The 2N65 is a hermetically sealed PNP junction transistor intended primarily for use in audio or LOW radio frequency applications. The tinned flexible leads may be soldered or welded directly to the terminals of circuit components without the use of sockets. Standard inline subminiature sockets may be used by cutting the leads to a suitable length.

**MECHANICAL DATA**

**CASE:** Metal and Glass
**BASE:** None (0.016" tinned flexible leads). Length: 1.5" min.
**Spacing:** Leads 1-4 0.144" center-to-center; Other Leads 0.048" center-to-center

**TERMINAL CONNECTIONS:**
- Lead 1 Collector
- Lead 4 Base
- Lead 5 Emitter

**MOUNTING POSITION:** Any

**ELECTRICAL DATA**

**RATINGS - ABSOLUTE MAXIMUM VALUES:**
- Collector Voltage (Vc) -12 volts
- Peak Collector Voltage (Vce) -24 volts
- Collector Current -10 mA
- Collector Dissipation
- Emitter Current 10 mA
- Ambient Temperature 85°C

**AVERAGE CHARACTERISTICS: (at 27°C)**
- Collector Voltage
- Emitter Current 1.0 mA
- Collector Resistance 1500 ohms
- Base Resistance 25 ohms
- Emitter Resistance 90 ohms
- Base Current Amplification Factor 6 µA
- Noise Factor (max.) 20 dB

**AVERAGE CHARACTERISTICS - COMMON EMITTER: (at 27°C)**
- Collector Voltage -1.5 volts
- Emitter Current 0.5 mA
- Input Resistance 4200 ohms
- Load Resistance 20,000 ohms
- Power Gain (Matched Input) 42 db

**AVERAGE CHARACTERISTICS - COMMON COLLECTOR: (at 27°C)**
- Collector Voltage -6 volts
- Emitter Current 1.0 mA
- Input Resistance 1.0 meg
- Load Resistance 20,000 ohms
- Power Gain (Matched Input) 16 db

**AVERAGE CHARACTERISTICS - COMMON BASE: (at 27°C)**
- Collector Voltage -6 volts
- Emitter Current 1.0 mA
- Input Resistance 110 ohms
- Load Resistance 0.1 meg
- Power Gain (Matched Input) 30 db

- This is the maximum operating temperature recommended. However, characteristic damage will not result from occasional exposures to storage temperatures up to 100°C.

- Measured under conditions for grounded emitter operation at Vcb = 2.5 volts for 1 cycle bandwidth at 1000 cycles.

- Higher input impedances, without appreciable loss in gain, can be achieved by operating at lowered collector current.

- This is a function of maximum ambient temperature (TA) expected. It is approximately equal to 1.7 (85°C-TA) milliwatts.

- Collector voltage Vce at which IC rises to 2 mA. in common emitter circuit with base lead connected directly to emitter lead. Ambient temperature = 25°C.

- In circuits stabilized for IC or IE and which do not have critical distortion requirements, absolute maximum peak voltage is 45 volts.

Tentative Data

Raytheon Manufacturing Company
Receiving and Cathode Ray Tube Operations

April 4, 1955
Newton 58, Mass.
GERMANIUM TRANSISTOR

GROUNDED BASE
Typical Collector Characteristics

GROUNDED EMITTER
* Typical Collector Characteristics

This family is a function of I_a and thus changes appreciably with small changes in α.
GERMANIUM TRANSISTOR

TYPICAL CHARACTERISTICS AS A FUNCTION OF JUNCTION TEMPERATURE

\[ \text{Percent of Value at 27}^\circ \text{C} \]

\[ \text{Temperature - Degrees Centigrade} \]

Arrows refer to positive electrode current flow.

RAYTHEON MANUFACTURING COMPANY
RECEIVING AND CATHODE RAY TUBE OPERATIONS
February 22, 1955
NEWTON 58, MASS.