

|               |          |       |
|---------------|----------|-------|
| Specification | Products | Type  |
|               |          | BCW71 |

## 1. SCOPE BCW71

1.1 Scope. This specification covers the detail requirements for one type NPN silicon epitaxial planar transistor designed for audio frequency small signal amplifier.

1.2 Physical dimensions. See figure 1.

1.3 Absolute maximum ratings. ( $T_a=25\text{ }^\circ\text{C}$ )

|                                      |           |       |                          |
|--------------------------------------|-----------|-------|--------------------------|
| Collector to base voltage            | $V_{CBO}$ | ..... | 50V                      |
| Collector to emitter voltage         | $V_{CEO}$ | ..... | 45V                      |
| Emitter to base voltage              | $V_{EBO}$ | ..... | 5V                       |
| Collector current                    | $I_C$     | ..... | 100mA                    |
| Power dissipation-Free Air           | $P_C$     | ..... | 200mW                    |
| *Power dissipation-Ceramic Substrate | $P_C$     | ..... | 350mW                    |
| Junction temperature                 | $T_j$     | ..... | 150 $^\circ\text{C}$     |
| Storage temperature range            | $T_{stg}$ | ..... | -65~150 $^\circ\text{C}$ |

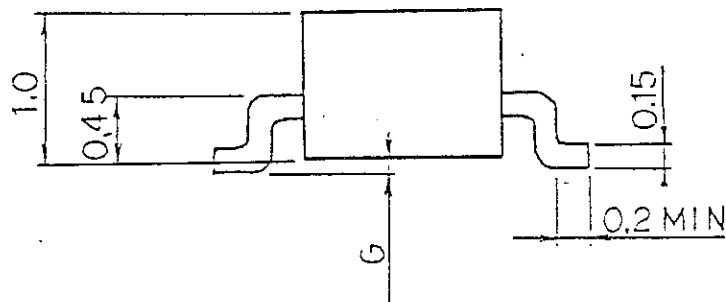
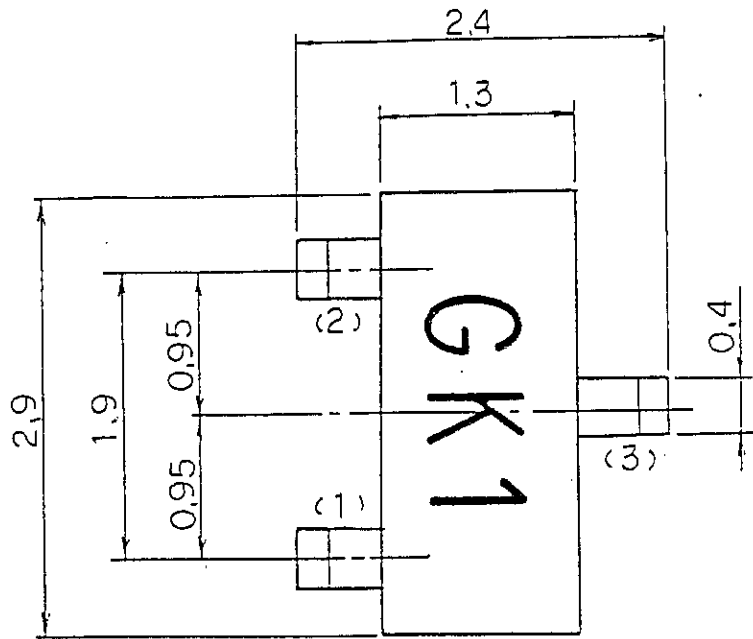
\*Package mounted on ceramic 7×5×0.6mm

## 2. Electrical characteristics ( $T_a=25\text{ }^\circ\text{C}$ )

| PARAMETER            | TEST CONDITIONS  | MIN  | TYP | MAX  | UNIT          |
|----------------------|--|------|-----|------|---------------|
| $BV_{CBO}$           | $I_C=50\text{ }\mu\text{A}$  | 50   | —   | —    | V             |
| $BV_{CEO}$           | $I_C=2\text{mA}$   | 45   | —   | —    | V             |
| $BV_{EBO}$           | $I_E=50\text{ }\mu\text{A}$  | 5    | —   | —    | V             |
| $I_{CBO}$            | $V_{CB}=20\text{V}$  | —    | —   | 100  | nA            |
| $V_{CE}(\text{sat})$ | $I_C=10\text{mA}$ , $I_B=0.5\text{mA}$   | —    | —   | 0.25 | V             |
| $V_{BE}(\text{ON})$  | $V_{CE}=5\text{V}$ , $I_C=2\text{mA}$  | 0.55 | —   | 0.7  | V             |
| $h_{FE}$             | $V_{CE}=5\text{V}$ , $I_C=2\text{mA}$  | 110  | —   | 230  |               |
| $C_{ob}$             | $V_{CB}=10\text{V}$ , $f=1\text{MHz}$  | —    | —   | 4    | pF            |
| NF                   | $V_{CE}=5\text{V}$ , $I_C=0.2\text{mA}$ , $f=1\text{KHz}$<br>$R_s=2\text{k}\Omega$ | —    | —   | 10   | dB            |
| $I_{CBO}$            | $V_{CB}=20\text{V}$ , $T_a=100\text{ }^\circ\text{C}$                              | —    | —   | 10   | $\mu\text{A}$ |

# MASTER

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UNIT: mm  
Low Profil G=0~0.1  
High Profil G=0.1~0.25

- (1) Emitter
- (2) Base
- (3) Collector

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