



DONGGUAN NANJING ELECTRONICS LTD.,

PNP General Purpose Amplifier

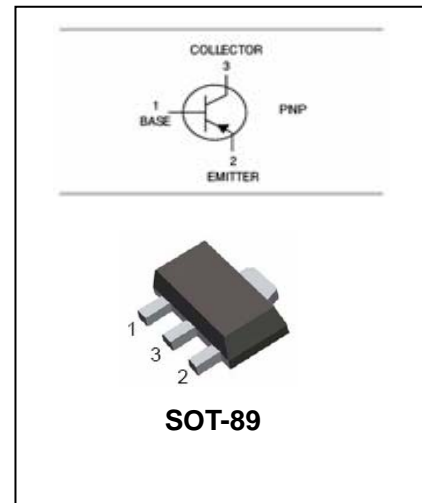
2SB1132

FEATURES

- Low $V_{CE(SAT)} = -0.2V$ (Typ.)
($I_C/I_B = -500mA/-50mA$).
- Complementary NPN type available
2SD1664.

APPLICATIONS

- This device is designed as a general purpose amplifier and switching.



ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|-------------|--------------|
| 2SB1132 | BAP/BAQ/BAR | SOT-89 |

MAXIMUM RATING @ $T_a = 25^\circ C$ unless otherwise specified

| Symbol | Parameter | Value | Unit |
|-----------------|---|-------------|--------------|
| V_{CBO} | Collector-Base Voltage | -40 | V |
| V_{CEO} | Collector-Emitter Voltage | -32 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current -DC -Pulse | -1 -2 | A |
| P_D | Total Device Dissipation | 500 | mW |
| $R_{\theta JA}$ | Thermal resistance, Junction-to-Ambient | 250 | $^\circ C/W$ |
| T_j, T_{stg} | Junction and Storage Temperature | -55 to +150 | $^\circ C$ |

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|------|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=-50\mu A$ $I_E=0$ | -40 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=-1mA$ $I_B=0$ | -32 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=-50\mu A$ $I_C=0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=-20V$ $I_E=0$ | | | -0.5 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=-4V$, $I_C=0$ | | | -0.5 | μA |
| DC current gain | h_{FE} | $V_{CE}=-3V$ $I_C=-100mA$ | 82 | | 390 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-500mA$ $I_B=-50mA$ | | -0.2 | -0.5 | V |
| Transition frequency | f_T | $V_{CE}=-5V$, $I_C=-50mA$, $f=30MHz$ | | 150 | | MHz |
| Output Capacitance | C_{obo} | $V_{CB}=-10V$ $f=1.0MHz$ $I_E=0$ | - | 20 | 30 | pF |

CLASSIFICATION h_{FE}

| Rank | P | Q | R |
|---------|--------|---------|---------|
| Range | 82-180 | 120-270 | 180-390 |
| Marking | BAP | BAQ | BAR |

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TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

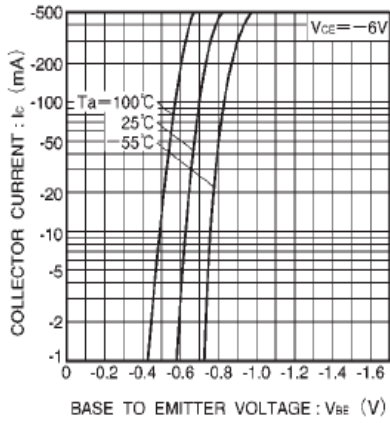


Fig.1 Grounded emitter propagation characteristics

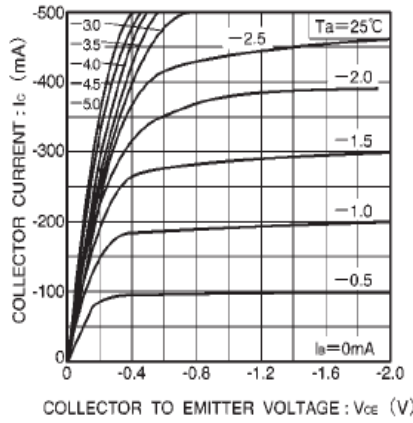


Fig.2 Grounded emitter output characteristics

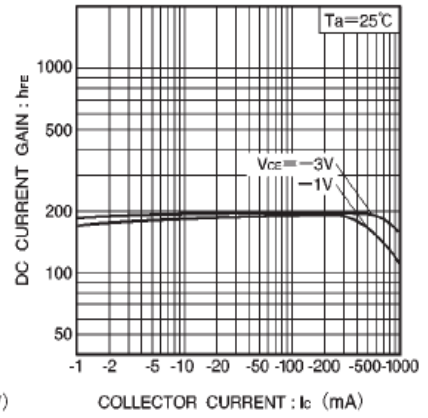


Fig.3 DC current gain vs. collector current (I)

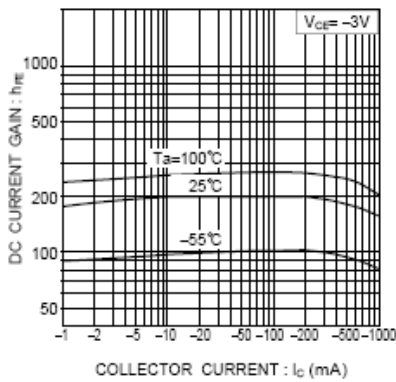


Fig.4 DC current gain vs. collector current(II)

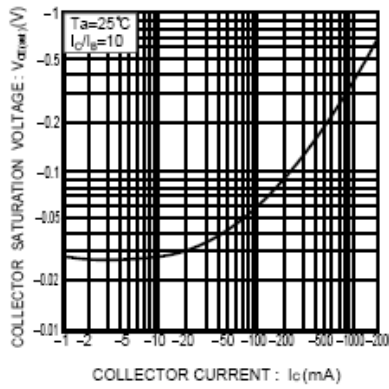


Fig.5 Collector-emitter saturation voltage vs. collector current

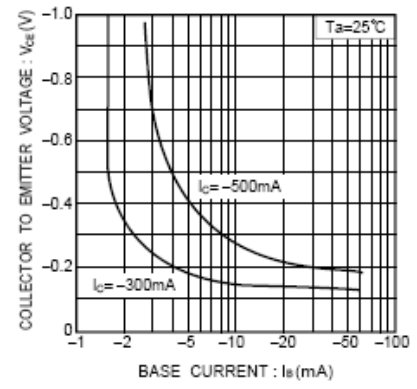


Fig.6 Collector-emitter saturation voltage vs. base current

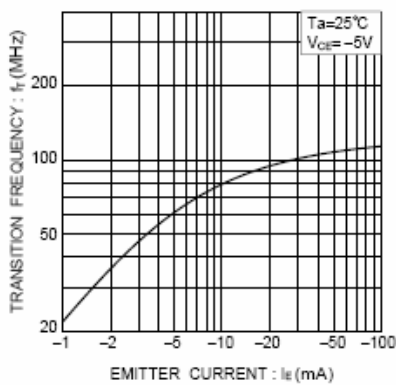


Fig.7 Gain bandwidth product vs. emitter current

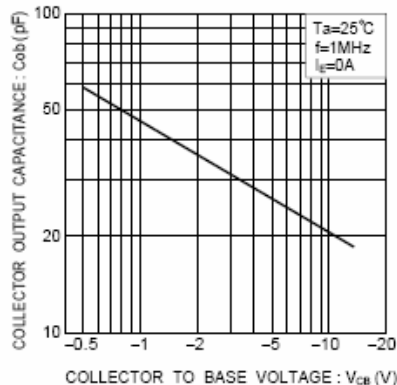


Fig.8 Collector output capacitance vs. collector-base voltage

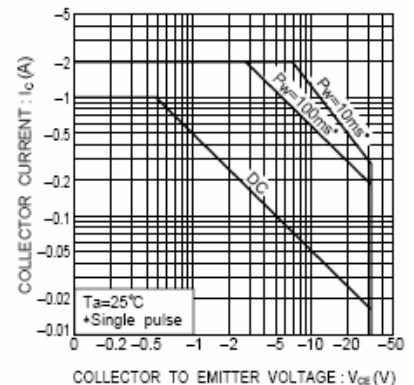


Fig.9 Safe operation area

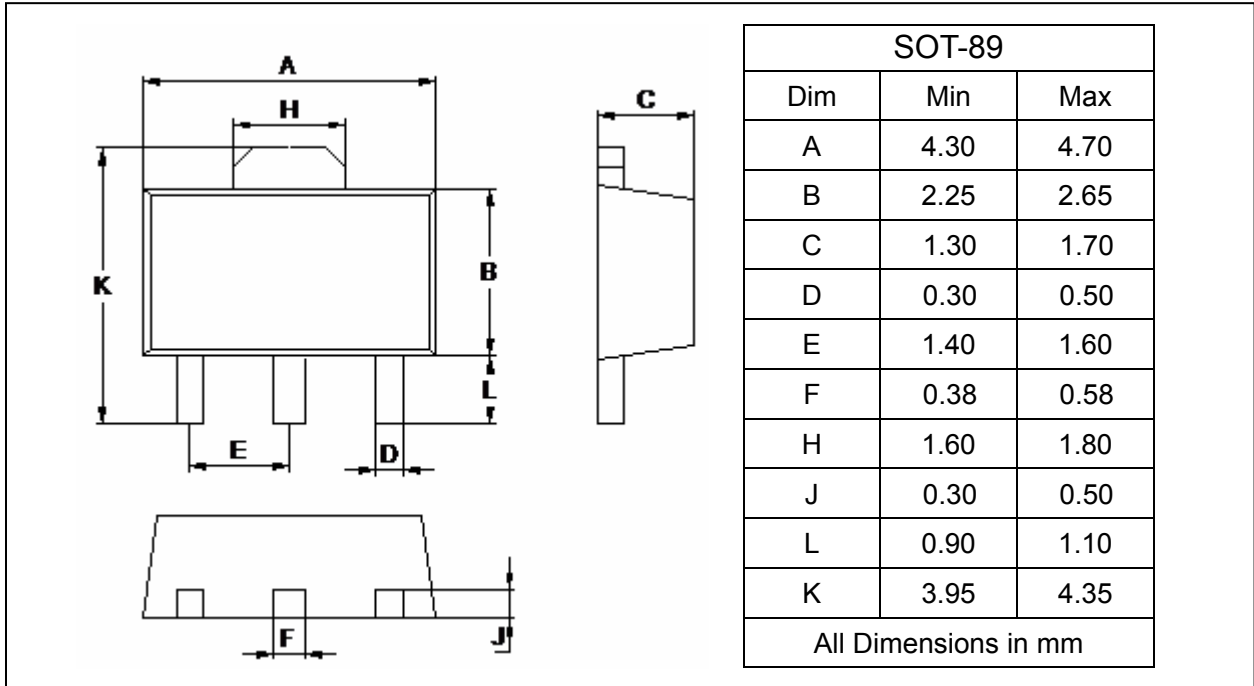
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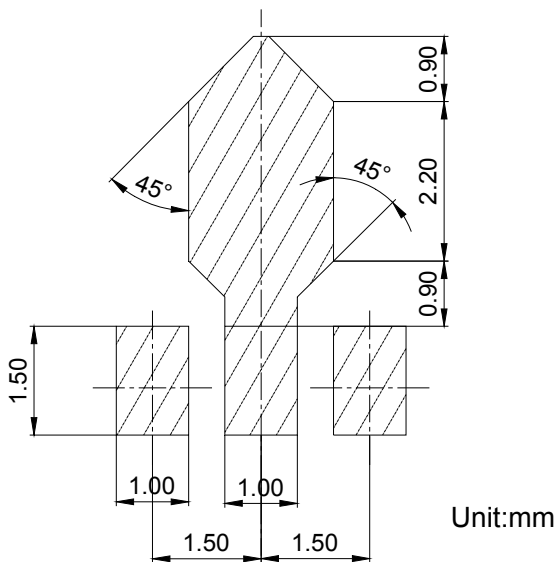
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|---------|---------|----------------|
| 2SB1132 | SOT-89 | 1000/Tape&Reel |