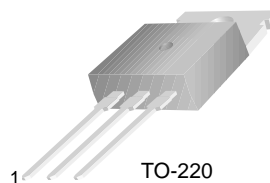


KSC1173

Low Frequency Power Amplifier Power Regulator

- Collector Current : $I_C=3A$
- Collector Dissipation : $P_C=10W$ ($T_C=25^\circ C$)
- Complement to KSA473



1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

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

| Symbol | Parameter | Value | Units |
|------------|--|------------|------------|
| BV_{CBO} | Collector-Base Voltage | 30 | V |
| BV_{CEO} | Collector-Emitter Voltage | 30 | V |
| BV_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current | 3 | A |
| P_C | Collector Dissipation ($T_C=25^\circ C$) | 10 | W |
| T_J | Junction Temperature | 150 | $^\circ C$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ C$ |

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

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|------------------------|--------------------------------------|--|----------|------|------|---------|
| BV_{CBO} | Collector-Base Breakdown Voltage | $I_C = 500\mu A, I_E = 0$ | 30 | | | V |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = 10mA, I_B = 0$ | 30 | | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E = -1mA, I_C = 0$ | 5 | | | |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 20V, I_E = 0$ | | | 1.0 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 5V, I_C = 0$ | | | 1.0 | μA |
| h_{FE1} h_{FE2} | DC Current Gain | $V_{CE} = 2V, I_C = 0.5A$ $V_{CE} = 2V, I_C = 2.5A$ | 70 25 | | 240 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 2A, I_B = 0.2A$ | | 0.3 | 0.8 | V |
| $V_{BE(on)}$ | Base-Emitter ON Voltage | $V_{CE} = 2V, I_C = 0.5A$ | | 0.75 | 1.0 | V |
| f_T | Current Gain Base Width Product | $V_{CE} = 2V, I_C = 0.5A$ | | 100 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB} = 10V, I_E = 0,$ $f = 1MHz$ | | 35 | | pF |

h_{FE} Classification

| Classification | O | Y |
|----------------|----------|-----------|
| h_{FE1} | 70 ~ 140 | 120 ~ 240 |

Typical Characteristics

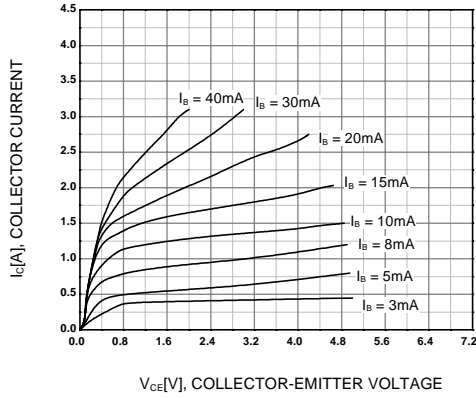


Figure 1. Static Characteristic

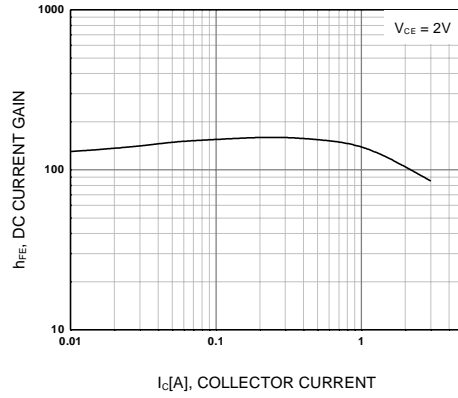


Figure 2. DC current Gain

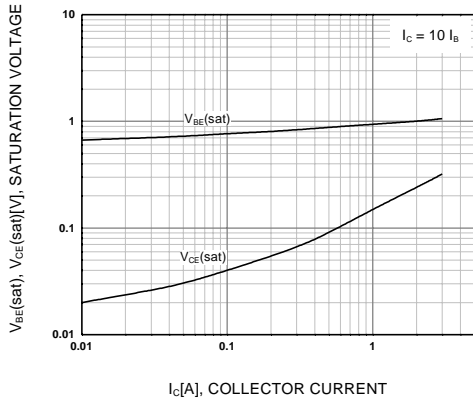


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

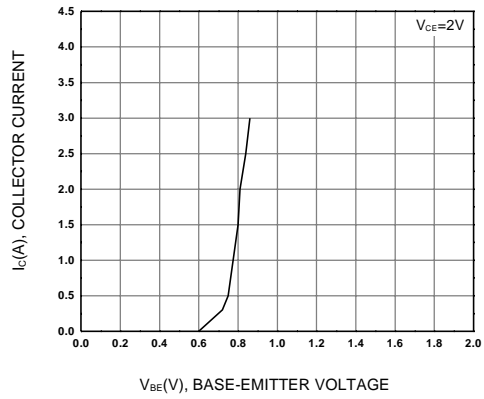


Figure 4. Base-Emitter On Voltage

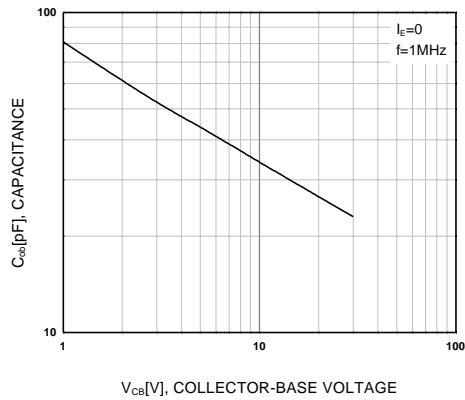


Figure 5. Collector Output Capacitance

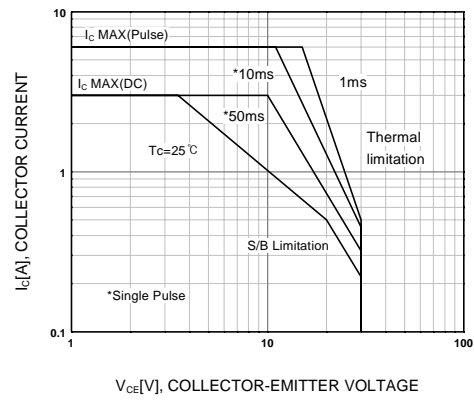


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

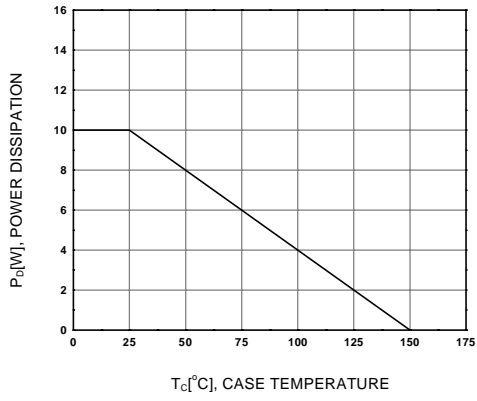
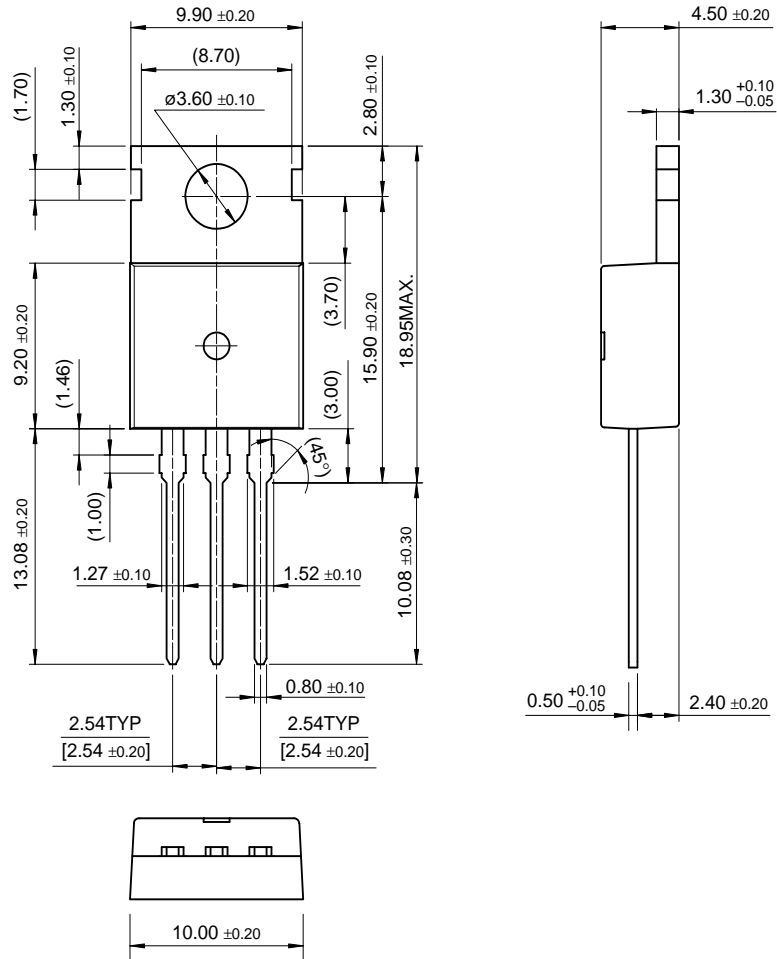


Figure 7. Power Derating

Package Dimensions

KSC1173

TO-220



Dimensions in Millimeters

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