The 2N106 is a hermetically sealed PNP junction transistor intended for use in low level audio applications where low noise factor is of prime importance. 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:** Plastic and Glass
- **BASE:** None (0.016” tinned flexible leads. Length: 1.5” min.
  Spacing: 0.08” center-to-center)
- **TERMINAL CONNECTIONS:** (Red Dot is adjacent to lead 1)
  - Lead 1 Collector
  - Lead 2 Base
  - Lead 3 Emitter
- **WEIGHT:** 0.025 ounces
- **MOUNTING POSITION:** Any

**ELECTRICAL DATA**

**RATINGS - ABSOLUTE MAXIMUM VALUES:**
- Collector Voltage: -6 volts
- Collector Current: -10 ma.
- Collector Dissipation *
- Emitter Current: 10 ma.
- Ambient Temperature: 85°C

**CHARACTERISTICS: (at 27°C)**
- Collector Voltage: -1.5 volts
- Collector Current: -0.3 ma.
- Current Amplification Factor (min.): 25
- Collector Resistance (min.): 1.0 megs.
- Collector Cut off Current (max.) #: 12 μa.
- Noise Factor (max.) #: 12 db

**AVERAGE CHARACTERISTICS - COMMON EMITTER CIRCUIT: (at 27°C)**
- Collector Voltage: -1.5 volts
- Collector Current: -0.3 ma.
- Generator Resistance: 1000 ohms
- Load Resistance: 20,000 ohms
- Gain: 36 db
- Noise Factor #: 10 db

**AVERAGE CHARACTERISTICS - COMMON BASE CIRCUIT: (at 27°C)**
- Collector Voltage: -1.5 volts
- Collector Current: -0.3 ma.
- Generator Resistance: 100 ohms
- Load Resistance: 0.2 megs.
- Gain: 28 db
- Noise Factor #: 10 db

**AVERAGE CHARACTERISTICS - COMMON COLLECTOR CIRCUIT: (at 27°C)**
- Collector Voltage: -1.5 volts
- Collector Current: -0.3 ma.
- Generator Resistance: 0.1 megs.
- Load Resistance: 10,000 ohms
- Gain: 14 db
- Noise Factor #: 25 db

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* With zero emitter current in grounded base connection.
* In a one-cycle bandwidth at 1000 cycles.
* Measured under conditions described in "Common Emitter Circuit".

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

Tentative Data
GERMANIUM TRANSISTOR

AVERAGE NOISE CHARACTERISTICS
Common Emitter

Conditions:
- Collector Voltage \( (V_C) \)
- Collector Current \( (I_C) \)
- Generator Resistance \( (R_g) \)
- Load Resistance = 20,000 ohms

- \( R_g = 1000 \) ohms
- \( I_C = 0.5 \) ma.
- \( V_C = 1.5 \) volts

AVERAGE NOISE CHARACTERISTICS
Common Base

Conditions:
- Collector Voltage \( (V_C) \)
- Collector Current \( (I_C) \)
- Generator Resistance \( (R_g) \)
- Load Resistance = 200,000 ohms

- \( R_g = 100 \) ohms
- \( I_C = 0.5 \) ma.
- \( V_C = 1.5 \) volts

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GERMANIUM TRANSISTOR

AVERAGE NOISE CHARACTERISTICS
Common Collector

Conditions:
- Emitter Voltage \( (V_e) \)
- Emitter Current \( (I_e) \)
- Generator Resistance \( (R_g) \)
- Load Resistance = 10,000 ohms

\[ \begin{align*}
R_g &= 100,000 \text{ ohms} \\
I_e &= 0.5 \text{ mA} \\
R_g &= 100,000 \text{ ohms} \\
V_c &= 1.5 \text{ volts} \\
I_c &= 1.5 \text{ volts} \\
I_e &= 0.5 \text{ mA}
\end{align*} \]

Noise Factor - db

<table>
<thead>
<tr>
<th>Generator Res.</th>
<th>Emitter Voltage</th>
<th>Emitter Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 ohms</td>
<td>1 volt</td>
<td>0.2 mA</td>
</tr>
<tr>
<td>2 ohms</td>
<td>2.0 volt</td>
<td>0.4 mA</td>
</tr>
<tr>
<td>4.5 ohms</td>
<td>3 volt</td>
<td>0.6 mA</td>
</tr>
<tr>
<td>5.0 ohms</td>
<td>4 volt</td>
<td>0.8 mA</td>
</tr>
<tr>
<td>5.5 ohms</td>
<td>5 volt</td>
<td>1.0 mA</td>
</tr>
<tr>
<td>6.0 ohms</td>
<td>6 volt</td>
<td></td>
</tr>
</tbody>
</table>

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