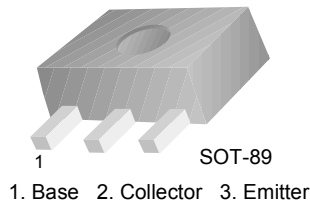


# KSA1203

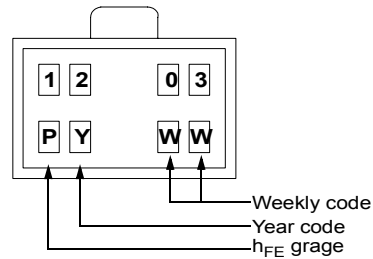
## PNP Epitaxial Silicon Transistor

### Low Frequency Power Amplifier

- 3W Output application
- Collector Power Dissipation  $P_C=1\sim 2W$  : Mounted on Ceramic Board
- Complement to KSC2883



Marking



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

| Symbol           | Parameter                   | Ratings      | Units            |
|------------------|-----------------------------|--------------|------------------|
| $V_{CBO}$        | Collector-Base Voltage      | -30          | V                |
| $V_{CEO}$        | Collector-Emitter Voltage   | -30          | V                |
| $V_{EBO}$        | Emitter-Base Voltage        | -5           | V                |
| $I_C$            | Collector Current           | -1.5         | A                |
| $I_B$            | Base Current                | -0.3         | A                |
| $P_C$<br>$P_C^*$ | Collector Power Dissipation | 500<br>1,000 | mW<br>mW         |
| $T_J$            | Junction Temperature        | 150          | $^\circ\text{C}$ |
| $T_{STG}$        | Storage Temperature         | -55 ~ 150    | $^\circ\text{C}$ |

\* Mounted on Ceramic Board (250mm<sup>2</sup> × 0.8mm)

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

| Symbol               | Parameter                            | Test Condition                                         | Min. | Typ. | Max. | Units |
|----------------------|--------------------------------------|--------------------------------------------------------|------|------|------|-------|
| $BV_{CEO}$           | Collector-Emitter Breakdown Voltage  | $I_C = -10\text{mA}$ , $I_B = 0$                       | -30  |      |      | V     |
| $BV_{EBO}$           | Emitter-Base Breakdown Voltage       | $I_E = -1\text{mA}$ , $I_C = 0$                        | -5   |      |      | V     |
| $I_{CBO}$            | Collector Cut-off Current            | $V_{CB} = -30\text{V}$ , $I_E = 0$                     |      |      | -100 | nA    |
| $I_{EBO}$            | Emitter Cut-off Current              | $V_{BE} = -5\text{V}$ , $I_C = 0$                      |      |      | -100 | nA    |
| $h_{FE}$             | DC Current Gain                      | $V_{CE} = -2\text{V}$ , $I_C = -500\text{mA}$          | 100  |      | 320  |       |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C = -1.5\text{A}$ , $I_B = -30\text{mA}$            |      |      | -2.0 | V     |
| $V_{BE}(\text{on})$  | Base-Emitter On Voltage              | $V_{CE} = -2\text{V}$ , $I_C = -500\text{mA}$          |      |      | -1.0 | V     |
| $f_T$                | Current Gain Bandwidth Product       | $V_{CE} = -2\text{V}$ , $I_C = -500\text{mA}$          |      | 120  |      | MHz   |
| $C_{ob}$             | Output Capacitance                   | $V_{CB} = -10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$ |      |      | 50   | pF    |

**$h_{FE}$  Classification**

| Classification | O         | Y         |
|----------------|-----------|-----------|
| $h_{FE}$       | 100 ~ 200 | 160 ~ 320 |

**Package Marking and Ordering Information**

| Device Marking | Device  | Package | Reel Size | Tape Width | Quantity |
|----------------|---------|---------|-----------|------------|----------|
| 1203           | KSA1203 | SOT-89  | 13"       | --         | 4,000    |

## Typical Performance Characteristics

Figure 1. Static Characteristic

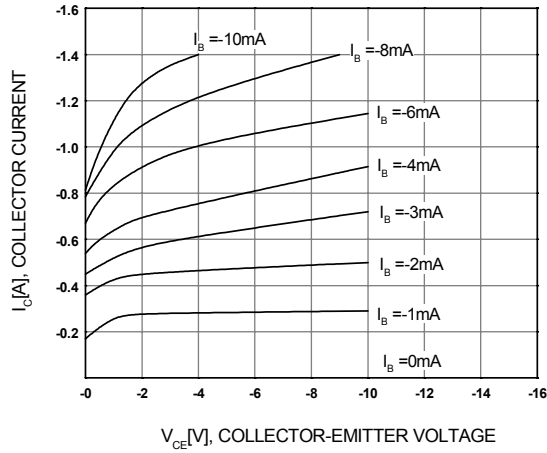


Figure 2. DC Current Gain

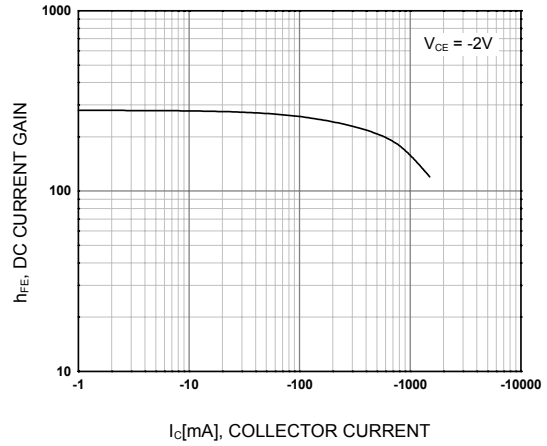


Figure 3. Collector-Emitter Saturation Voltage

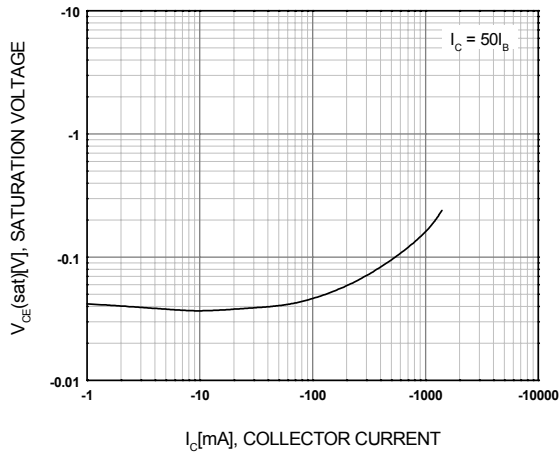


Figure 4. Base-Emitter On Voltage

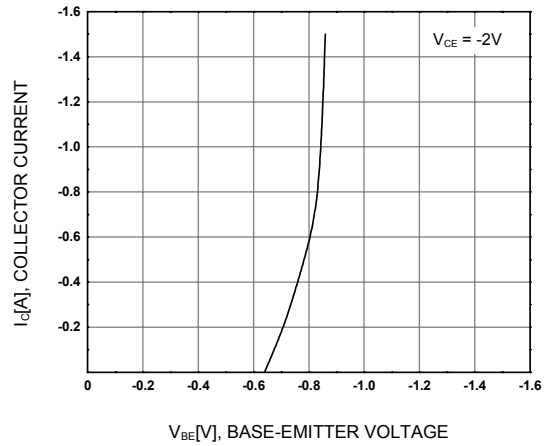


Figure 5. Safe Operating Area

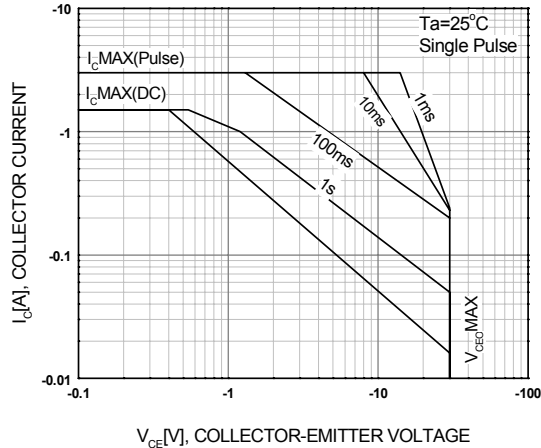
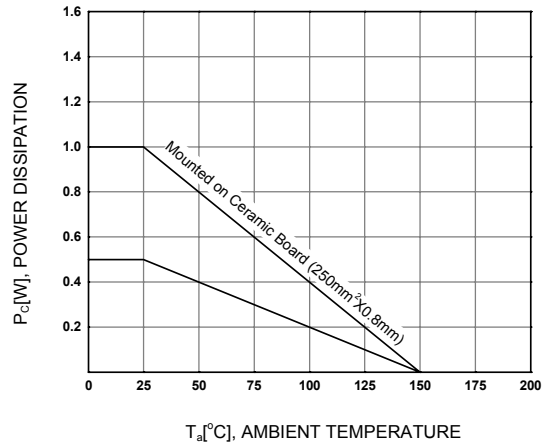


Figure 6. Power Derating





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| Programmable Active Droop <sup>™</sup>           |                                 | Power247 <sup>™</sup>     | SuperSOT <sup>™</sup> -3        |                             |
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