
2SB1027

Silicon PNP Epitaxial

HITACHI

ADE-208-1038 (Z)

1st. Edition

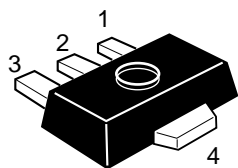
Mar. 2001

Application

Low frequency amplifier

Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

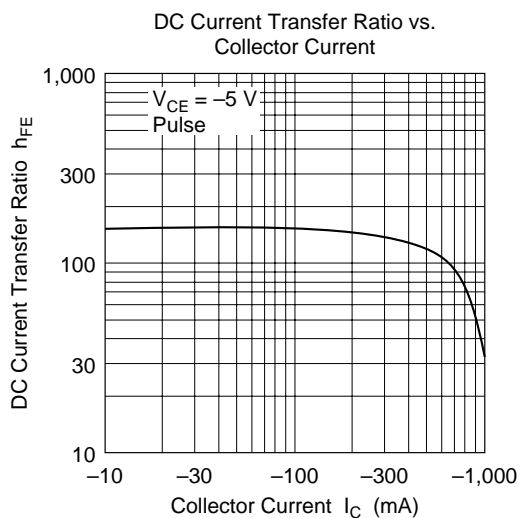
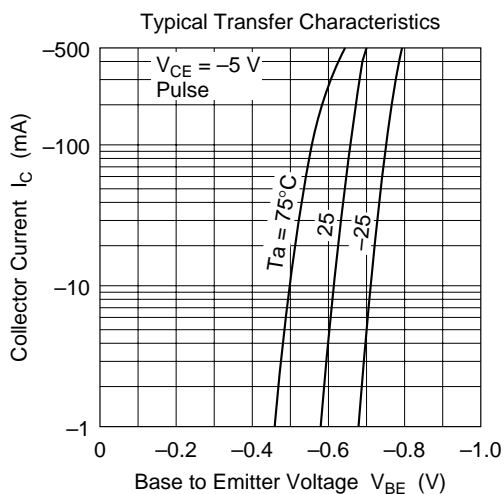
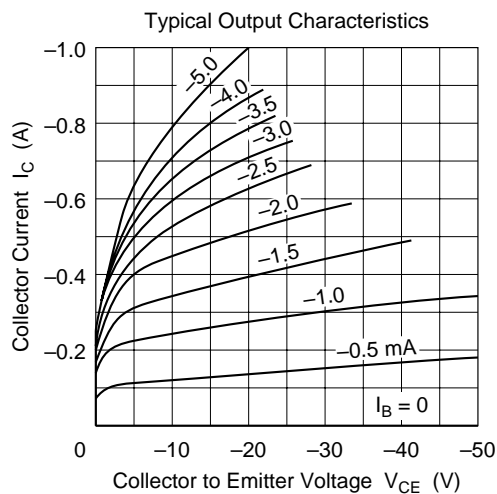
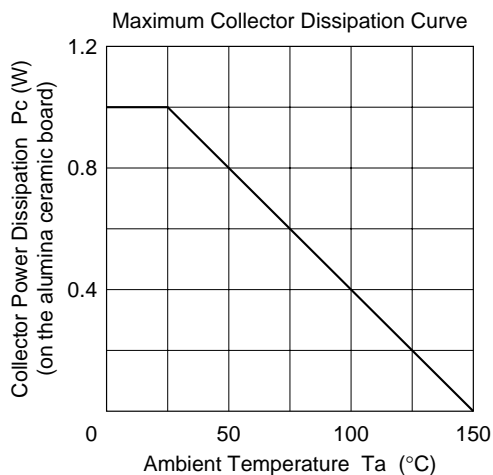
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-180	V
Collector to emitter voltage	V_{CEO}	-120	V
Emitter to base voltage	V_{EBO}	-5	V
Collector current	I_{C}	-1.5	A
Collector peak current	$i_{\text{C(peak)}}^{*1}$	-3	A
Collector power dissipation	P_{C}^{*2}	1	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Notes: 1. $PW \leq 10 \text{ ms}$, Duty cycle $\leq 20\%$ 2. Value on the alumina ceramic board ($12.5 \times 20 \times 0.7 \text{ mm}$)**Electrical Characteristics** ($T_a = 25^\circ\text{C}$)

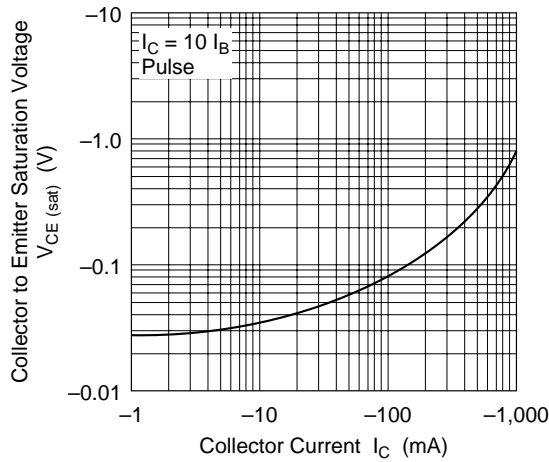
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	-180	—	—	V	$I_{\text{C}} = -1 \text{ mA}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	-120	—	—	V	$I_{\text{C}} = -10 \text{ mA}$, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	-5	—	—	V	$I_{\text{E}} = -1 \text{ mA}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	-10	μA	$V_{\text{CB}} = -160 \text{ V}$, $I_{\text{E}} = 0$
DC current transfer ratio	h_{FE1}^{*1}	60	—	320		$V_{\text{CE}} = -5 \text{ V}$, $I_{\text{C}} = -0.15 \text{ A}$, pulse
	h_{FE2}	30	—	—		$V_{\text{CE}} = -5 \text{ V}$, $I_{\text{C}} = -0.5 \text{ A}$, pulse
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	—	-1.0	V	$I_{\text{C}} = -0.5 \text{ A}$, $I_{\text{B}} = -50 \text{ mA}$, Pulse
Base to emitter voltage	V_{BE}	—	—	-0.9	V	$V_{\text{CE}} = -5 \text{ V}$, $I_{\text{C}} = -0.15 \text{ A}$, pulse

Note: 1. The 2SB1027 is grouped by h_{FE1} as follows.

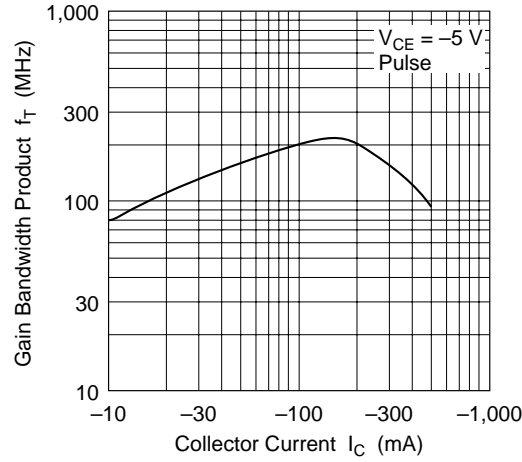
Mark	EH	EJ	EK
h_{FE1}	60 to 120	100 to 200	160 to 320



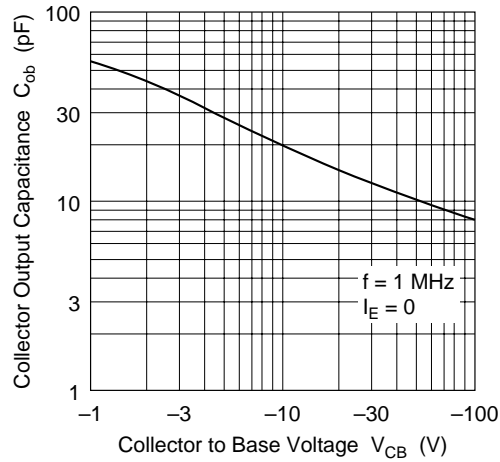
Collector to Emitter Saturation Voltage vs.
Collector Current



Gain Bandwidth Product vs.
Collector Current



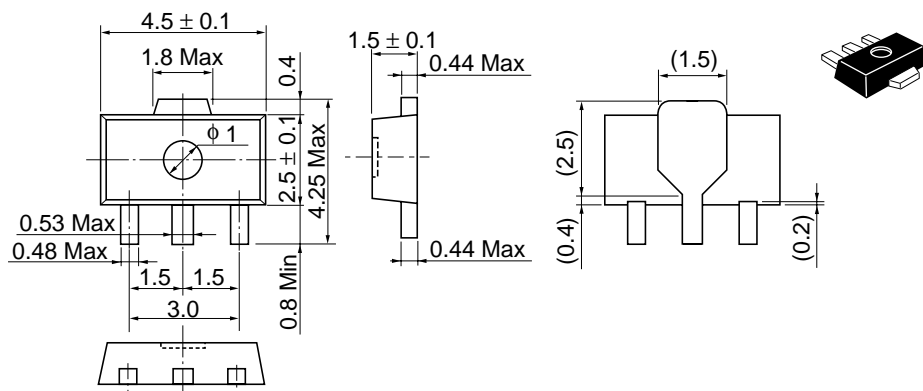
Collector Output Capacitance vs.
Collector to Base Voltage



Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.050 g

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