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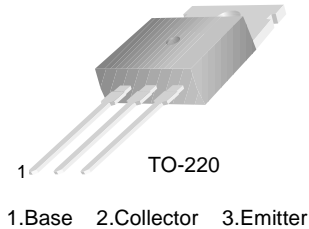
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KSD880

Low Frequency Power Amplifier

- Complement to KSB834



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|--|------------|------------------|
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 7 | V |
| I_C | Collector Current | 3 | A |
| I_B | Base Current | 0.3 | A |
| P_C | Collector Dissipation ($T_C=25^\circ\text{C}$) | 30 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ\text{C}$ |

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|------------------------|--------------------------------------|---|----------|------|------|---------------|
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 60\text{V}, I_E = 0$ | | | 100 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 7\text{V}, I_C = 0$ | | | 100 | μA |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = 50\text{mA}, I_B = 0$ | 60 | | | V |
| h_{FE1} h_{FE2} | DC Current Gain | $V_{CE} = 5\text{V}, I_C = 0.5\text{A}$ $V_{CE} = 5\text{V}, I_C = 3\text{A}$ | 60 20 | | 300 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 3\text{A}, I_B = 0.3\text{A}$ | | 0.4 | 1 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $V_{CE} = 5\text{V}, I_C = 0.5\text{A}$ | | 0.7 | 1 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE} = 5\text{V}, I_C = 0.5\text{A}$ | | 3 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$ | | 70 | | pF |
| t_{ON} | Turn ON Time | $V_{CC} = 30\text{V}, I_C = 1\text{A}$ $I_{B1} = - I_{B2} = 0.2\text{A}$ $R_L = 30\Omega$ | | 0.8 | | μs |
| t_{STG} | Storage Time | | | 1.5 | | μs |
| t_F | Fall Time | | | 0.8 | | μs |

h_{FE} Classification

| Classification | O | Y | G |
|----------------|----------|-----------|-----------|
| h_{FE1} | 60 ~ 120 | 100 ~ 200 | 150 ~ 300 |

Typical Characteristics

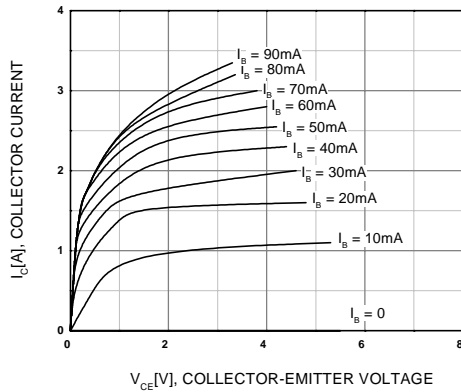


Figure 1. Static Characteristic

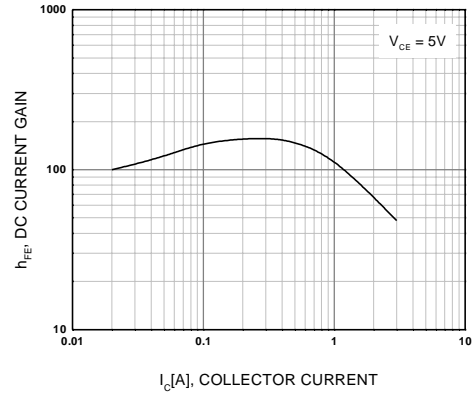


Figure 2. DC current Gain

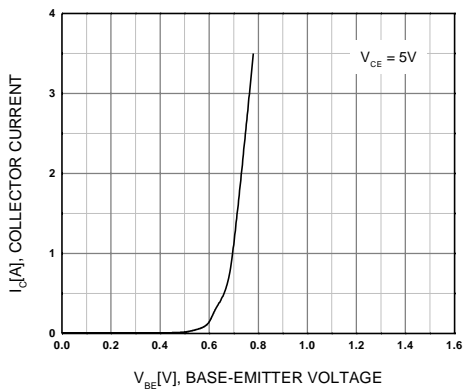


Figure 3. Base-Emitter On Voltage

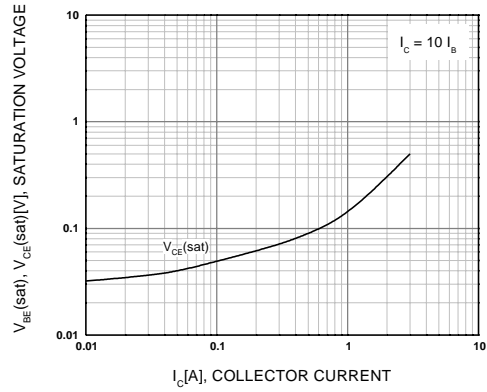


Figure 4. Collector-Emitter Saturation Voltage vs Collector Current

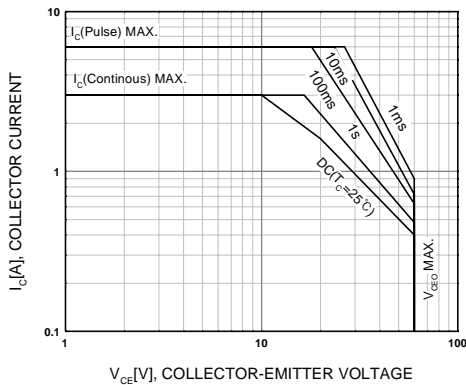


Figure 5. Safe Operating Area

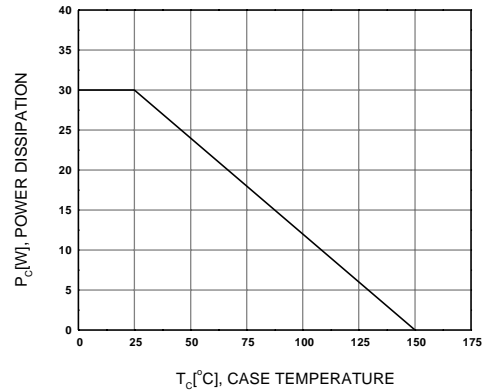


Figure 6. Power Derating

KSD880

Technical drawing of a 3-pin connector with dimensions in millimeters.

Front View Dimensions:

- Overall Width: 9.90 ± 0.20
- Pin Spacing (Typical): 2.54 TYP [2.54 ±0.20]
- Pin Diameter: 1.27 ± 0.10
- Pin Length: 10.08 ± 0.30
- Overall Height: 18.95 MAX.
- Internal Features: 1.30 ± 0.10 , 2.80 ± 0.10 , 15.90 ± 0.20 , 3.00 , 3.70
- Pin Angle: 45°

Side View Dimensions:

- Overall Length: 4.50 ± 0.20
- Pin Diameter: $1.30^{+0.10}_{-0.05}$
- Pin Length: 2.40 ± 0.20

Top View Dimensions:

- Overall Width: 10.00 ± 0.20

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