

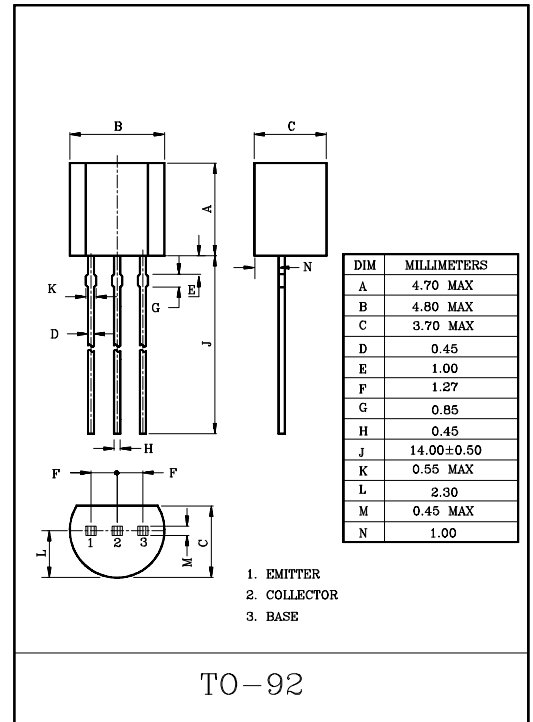
HIGH FREQUENCY APPLICATION.
VHF BAND AMPLIFIER APPLICATION.

FEATURES

- High Gain : $G_{pe}=33\text{dB}(\text{Typ.}) (f=45\text{MHz})$.
- Good Linearity of h_{FE} .

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|-----------|---------|------------------|
| Collector-Base Voltage | V_{CBO} | 30 | V |
| Collector-Emitter Voltage | V_{CEO} | 25 | V |
| Emitter-Base Voltage | V_{EBO} | 4 | V |
| Collector Current | I_C | 50 | mA |
| Emitter Current | I_E | -50 | mA |
| Collector Power Dissipation | P_C | 625 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55~150 | $^\circ\text{C}$ |

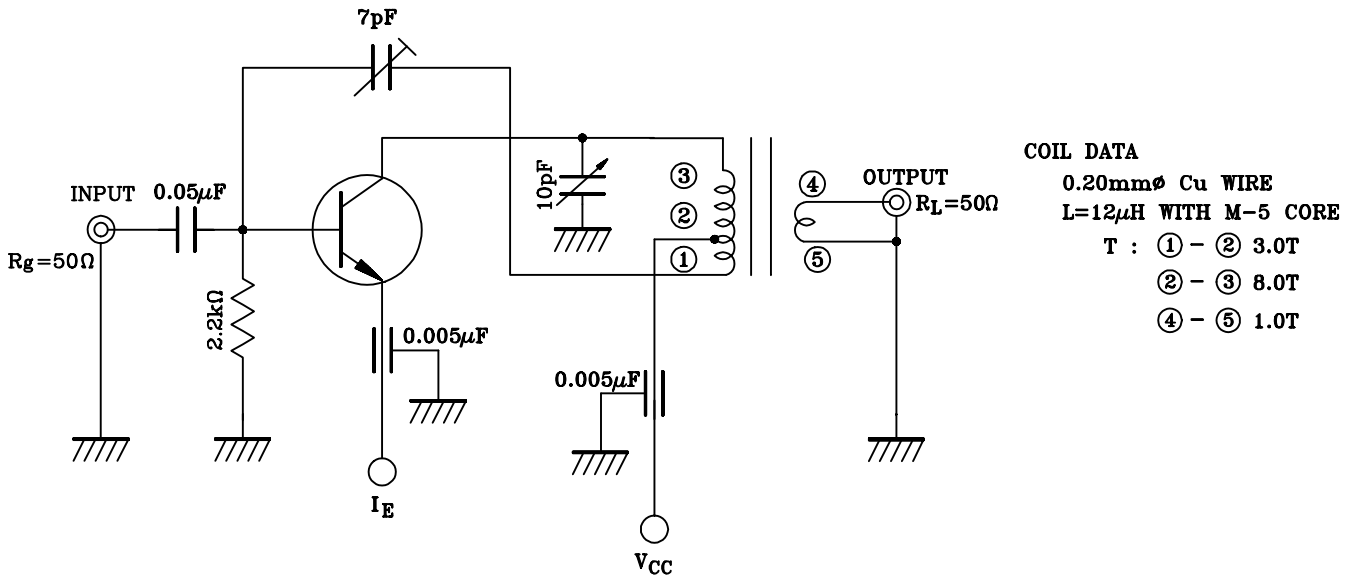


ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

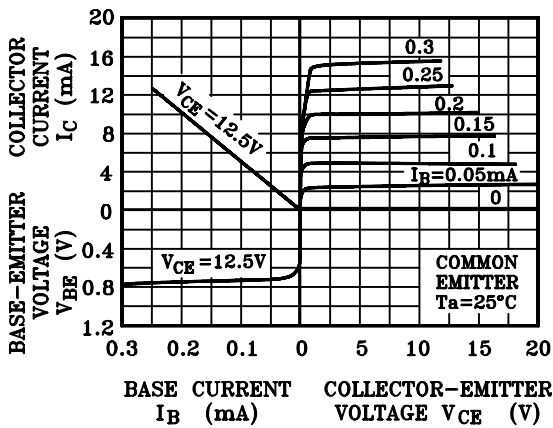
| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------------|-------------------|--------------------|---|------|------|------|---------------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB}=30\text{V}, I_E=0$ | - | - | 0.1 | μA |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB}=3\text{V}, I_C=0$ | - | - | 0.1 | |
| Collector-Emitter Breakdown Voltage | | $V_{(BR)CEO}$ | $I_C=10\text{mA}, I_B=0$ | 25 | - | - | V |
| DC Current Gain | | h_{FE} | $V_{CE}=12.5\text{V}, I_C=12.5\text{mA}$ | 20 | - | 200 | |
| Saturation Voltage | Collector-Emitter | $V_{CE(sat)}$ | $I_C=15\text{mA}, I_B=1.5\text{mA}$ | - | - | 0.2 | V |
| | Base-Emitter | $V_{BE(sat)}$ | | - | - | 1.5 | |
| Collector Output Capacitance | | C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | 0.8 | - | 2.0 | pF |
| Collector-Base Time Constant | | $C_c \cdot r_{bb}$ | $V_{CB}=10\text{V}, I_E=-1\text{mA}, f=30\text{MHz}$ | - | - | 25 | pS |
| Transition Frequency | | f_T | $V_{CE}=12.5\text{V}, I_C=12.5\text{mA}$ | 300 | - | - | MHz |
| Power Gain (Fig.1) | | G_{pe} | $V_{CC}=12.5\text{V}, I_E=-12.5\text{mA}, f=45\text{MHz}$ | 28 | - | 36 | dB |

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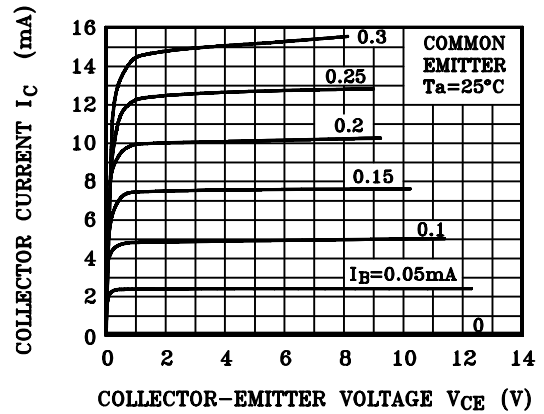
Fig. 1 45MHz Gpe TEST CIRCUIT



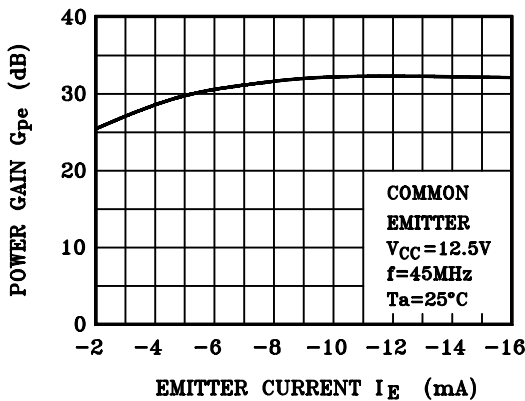
STATIC CHARACTERISTICS



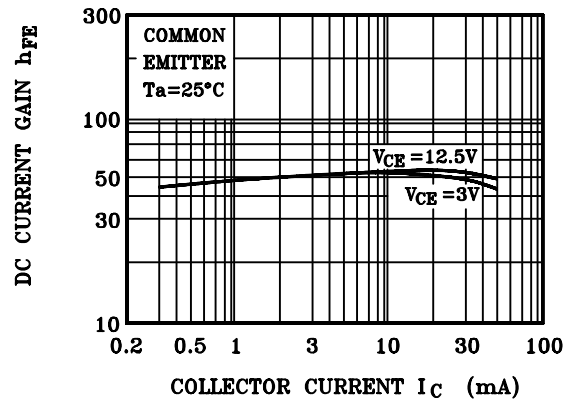
$I_C - V_{CE}$



$G_{pe} - I_E$ (See Fig 1)

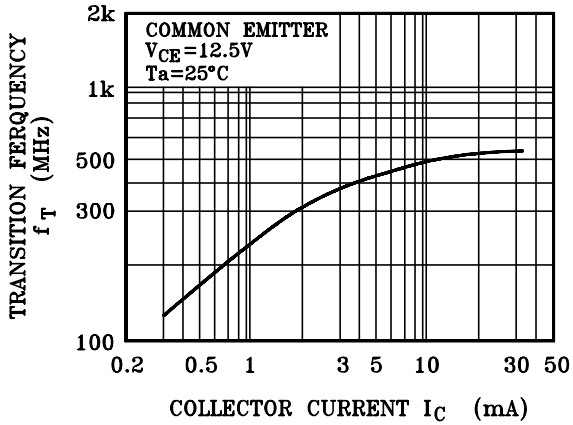


$h_{FE} - I_C$

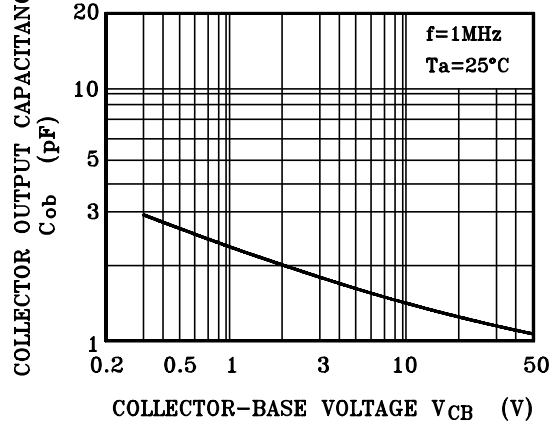


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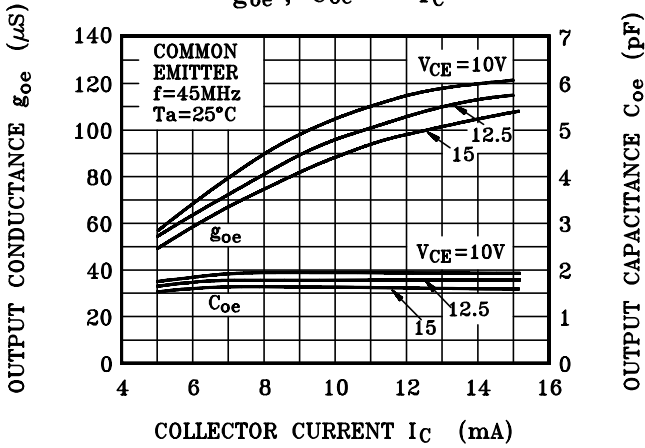
$f_T - I_C$



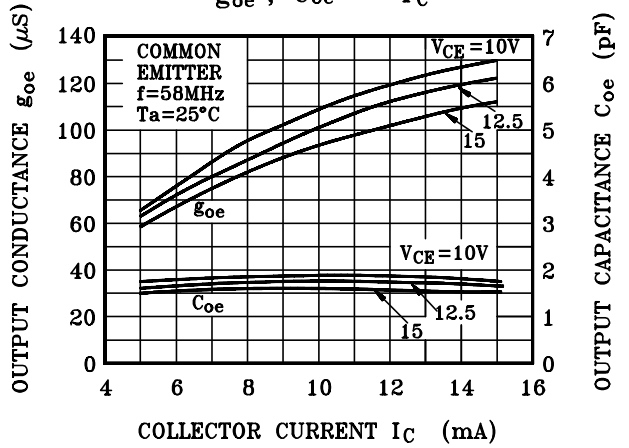
$C_{ob} - V_{CB}$



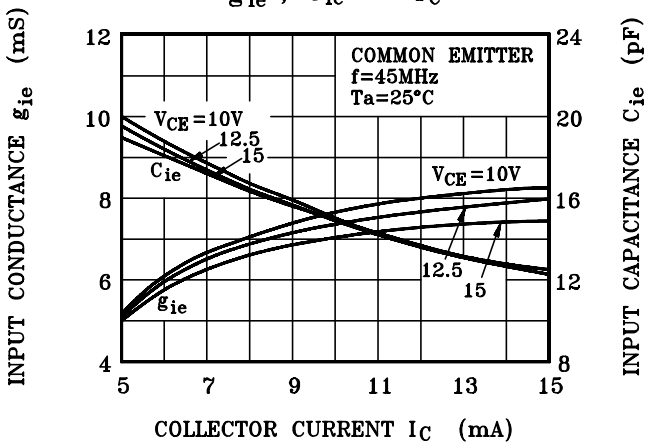
$g_{oe}, C_{oe} - I_C$



$g_{oe}, C_{oe} - I_C$



$g_{ie}, C_{ie} - I_C$



$g_{ie}, C_{ie} - I_C$

