

# Technical Data

## TRANSISTOR

### maximum ratings

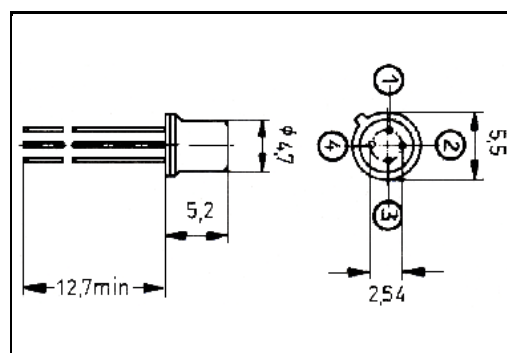
|   |       |      |      |             |
|---|-------|------|------|-------------|
| Voltage, Collector to Base (VCBO)         | 30.0  | V    | NO.  | BFY90       |
| Voltage, Collector to Emitter (VCE)       | 15.0  | V    | TYPE | NPN-VHF/UHF |
| Voltage, Emitter to Base (VEBO)           | 2.5   | V    |      |             |
| Collector Current (IC)                    | 25.0  | A    |      |             |
| Base Current (IB)                         |       | A    | CASE | TO-72       |
| Max. Power Dissipation (PT) at TC = 25 °C | 0.2   | W    |      |             |
| Max. Thermal Resistance (Rth J-C)         | 580.0 | °C/W |      |             |
| Max. Junction Temperature (TJ)            | 200.0 | °C   |      |             |

### PERFORMANCE CHARACTERISTICS at $T_c = 25^\circ\text{C}$ , unless otherwise noted

| NO. | SYMBOL   | CONDITIONS                                  | MIN. | MAX.  | UNITS |
|-----|----------|---|------|-------|-------|
| 1.  | BVCEO    | IC = 10.0 mA (1)                            | 15.0 | -     | V     |
| 2.  | BVCER    | IC = 10.0 mA, RBE = 50.0 Ω                  | 30.0 | -     | V     |
| 3.  | ICBO     | VCB = 15.0 V                                | -    | 10.0  | nA    |
| 4.  | hFE      | IC = 2.0 mA, VCE = 1.0 V (1)                | 25.0 | 150.0 | -     |
| 5.  | hFE      | IC = 25.0 mA, VCE = 1.0 V (1)               | 20.0 | 125.0 | -     |
| 6.  | VCE(SAT) | IC = 20.0 mA, IB = 2.0 mA (1)               | -    | 0.75  | V     |
| 7.  | fT       | VCE = 5.0 V, IC = 2.0 mA, f = 500.0 MHz     | 1.0  | -     | GHz   |
| 8.  | fT       | VCE = 5.0 V, IC = 25.0 mA, f = 500.0 MHz    | 1.3  | -     | GHz   |
| 9.  | Cobo     | VCB = 10.0 V, f = 1.0 MHz                   | -    | 1.5   | pF    |
| 10. | Cre      | VCE = 5.0 V, f = 1.0 MHz                    | -    | 0.8   | pF    |
| 11. | NF       | VCE = 5.0 V, IC = 2.0 mA, f = 200.0 MHz     | -    | 3.5   | dB    |
| 12. | NF       | VCE = 5.0 V, IC = 2.0 mA, f = 500.0 MHz     | -    | 5.0   | dB    |
| 13. | NF       | VCE = 5.0 V, IC = 2.0 mA, f = 800.0 MHz (2) | -    | 5.5   | dB    |
| 14. | GPE      | VCE = 10.0 V, IC = 14.0 mA, f = 200.0 MHz   | 21.0 | -     | dB    |
| 15. | PO       | VCE = 10.0 V, IC = 14.0 mA, f = 205.0 MHz   | 10.0 | -     | mW    |
| 16. |          |   |      |       |       |
| 17. | -        | 1 = EMITTER                                 | 0.0  | -     | -     |
| 18. | -        | 2 = BASE                                    | 0.0  | -     | -     |
| 19. | -        | 3 = COLLECTOR                               | 0.0  | -     | -     |
| 20. | -        | 4 = CASE                                    | 0.0  | -     | -     |

Notes (1) pulse-tested  $t_p \leq 300 \mu\text{s}$ , duty cycle  $\leq 2\%$   
(2) typical value

DIMENSIONS  
in mm



Marking BFY90

Customer GENERAL PURPOSE