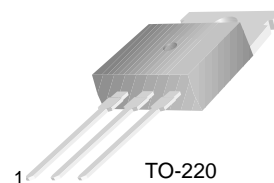


KSD568/569

Low Frequency Power Amplifier

- Low Speed Switching Industrial Use
- Complement to KSB707/708



TO-220
1.Base 2.Collector 3.Emitter

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 | 100 | V |
| V_{CEO} | Collector-Emitter Voltage | : KSD568 | 60 |
| | | : KSD569 | 80 |
| V_{EBO} | Emitter-Base Voltage | 7 | V |
| I_C | Collector Current (DC) | 7 | A |
| I_{CP} | *Collector Current (Pulse) | 15 | A |
| I_B | Base Current | 3.5 | A |
| P_C | Collector Dissipation ($T_C=25^\circ\text{C}$) | 40 | W |
| P_C | Collector Dissipation ($T_a=25^\circ\text{C}$) | 1.5 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ\text{C}$ |

* $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 10\%$

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

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|------------------------|---------------------------------------|--|----------|------|---------------|
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 80\text{V}$, $I_E = 0$ | | 10 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 5\text{V}$, $I_C = 0$ | | 10 | μA |
| h_{FE1} h_{FE2} | *DC Current Gain | $V_{CE} = 1\text{V}$, $I_C = 3\text{A}$ $V_{CE} = 1\text{V}$, $I_C = 5\text{A}$ | 40 20 | 200 | |
| $V_{CE(sat)}$ | *Collector-Emitter Saturation Voltage | $I_C = 5\text{A}$, $I_B = 0.5\text{A}$ | | 0.5 | V |
| $V_{BE(sat)}$ | *Base-Emitter Saturation Voltage | $I_C = 5\text{A}$, $I_B = 0.5\text{A}$ | | 1.5 | V |

* Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

h_{FE} Classification

| Classification | R | O | Y |
|----------------|---------|----------|-----------|
| h_{FE1} | 40 ~ 80 | 60 ~ 120 | 100 ~ 200 |

Typical Characteristics

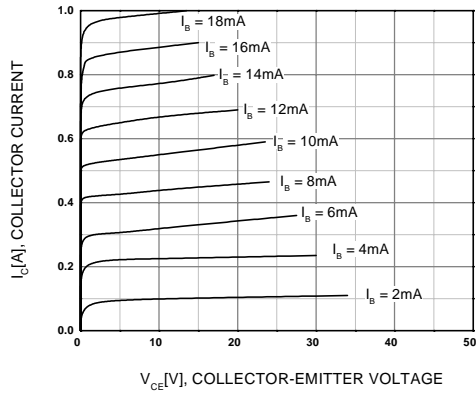


Figure 1. Static Characteristic

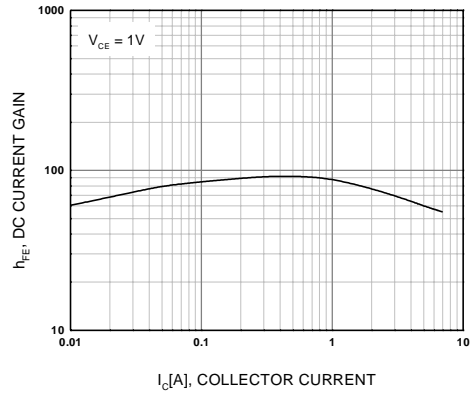


Figure 2. DC current Gain

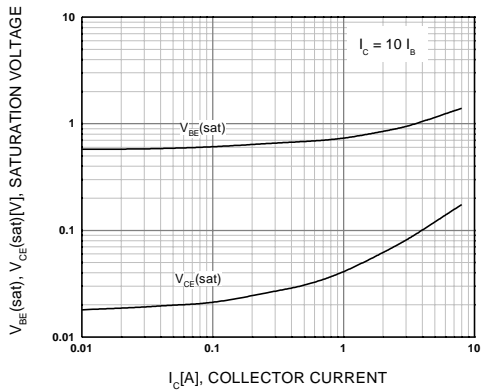


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

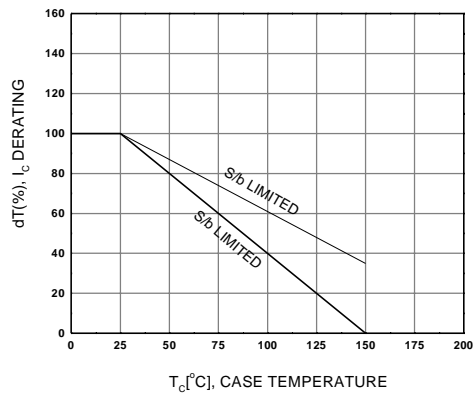


Figure 4. Derating Curve Of Safe Operating Areas

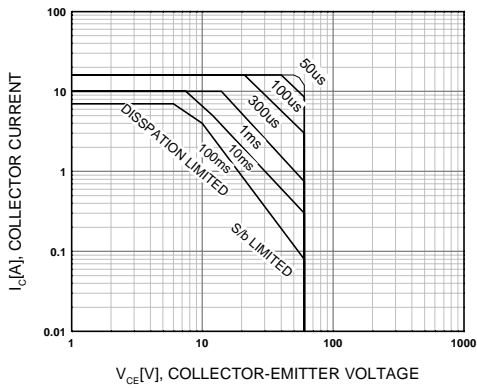


Figure 5. Forward Bias Safe Operating Area

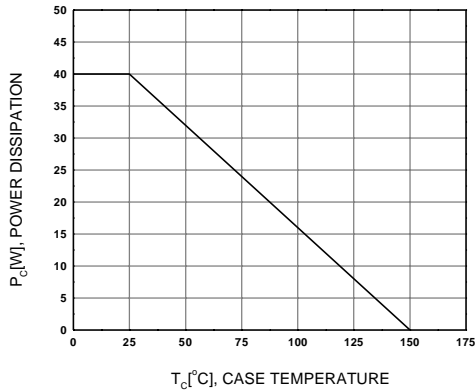
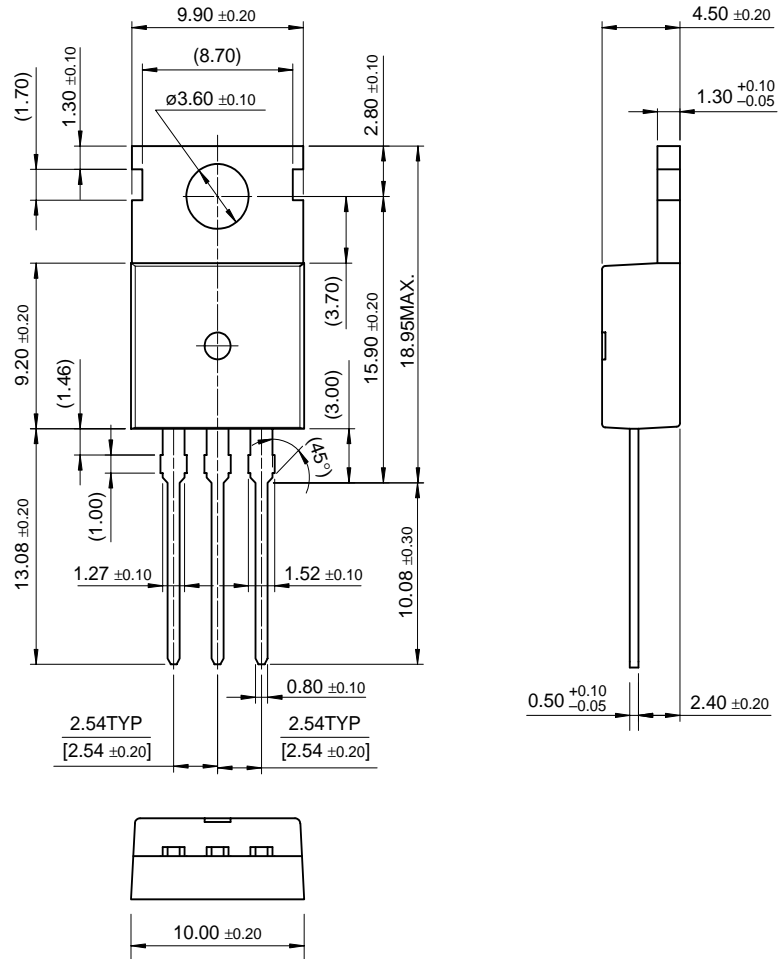


Figure 6. Power Derating

Package Dimensions

KSD568/569

TO-220



Dimensions in Millimeters

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|----------------------|---------------|-------------|
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| CROSSVOLT™ | POP™ | UHC™ |
| E ² CMOS™ | PowerTrench® | VCX™ |
| FACT™ | QFET™ | |
| FACT Quiet Series™ | QS™ | |
| FAST® | Quiet Series™ | |
| FASTr™ | SuperSOT™-3 | |
| GTO™ | SuperSOT™-6 | |

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