HITACHI

2SB1520

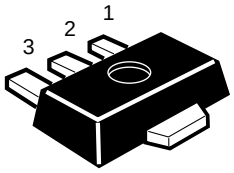
Preliminary

Silicon PNP Epitaxial
High Voltage Amplifier

Features

- Low saturation voltage
  $V_{CE\ (sat)} \leq -0.3$ V
- Large current capacitance
  $I_C = -2$ A

UPAK



1. Base
2. Collector
3. Emitter

Table 1 Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	–80	V
Collector to emitter voltage	V_{CEO}	–80	V
Emitter to base voltage	V_{EBO}	–5	V
Collector current	I_C	–2	A
Peak collector current	$i_{C(peak)}$*	–3	A
Collector power dissipation	P_C**	1	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

* $P_W \leq 10$ ms, duty cycle ≤ 20%
** When using the alumina ceramic board (12.5 × 20 × 0.7 mm)

Table 2 Electrical Characteristics (Ta = 25°C)

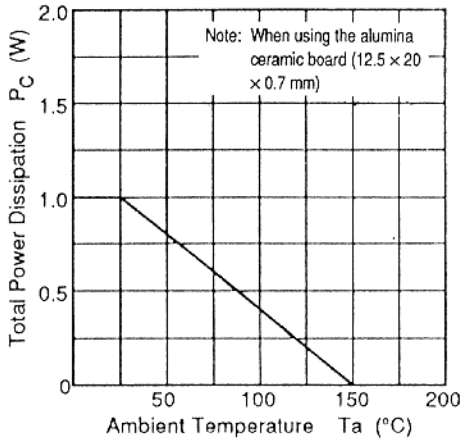
Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	–80	—	—	V	$I_C = -10$ µA, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	–80	—	—	V	$I_C = -1$ mA, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	–5	—	—	V	$I_C = -10$ µA, $I_E = 0$
Collector cutoff current	I_{CBO}	—	—	–1	µA	$V_{CB} = -65$ V, $I_E = 0$
Collector cutoff current	I_{CEO}	—	—	–5	µA	$V_{CE} = -65$ V, $R_{BE} = \infty$
Emitter cutoff current	I_{EBO}	—	—	–1	µA	$V_{EB} = -4$ V, $I_C = 0$
DC current transfer ratio	$h_{FE}1$	120	—	300	—	$V_{CE} = -2$ V, $I_C = -0.5$ A*
DC current transfer ratio	$h_{FE}2$	40	—	—	—	$V_{CE} = -2$ V, $I_C = -1.5$ A*

Table 2 Electrical Characteristics (Ta = 25°C) (cont)

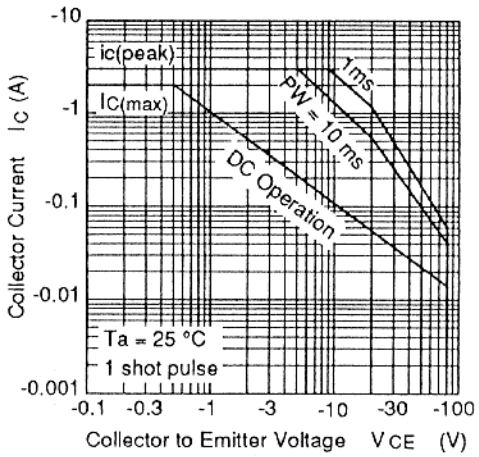
Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	–0.3	V	I_C = –1 A, I_B = –50 mA
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	–1.2	V	I_C = –1 A, I_B = –50 mA*

* Pulse test
** Marking is "GS".

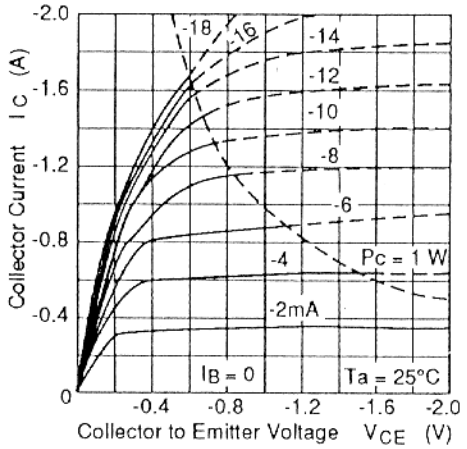
Maximum power dissipation curve



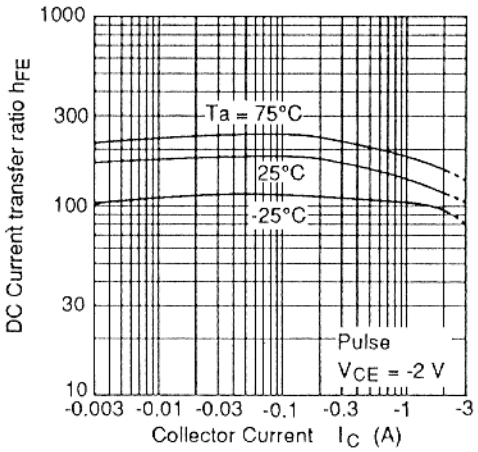
Area of safe operation



Typical transfer characteristics



DC Current transfer ratio vs. collector current



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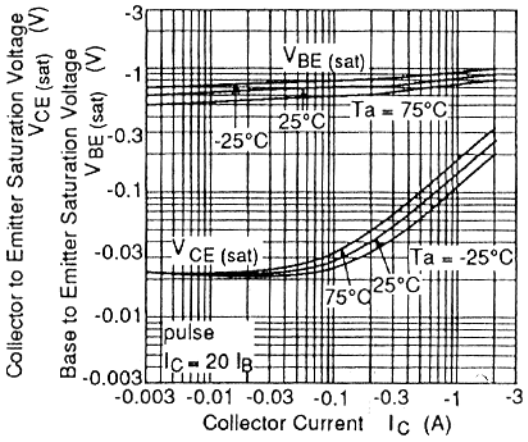
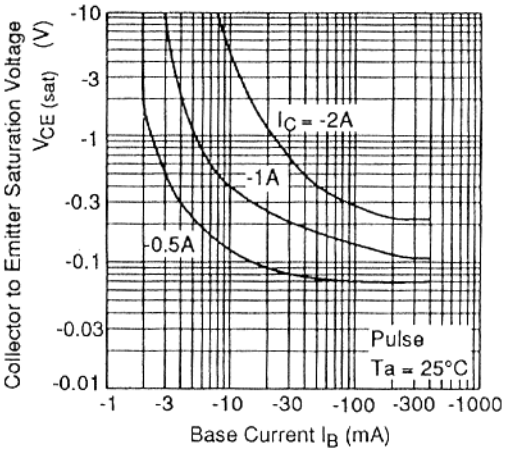
Saturation voltage vs. collector current



Collector to emitter saturation voltage vs. base current



Typical transfer characteristics