

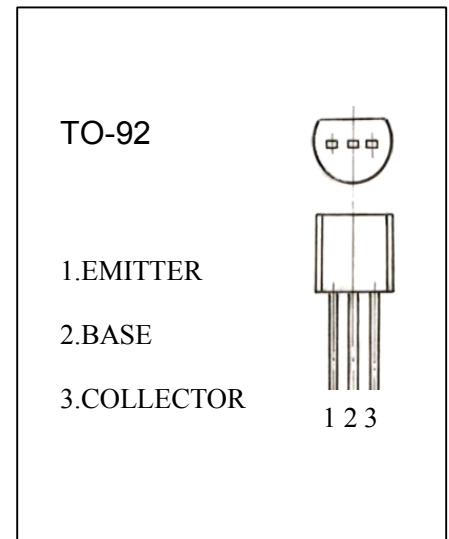
## TO-92 Plastic-Encapsulate Transistors

### FEATURE

- ◆ Excellent hFE linearity
- ◆ Low noise
- ◆ Complementary to A733

### MAXIMUM RATINGS (TA=25°C unless otherwise noted)

| Symbol      | Parameter                     | Value   | Units |
|-------------|-------------------------------|---------|-------|
| <b>VCBO</b> | Collector-Base Voltage        | 60      | V     |
| <b>VCEO</b> | Collector-Emitter Voltage     | 50      | V     |
| <b>VEBO</b> | Emitter-Base Voltage          | 5       | V     |
| <b>IC</b>   | Collector Current -Continuous | 150     | mA    |
| <b>PC</b>   | Collector Power Dissipation   | 400     | mW    |
| <b>TJ</b>   | Junction Temperature          | 125     | °C    |
| <b>Tstg</b> | Storage Temperature           | -55-125 | °C    |



### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter                                   | Symbol               | Test conditions  | MIN | TYP | MAX | UNIT |
|---|----------------------|--|-----|-----|-----|------|
| <b>Collector-base breakdown voltage</b>     | V <sub>(BR)CBO</sub> | I <sub>c</sub> =1mA, I <sub>E</sub> =0                                     | 60  |     |     | V    |
| <b>Collector-emitter breakdown voltage</b>  | V <sub>(BR)CEO</sub> | I <sub>c</sub> =100uA, I <sub>B</sub> =0                                   | 50  |     |     | V    |
| <b>Emitter-base breakdown voltage</b>       | V <sub>(BR)EBO</sub> | I <sub>E</sub> =100mA, I <sub>c</sub> =0                                   | 5   |     |     | V    |
| <b>Collector cut-off current</b>            | I <sub>CBO</sub>     | V <sub>CB</sub> =60V, I <sub>E</sub> =0                                    |     |     | 0.1 | uA   |
| <b>Collector cut-off current</b>            | I <sub>CEO</sub>     | V <sub>CE</sub> =45V   |     |     | 0.1 | uA   |
| <b>Emitter cut-off current</b>              | I <sub>EBO</sub>     | V <sub>EB</sub> =5V, I <sub>c</sub> =0                                     |     |     | 0.1 | uA   |
| <b>DC current gain</b>                      | h <sub>FE(1)</sub>   | V <sub>CE</sub> =6 V, I <sub>c</sub> =1mA                                  | 70  |     | 700 |      |
|   | h <sub>FE(2)</sub>   | V <sub>CE</sub> =6 V, I <sub>c</sub> =0.1mA                                | 40  |     |     |      |
| <b>Collector-emitter saturation voltage</b> | V <sub>CE(sat)</sub> | I <sub>c</sub> =100mA, I <sub>B</sub> =10mA                                |     |     | 0.3 | V    |
| <b>Base-emitter saturation voltage</b>      | V <sub>BE(sat)</sub> | I <sub>c</sub> =100mA, I <sub>B</sub> =10mA                                |     |     | 1   | V    |
| <b>Transition frequency</b>                 | f <sub>T</sub>       | V <sub>CE</sub> =6V, I <sub>c</sub> =10mA, f =30 MHz                       | 200 |     |     | MHz  |
| <b>Collector output capacitance</b>         | C <sub>ob</sub>      | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz                            |     |     | 3.0 | pF   |
| <b>Noise figure</b>                         | NF                   | V <sub>CE</sub> =6V, I <sub>c</sub> =0.1mA<br>R <sub>G</sub> =10kΩ, f=1kHz |     |     | 10  | dB   |

### CLASSIFICATION OF hFE(1)

| Rank         | O      | Y       | GR      | BL      |
|--------------|--------|---------|---------|---------|
| <b>Range</b> | 70-140 | 120-240 | 200-400 | 350-700 |