      |            |            |        |                  |
| Collector-Emitter Breakdown Voltage<br>(I <sub>C</sub> = 1.0 mA <sub>dc</sub> , I <sub>B</sub> = 0)   | BF371<br>BF373 | V <sub>(BR)CEO</sub> | 30<br>45   | —          | —      | Vdc              |
| Collector-Base Breakdown Voltage<br>(I <sub>C</sub> = 100 μA <sub>dc</sub> , I <sub>E</sub> = 0)  | BF371<br>BF373 | V <sub>(BR)CBO</sub> | 40<br>45   | —          | —      | Vdc              |
| Emitter-Base Breakdown Voltage<br>(I <sub>E</sub> = 10 μA <sub>dc</sub> , I <sub>C</sub> = 0)   |                | V <sub>(BR)EBO</sub> | 4.0        | —          | —      | Vdc              |
| Collector Cutoff Current<br>(V <sub>CB</sub> = 30 Vdc, I <sub>E</sub> = 0)  |                | I <sub>CBO</sub>     | —          | —          | 50     | nA <sub>dc</sub> |
| <b>ON CHARACTERISTICS</b>   |                |                      |            |            |        |                  |
| DC Current Gain<br>(I <sub>C</sub> = 7.0 mA <sub>dc</sub> , V <sub>CE</sub> = 10 Vdc)<br>(I <sub>C</sub> = 20 mA <sub>dc</sub> , V <sub>CE</sub> = 2.0 Vdc) |                | h <sub>FE</sub>      | 40<br>15   | —<br>—     | —<br>— | —                |
| Collector-Emitter Saturation Voltage<br>(I <sub>C</sub> = 20 mA <sub>dc</sub> , I <sub>B</sub> = 2.0 mA <sub>dc</sub> )                                     |                | V <sub>CE(sat)</sub> | —          | —          | 0.50   | Vdc              |
| Base-Emitter On Voltage<br>(I <sub>C</sub> = 7.0 mA, V <sub>CE</sub> = 10 Vdc)  |                | V <sub>BE(on)</sub>  | —          | —          | 0.90   | Vdc              |
| <b>DYNAMIC CHARACTERISTICS</b>  |                |                      |            |            |        |                  |
| Current Gain - Bandwidth Product<br>(I <sub>C</sub> = 5 mA <sub>dc</sub> , V <sub>CE</sub> = 10 Vdc, f = 100 MHz)   | BF371<br>BF373 | f <sub>T</sub>       | 400<br>500 | 720<br>720 | —      | MHz              |
| Common Emitter Feedback Capacitance<br>(V <sub>CB</sub> = 10 Vdc, I <sub>E</sub> = 0, f = 1.0 MHz)  |                | C <sub>re</sub>      | —          | 0.20       | 0.32   | pF               |