



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SURFACE MOUNT
PNP Switching Transistor**

VOLTAGE 32 Volts CURRENT 0.8 Ampere

2SB1197KGF

APPLICATION

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

FEATURE

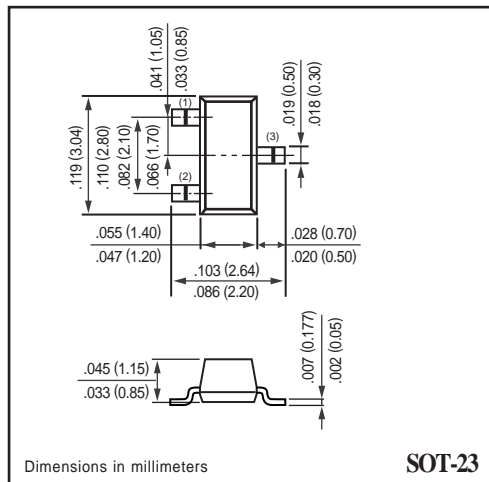
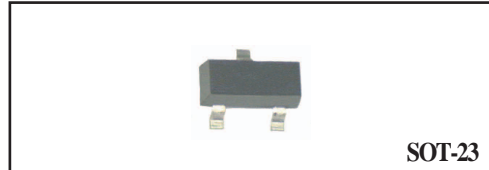
- * Small surface mounting type. (SOT-23)
- * Collector peak current (Max.=1000mA).
- * Suitable for high packing density.
- * Low voltage (Max.=40V) .
- * High saturation current capability.
- * Voltage controlled small signal switch.

CONSTRUCTION

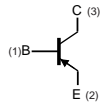
- * PNP Switching Transistor

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 (2SB1197KGP)

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	$I_E = I_B = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	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 (2SB1197KGP)

Fig.1 DC Current gain vs. collector current

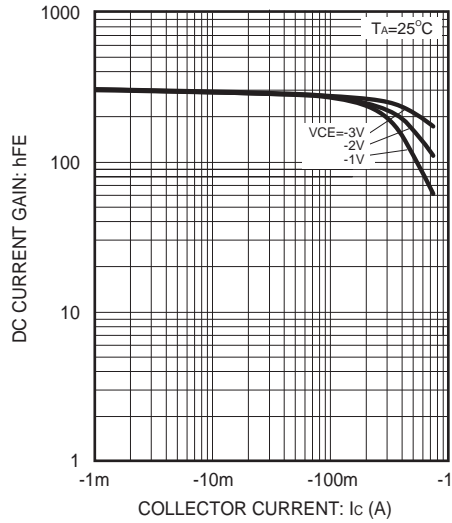


Fig.2 Collector-emittersaturation voltage vs. collector current

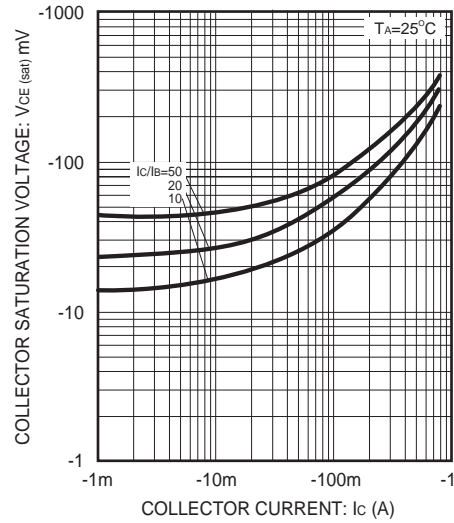


Fig.3 Gain bandwidthproduct vs. emitter current

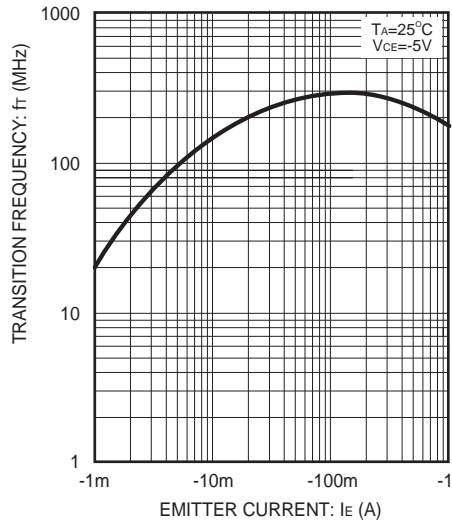
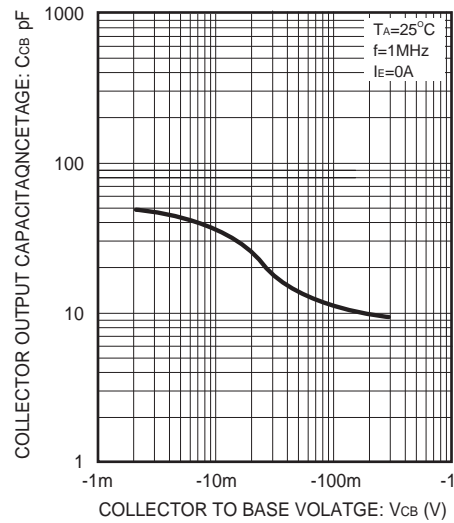


Fig.4 Collector output capacitance



RATING CHARACTERISTIC CURVES (2SB1197KGP)

Fig.5 Grounded emitter propagation characteristics

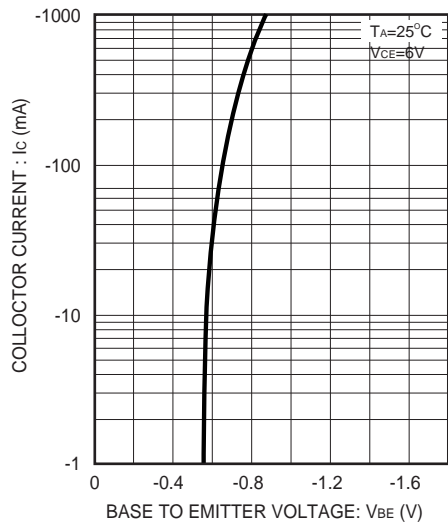


Fig.6 Grounded emitter output characteristics

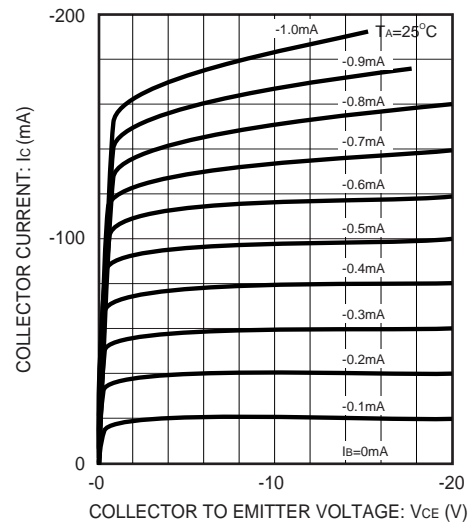


Fig.7 Grounded emitter output characteristics

