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# BLX65

## U.H.F./V.H.F. TRANSMITTING TRANSISTOR

N-P-N transistor intended for use in class-B and C operated mobile, industrial and military transmitters with a supply voltage of 13,8 V. It has a TO-39 metal envelope with the collector connected to the case.

### QUICK REFERENCE DATA

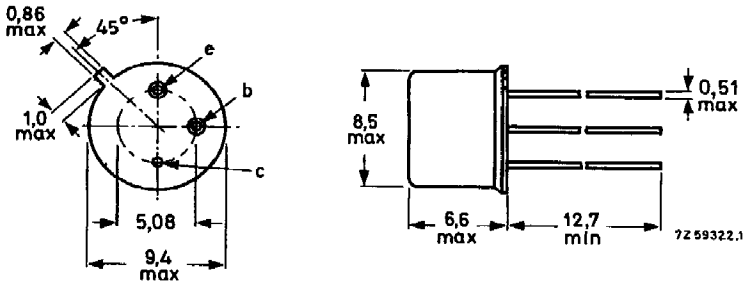
R.F. performance up to $T_{case}$ = 25 °C in an unneutralized common-emitter class-B circuit

| mode of operation | $V_{CE}$ V | f MHz | $P_S$ W | $P_L$ W | $I_C$ A | $G_p$ dB | $\eta$ % | $\overline{z_i}$ Ω | $\overline{Y_L}$ mS |
|---|---|---|---|---|---|---|---|---|---|
| c.w. | 13,8 | 470 | typ. 0,4 | 2,0 | typ. 0,22 | typ. 7 | typ. 66 | 5 + j11 | 17 − j19 |
| c.w. | 12,5 | 470 | < 0,5 | 2,0 | < 0,25 | > 6 | > 65 | — | — |
| c.w. | 12,5 | 175 | typ. 0,12 | 2,0 | typ. 0,21 | typ. 12 | typ. 75 | — | — |

### MECHANICAL DATA

Dimensions in mm

Fig.1 TO-39/1; collector connected to case.




Maximum lead diameter is guaranteed only for 12,7 mm.

**RATINGS** Limiting values in accordance with the Absolute Maximum System (IEC134)

| | | | | |
|---|---|---|---|---|
| Collector-base voltage (open emitter) peak value | $V_{CBOM}$ | max. | 36 | V |
| Collector-emitter voltage ($V_{BE}$ = 0) peak value | $V_{CESM}$ | max. | 36 | V |
| Collector-emitter voltage (open base) | $V_{CEO}$ | max. | 18 | V |
| Emitter-base voltage (open collector) | $V_{EBO}$ | max. | 4 | V |
| Collector current (average) | $I_{C(AV)}$ | max. | 0.7 | A |
| Collector current (peak value) f > 1 MHz | $I_{CM}$ | max. | 2.0 | A |
| Total power dissipation up to $T_{case}$ = 90 °C f > 10 MHz | $P_{tot}$ | max. | 3.0 | W |
| Storage temperature | $T_{stg}$ | −65 to +150 | | °C |
| Operating junction temperature | $T_j$ | max | 165 | °C |

**THERMAL RESISTANCE**

| | | | | |
|---|---|---|---|---|
| From junction to case | $R_{th\ j\text{-}c}$ | = | 25 | K/W |
| From mounting base to heatsink with a boron nitride washer for electrical insulation | $R_{th\ mb\text{-}h}$ | = | 2.5 | K/W |

**CHARACTERISTICS**

$T_j$ = 25 °C unless otherwise specified

| | | | | |
|---|---|---|---|---|
| **Breakdown voltages** | | | | |
| Collector-base voltage open emitter, $I_C$ = 10 mA | $V_{(BR)CBO}$ | > | 36 | V |
| Collector-emitter voltage $V_{BE}$ = 0; $I_C$ = 10 mA | $V_{(BR)CES}$ | > | 36 | V |
| Collector-emitter voltage open base, $I_C$ = 25 mA | $V_{(BR)CEO}$ | > | 18 | V |
| Emitter-base voltage open collector, $I_E$ = 1.0 mA | $V_{(BR)EBO}$ | > | 4 | V |
| **Collector-emitter saturation voltage** | | | | |
| $I_C$ = 100 mA; $I_B$ = 20 mA | $V_{CEsat}$ | typ. | 0.1 | V |
| **D.C. current gain** | | | | |
| $I_C$ = 100 mA; $V_{CE}$ = 5 V | $h_{FE}$ | > | 10 | |
| | | typ. | 40 | |
| **Transition frequency** | | | | |
| $I_C$ = 200 mA; $V_{CE}$ = 5 V; f = 500 MHz | $f_T$ | typ. | 1400 | MHz |
| **Collector capacitance at f = 1 MHz** | | | | |
| $I_E = I_e$ = 0; $V_{CB}$ = 10 V | $C_c$ | typ. | 6.5 | pF |
| | | < | 9.0 | pF |
| **Feedback capacitance at f = 1 MHz** | | | | |
| $I_C$ = 20 mA; $V_{CE}$ = 10 V | $-C_{re}$ | typ. | 4.8 | pF |