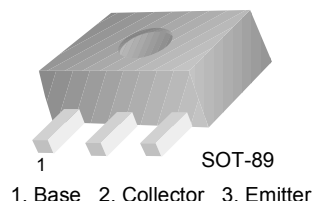


# KSC2881

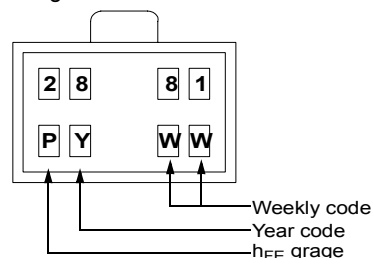
## NPN Epitaxial Silicon Transistor

### Power Amplifier

- Collector-Emitter Voltage :  $V_{CEO}=120V$
- Current Gain Bandwidth Product :  $f_T=120MHz$
- Collector Dissipation :  $P_C=1\sim 2W$  in Mounted on Ceramic Board
- Complement to KSA1201



Marking



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

| Symbol           | Parameter                   | Value        | Units      |
|------------------|-----------------------------|--------------|------------|
| $V_{CBO}$        | Collector-Base Voltage      | 120          | V          |
| $V_{CEO}$        | Collector-Emitter Voltage   | 120          | V          |
| $V_{EBO}$        | Emitter-Base Voltage        | 5            | V          |
| $I_C$            | Collector Current           | 800          | mA         |
| $I_B$            | Base Current                | 160          | mA         |
| $P_C$<br>$P_C^*$ | Collector Power Dissipation | 500<br>1,000 | mW<br>mW   |
| $T_J$            | Junction Temperature        | 150          | $^\circ C$ |
| $T_{STG}$        | Storage Temperature         | -55 ~ 150    | $^\circ C$ |

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

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

| Symbol        | Parameter                            | Test Condition                    | Min. | Typ. | Max. | Units |
|---------------|--------------------------------------|-----------------------------------|------|------|------|-------|
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = 10\mu A, I_B = 0$          | 120  |      |      | V     |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = 1mA, I_C = 0$              | 5    |      |      | V     |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = 120V, I_E = 0$          |      |      | 100  | nA    |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{BE} = 5V, I_C = 0$            |      |      | 100  | nA    |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = 5V, I_C = 100mA$        | 80   |      | 240  |       |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 500mA, I_B = 50mA$         |      |      | 1.0  | V     |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $V_{CE} = 5V, I_C = 500mA$        |      |      | 1.0  | V     |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE} = 5V, I_C = 100mA$        |      | 120  |      | MHz   |
| $C_{ob}$      | Output Capacitance                   | $V_{CB} = 10V, I_E = 0, f = 1MHz$ |      |      | 30   | pF    |

**$h_{FE}$  Classification**

| Classification | O        | Y         |
|----------------|----------|-----------|
| $h_{FE}$       | 80 ~ 160 | 120 ~ 240 |

**Package Marking and Ordering Information**

| Device Marking | Device  | Package | Reel Size | Tape Width | Quantity |
|----------------|---------|---------|-----------|------------|----------|
| 2881           | KSC2881 | SOT-89  | 13"       | --         | 4,000    |

## Typical Performance Characteristics

Figure 1. Static Characteristic

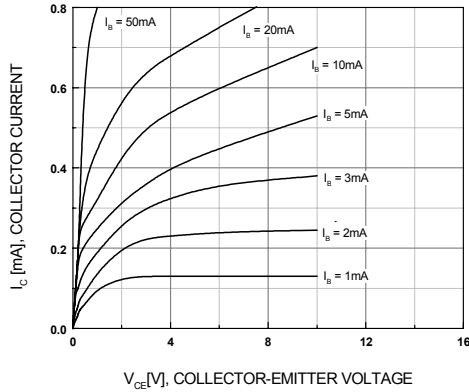


Figure 2. Base-Emitter On Voltage

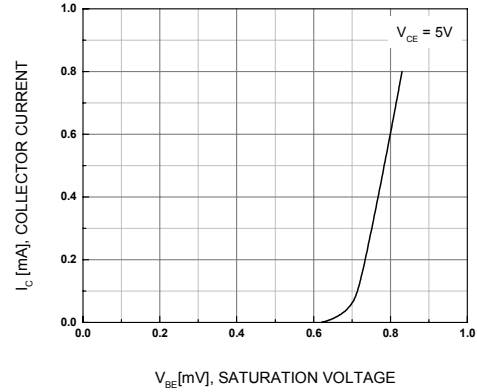


Figure 3. DC Current Gain

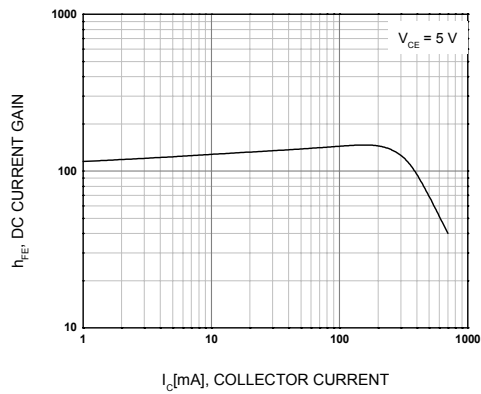


Figure 4. Collector-Emitter Saturation Voltage

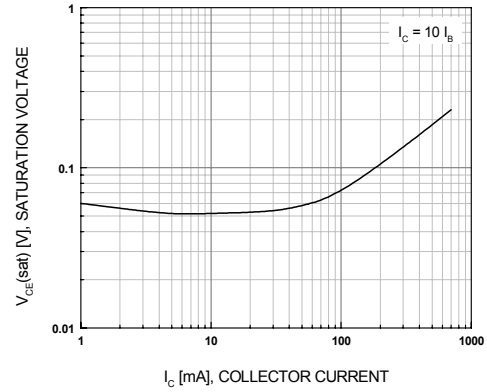


Figure 5. Power Derating

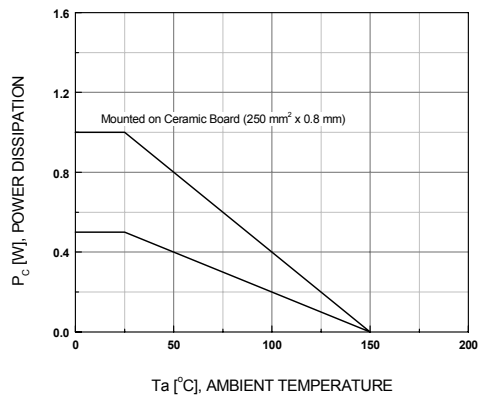
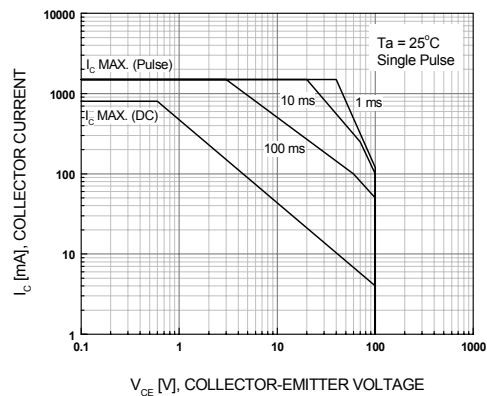


Figure 6. Safe Operating Area



Technical drawing of a mechanical part showing three views: front, side, and top.

**Front View Dimensions:**

- Overall width:  $4.50 \pm 0.20$
- Top feature width:  $1.65 \pm 0.10$
- Top feature height:  $0.50$  (with a  $C0.2$  chamfer)
- Main body height:  $2.50 \pm 0.20$
- Base height:  $4.10 \pm 0.20$
- Base feature height:  $1.10$
- Base feature width:  $0.40 \pm 0.10$
- Base feature spacing:  $1.50 \text{ TYP}$  (typical)

**Side View Dimensions:**

- Overall width:  $1.50 \pm 0.20$
- Top feature width:  $0.40$
- Base feature width:  $0.40^{+0.10}_{-0.05}$

**Top View:**

- Shows the base features and their spacing.

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