



CHENMKO ENTERPRISE CO.,LTD

2SB1197KPT

**SURFACE MOUNT
PNP Switching Transistor**

VOLTAGE 32 Volts CURRENT 0.8 Ampere

Lead free devices

APPLICATION

- * Telephone and professional communication equipment.
- * Other switching applications.

FEATURE

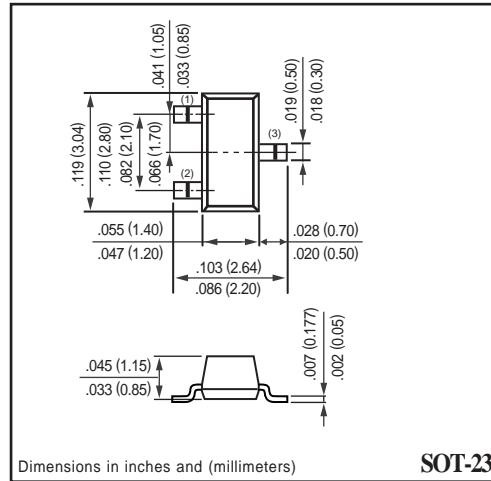
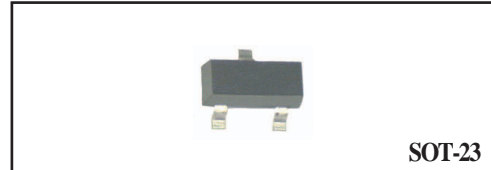
- * Small surface mounting type. (SOT-23)
- * Collector peak current (Max.=1000mA).
- * Suitable for high packing density.
- * Low voltage (Max.=40V) .
- * High saturation current capability.
- * Voltage controlled small signal switch.

CONSTRUCTION

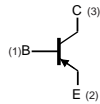
- * PNP Switching Transistor

MARKING

- * PN @hFE as Q Grade
- * RC @hFE as R Grade



CIRCUIT



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|------------------|-------------------------------|----------------------------------|------|------|------|
| V _{CB0} | collector-base voltage | open emitter | - | -40 | V |
| V _{CEO} | collector-emitter voltage | open base | - | -32 | V |
| V _{EB0} | emitter-base voltage | open collector | - | -5 | V |
| I _C | collector current DC | | - | -0.8 | A |
| I _{CM} | peak collector current | | - | -1.0 | A |
| I _{BM} | peak base current | | - | -80 | mA |
| P _{tot} | total power dissipation | T _{amb} ≤ 25 °C; note 1 | - | 300 | mW |
| T _{stg} | storage temperature | | -65 | +150 | °C |
| T _j | junction temperature | | - | 150 | °C |
| T _{amb} | operating ambient temperature | | -65 | +150 | °C |

Note

1. Transistor mounted on an FR4 printed-circuit board.

RATING CHARACTERISTIC CURVES (2SB1197KPT)

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------|---|------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | note 1 | 500 | K/W |

Note

1. Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-------------|--------------------------------------|--|--------------------|---------------------|------|
| BV_{CBO} | collector-base breakdown voltage | $I_E = 0; I_C = -50\text{ }\mu\text{A}$ | -40 | – | V |
| BV_{CEO} | collector-emitter breakdown voltage | $I_B = 0; I_C = -1\text{ mA}$ | -32 | – | V |
| BV_{EBO} | emitter-base breakdown voltage | $I_C = 0; I_E = -50\text{ }\mu\text{A}$ | -5 | – | V |
| I_{CBO} | collector cut-off current | $I_E = 0; V_{CB} = -20\text{ V}$ | – | -500 | nA |
| I_{EBO} | emitter cut-off current | $I_C = 0; V_{EB} = -4\text{ V}$ | – | -500 | nA |
| h_{FE} | DC current gain | $V_{CE} = -3\text{ V};$ note 1 $I_C = -100\text{ mA}$ | 120 | 390 | |
| V_{CEsat} | collector-emitter saturation voltage | $I_C = -500\text{ mA}, I_B = -50\text{ mA}$ | – | -500 | mV |
| C_c | collector capacitance | $I_E = I_E = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$ | 12 _{Typ.} | 30 | pF |
| f_T | transition frequency | $I_C = 10\text{ mA}; V_{CE} = -20\text{ V};$ $f = 100\text{ MHz}$ | 50 | 200 _{Typ.} | MHz |

Note

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02.$
2. h_{FE} : Q Gade: 120~270
R Gade: 180~390

RATING CHARACTERISTIC CURVES (2SB1197KPT)

Fig.1 DC Current gain vs. collector current

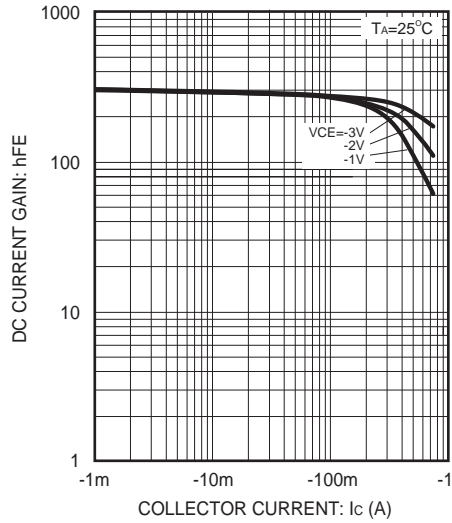


Fig.2 Collector-emittersaturation voltage vs. collector current

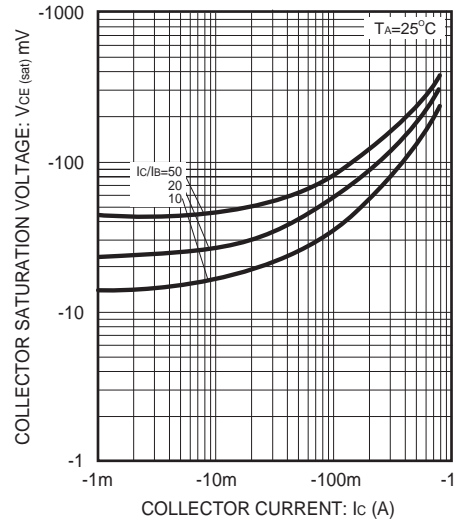


Fig.3 Gain bandwidthproduct vs. emitter current

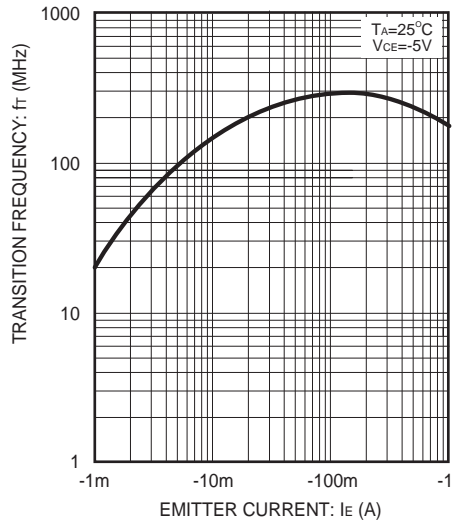
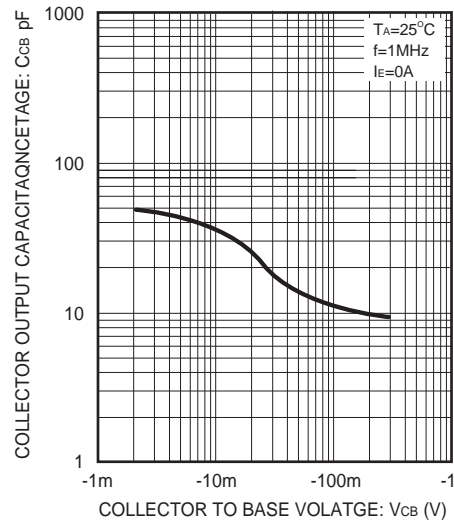


Fig.4 Collector output capacitance



RATING CHARACTERISTIC CURVES (2SB1197KPT)

Fig.5 Grounded emitter propagation characteristics

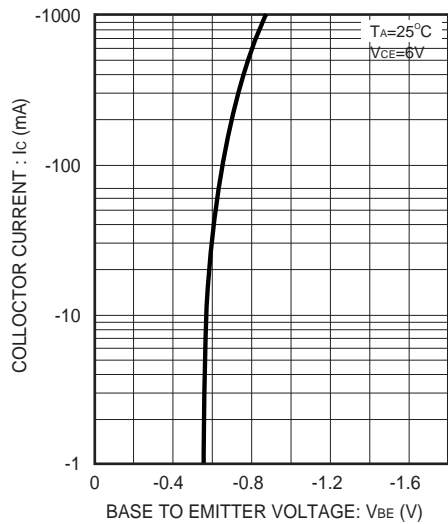


Fig.6 Grounded emitter output characteristics

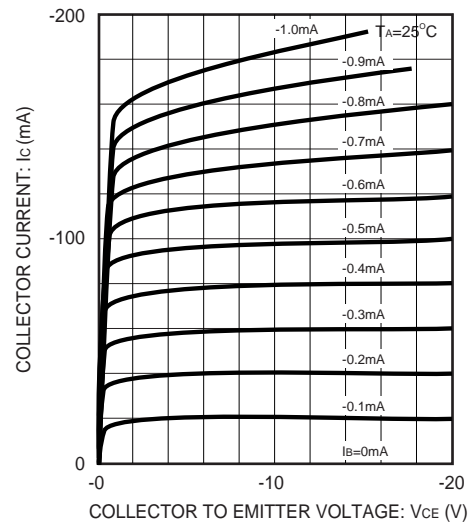


Fig.7 Grounded emitter output characteristics

