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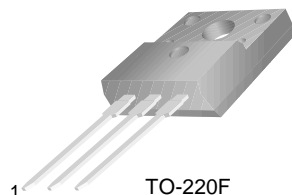
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KSD2012

KSD2012

Low Frequency Power Amplifier

- Complement to KSB1366



TO-220F
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 | 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 Power Dissipation ($T_C=25^\circ\text{C}$) | 25 | 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 |
|------------------------|--------------------------------------|--|-----------|------|------|---------------|
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = 50\text{mA}, I_B = 0$ | 60 | | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 60\text{V}, I_E = 0$ | | | 100 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 7\text{V}, I_C = 0$ | | | 10 | μA |
| h_{FE1} h_{FE2} | DC Current Gain | $V_{CE} = 5\text{V}, I_C = 0.5\text{A}$ $V_{CE} = 5\text{V}, I_C = 3\text{A}$ | 100 20 | | 320 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 2\text{A}, I_B = 0.2\text{A}$ | | 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 |

h_{FE} Classification

| Classification | Y | G |
|----------------|-----------|-----------|
| h_{FE1} | 100 ~ 200 | 150 ~ 320 |

Typical Characteristics

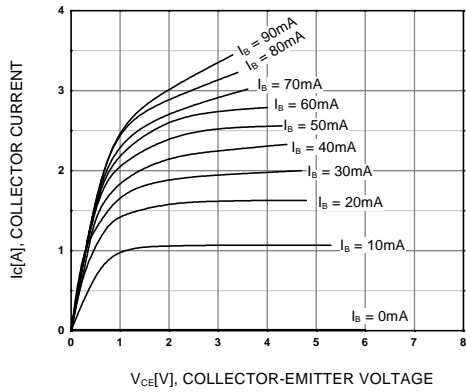


Figure 1. Static Characteristic

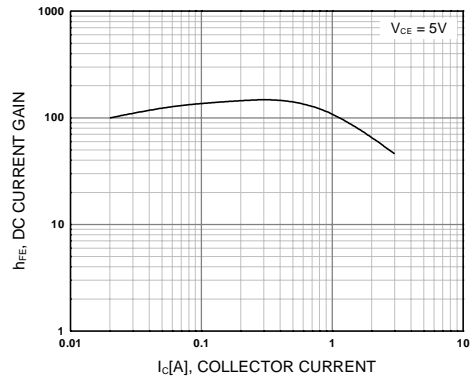


Figure 2. DC current Gain

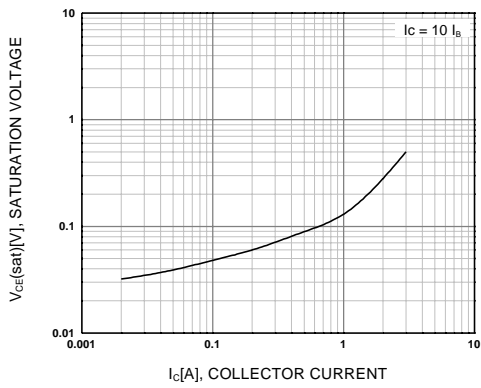


Figure 3. Collector-Emitter Saturation Voltage

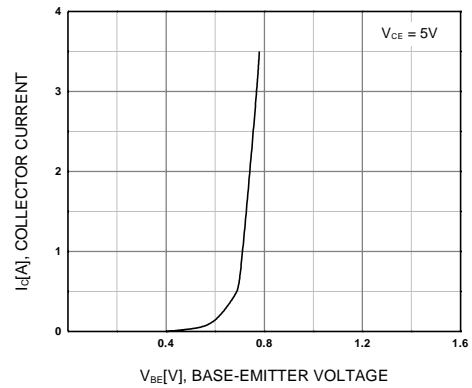


Figure 4. Base-Emitter On Voltage

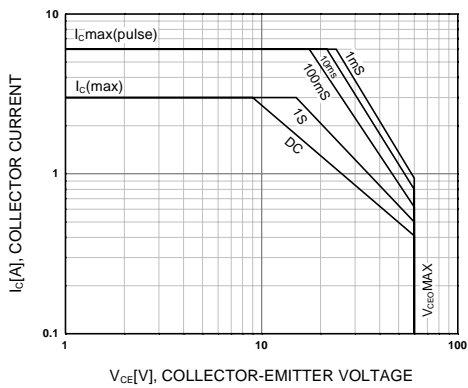


Figure 5. Safe Operating Area

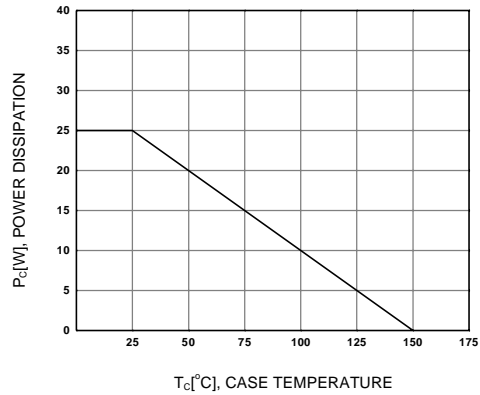


Figure 6. Power Derating

Package Dimensions

KSD2012

TO-220F



Dimensions in Millimeters

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|--------------------------|------------------------|---|
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