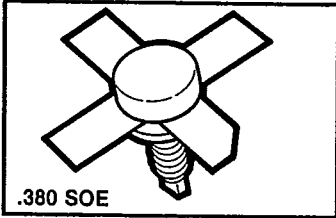




PT9730 Series

VHF Power Transistors

- 4 to 50 Watts
- 28 Vcc
- 175 MHz
- High Gain
- Diffused Ballast Resistors
- Class A, AB or C Operation
- Common Emitter
- Isolated Package
- ∞ VSWR

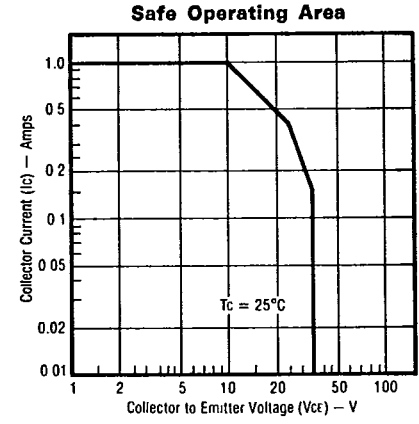
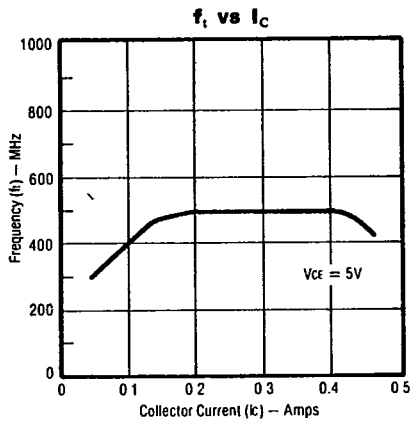
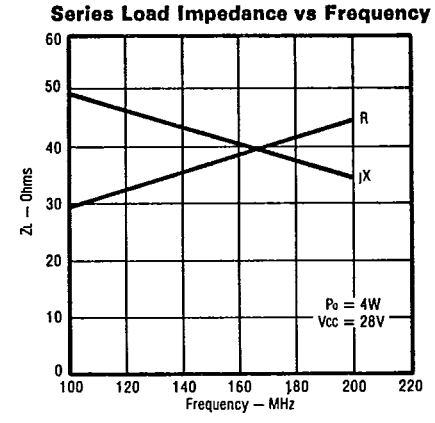
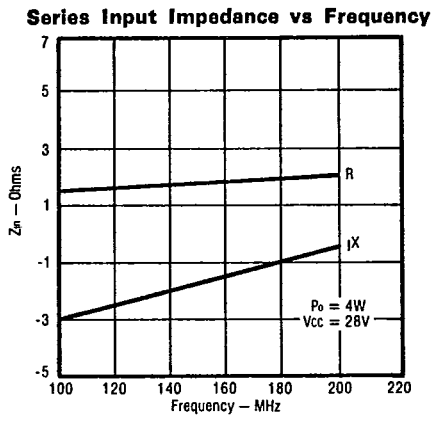
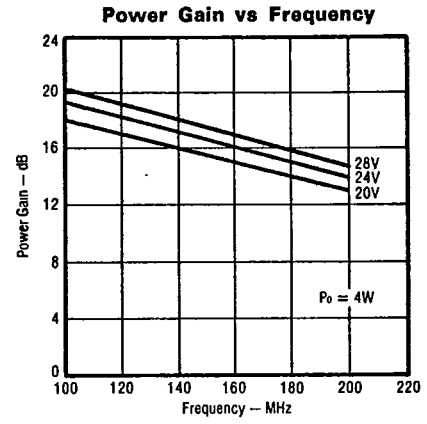
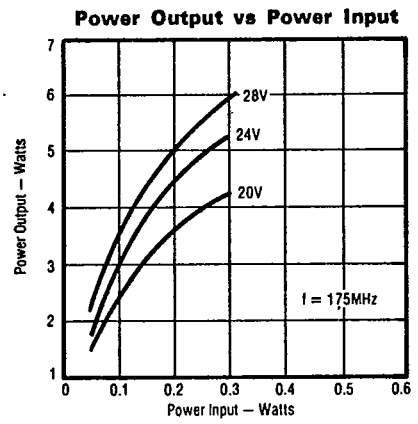


Electrical Characteristics (TFLANGE = 25°C)

| SYMBOL | CHARACTERISTICS | TEST CONDITIONS | PT 9730 | PT 9732 | PT 9734 | PT 9731 | UNIT |
|----------------|--|--|---------------|-----------|-----------|-----------|---------------------------|
| BVEBO | Min. Emitter-Base Breakdown | $I_E = 1\text{mA}, I_C = 0$ | 4 | 4 | 4 | 4 | V |
| BVCES | Min. Collector-Emitter Breakdown | $I_C = 50\text{mA}, V_{BE} = 0$ | 60 | 60 | 60 | 60 | V |
| BVCEO | Min. Collector-Emitter Breakdown | $I_C = 25\text{mA}, I_B = 0$ | 35 | 35 | 35 | 35 | V |
| ICES | Max. Collector-Emitter Cutoff Current | $V_{CE} = 25\text{V}$ | 0.5 | 1.0 | 1.5 | 2.0 | mA |
| HFE | Min. D.C. Current Gain | $I_C = 500\text{mA}, V_{CE} = 10\text{V}$ | 20 to 150 | 20 to 150 | 20 to 150 | 20 to 150 | — |
| PGAIN | Min. Power Gain | $V_{CE} = 28\text{V}, P_{IN} = 0.2\text{W}$ $P_{IN} = 0.5\text{W}$ $P_{IN} = 1\text{W}$ $f = 175\text{MHz}, P_{IN} = 2.5\text{W}$ $P_{IN} = 8\text{W}$ | 4 | 8 | 15 | 25 | W |
| η | Min. Collector Efficiency | $V_{CE} = 28\text{V}, f = 175\text{MHz}$ Rated Output Power | 60 | 60 | 60 | 60 | % |
| VSWR | Mismatch Tolerance | $V_{CE} = 28\text{V}, f = 175\text{MHz}$ Rated Output Power | ∞ | ∞ | ∞ | ∞ | |
| PSAT | Min. Saturated Power Output | $V_{CE} = 28\text{V}, f = 175\text{MHz}$ | 6 | 10 | 18 | 30 | W |
| COB | Max. Collector-Base Capacitance | $V_{CB} = 28\text{V}, f = 1\text{MHz}$ $I_E = 0$ | 12 | 18 | 24 | 40 | pF |
| I_C | Continuous Collector Current (Max. Rating) | | 1 | 1.25 | 2.5 | 4 | A |
| Θ_{J-C} | Thermal Resistance | $T_C = 25^\circ\text{C}$ | 17.5 | 8.8 | 5.8 | 3.9 | $^\circ\text{C}/\text{W}$ |
| TSTG | Storage Temperature | | -65 to +150 | | | | $^\circ\text{C}$ |
| TJ | Junction Temperature | | +200° Maximum | | | | |
| Pd | Power Dissipation | $T_C = 25^\circ\text{C}$ | 10 | 20 | 30 | 45 | W |

PT9730 Series T-33-09

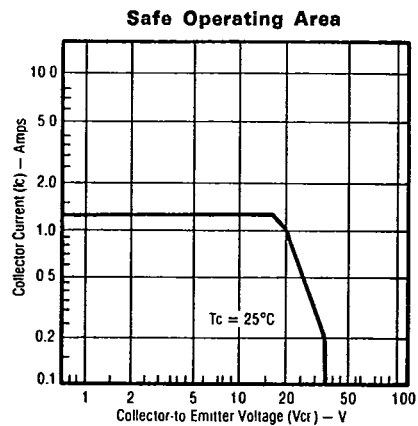
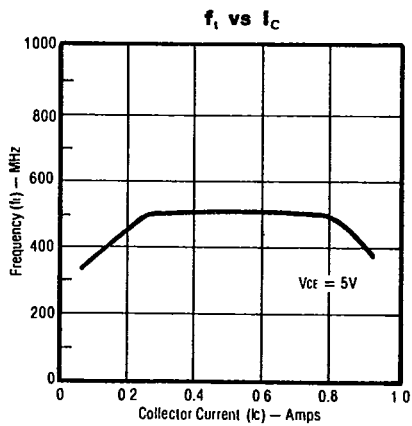
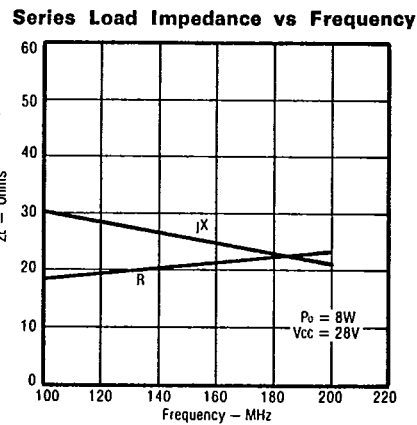
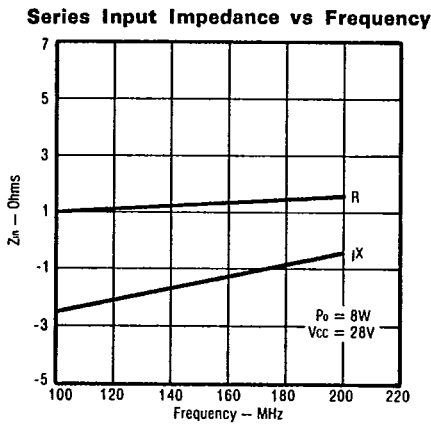
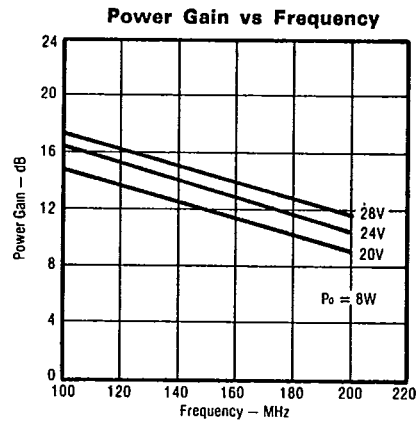
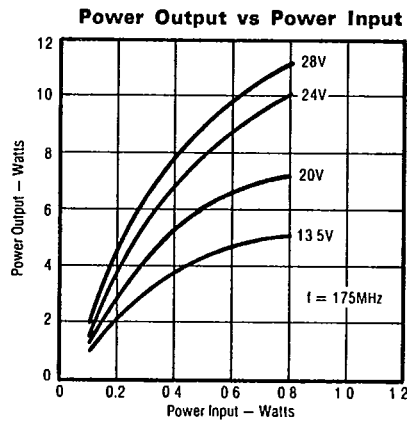
PT 9730 — 4 Watts



PT9730 Series

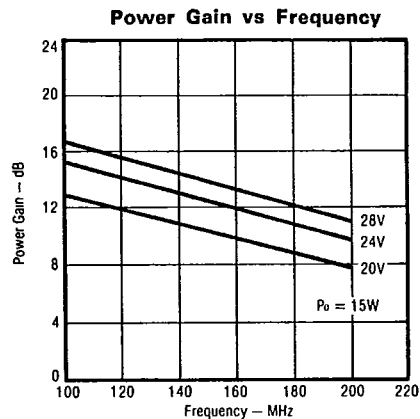
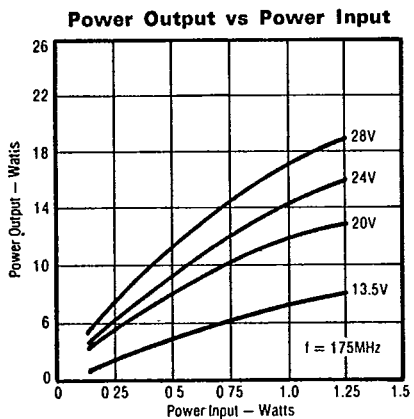
T.33-09

PT 9732 — 8 Watts

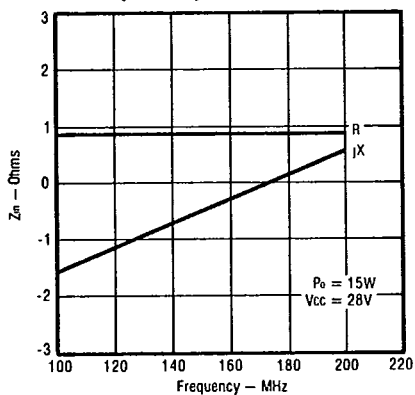


PT9730 Series T-33-09

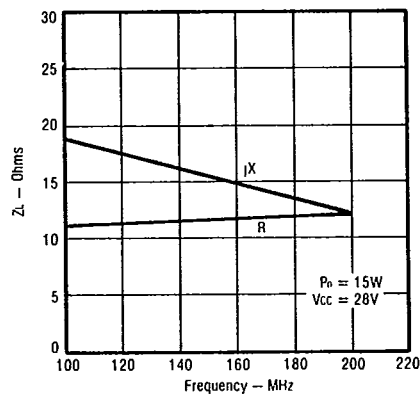
PT 9734 — 15 Watts



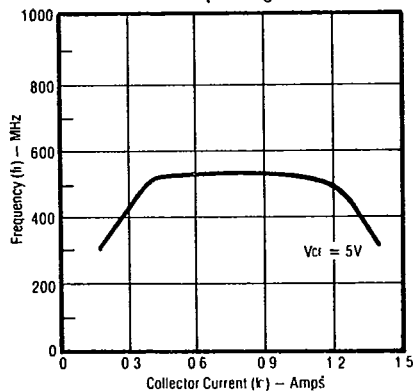
Series Input Impedance vs Frequency



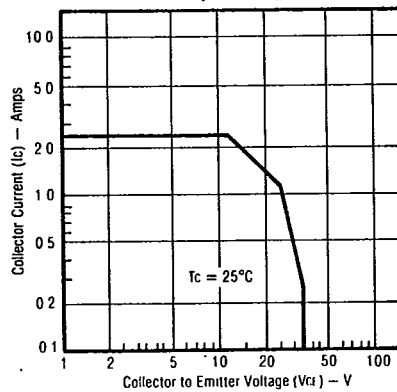
Series Load Impedance vs Frequency



f_t vs I_c

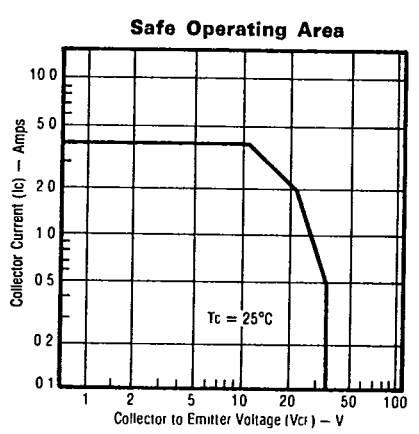
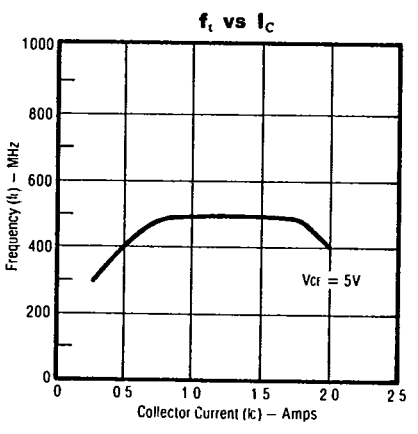
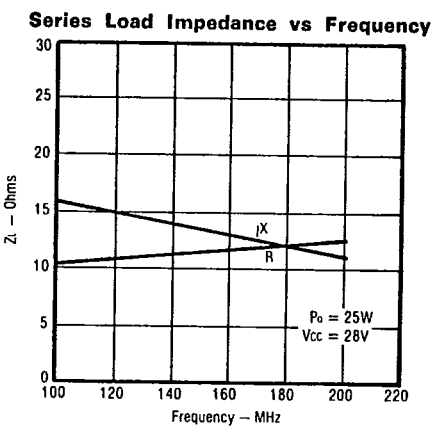
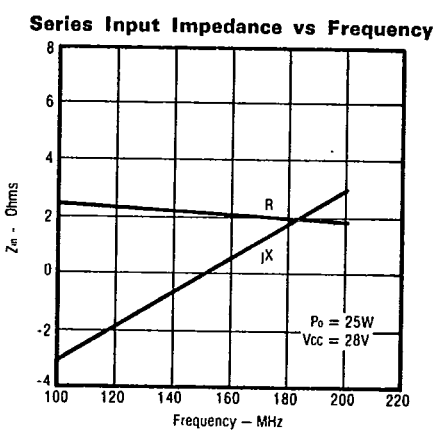
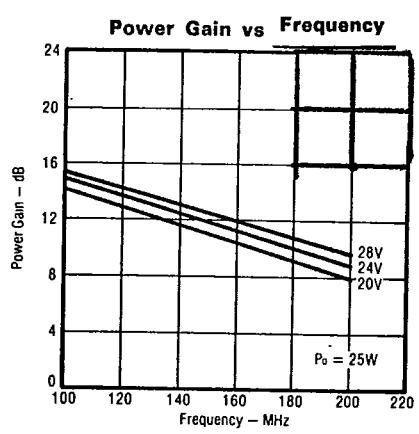
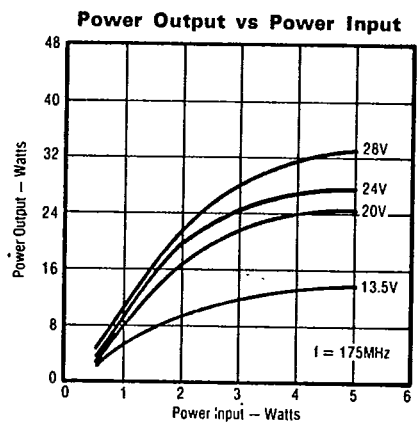


Safe Operating Area



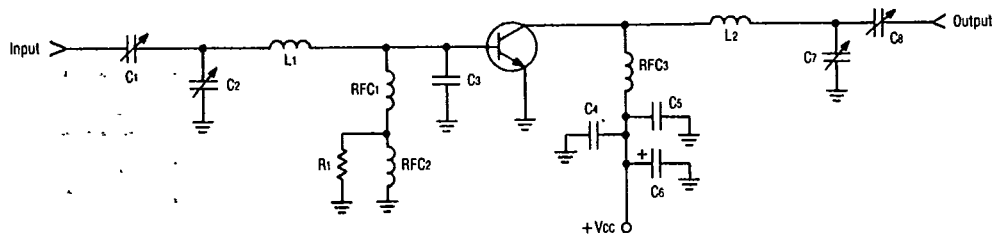
PT9730 Series T-33.09

PT 9731 — 25 Watts



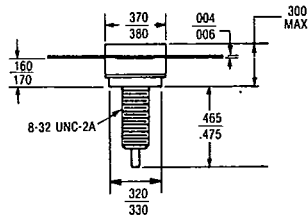
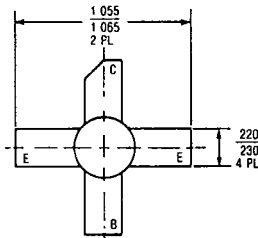
PT9730 Series T-33-09

PT 9731 175 MHz TEST CIRCUIT



- C1: 7-100pF ARCO #423
- C2: 8-60pF ARCO #404
- C3: 90pF UNELCO
- C4: 1000pF UNELCO
- C5: 0.1mF disc capacitor
- C6: 5mF, 50V electrolytic
- C7: 5-80pF ARCO #462

- L1: 2 turns, 0.1" wide by 0.02" thick copper strip, 1/4" I.D.
- L2: 4 turns, 0.1" wide by 0.02" thick copper strip, 1/4" I.D.
- R1: 10 ohms, 0.5W carbon resistor
- RFC1: 150nH molded inductor
- RFC2: 10,000nH molded inductor
- RFC3: 4 turns #16AWG, 5/16" I.D.

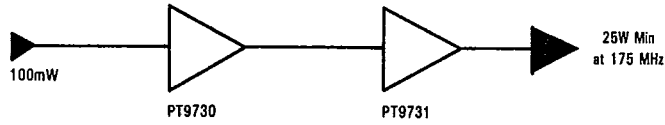


.380 SOE

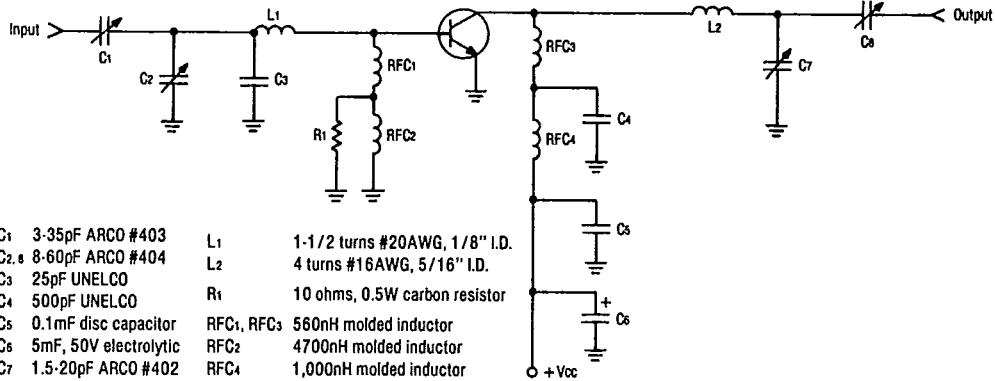
PT9730 Series

T-33-09

TYPICAL APPLICATION
25 Watt VHF 24 V Power Amplifier



PT9730 and PT9732 175 MHz Test Circuit



PT9734 175 MHz Test Circuit

