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# 2SC3380

Silicon NPN Triple Diffused

# HITACHI

ADE-208-1082A (Z)

2nd. Edition

Mar. 2001

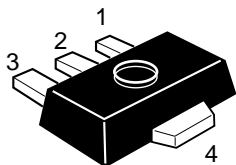
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## Application

- High frequency high voltage amplifier
- High voltage switch

## Outline

UPAK



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

Note: Marking is "AS".

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

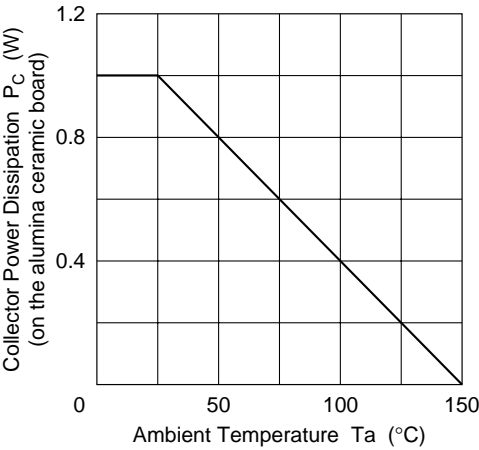
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{\text{CBO}}$	300	V
Collector to emitter voltage	$V_{\text{CEO}}$	300	V
Emitter to base voltage	$V_{\text{EBO}}$	5	V
Collector current	$I_{\text{C}}$	100	mA
Collector power dissipation	$P_{\text{C}}^{*1}$	1	W
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

Note: 1. Value on the alumina ceramic board ( $12.5 \times 20 \times 0.7 \text{ mm}$ )

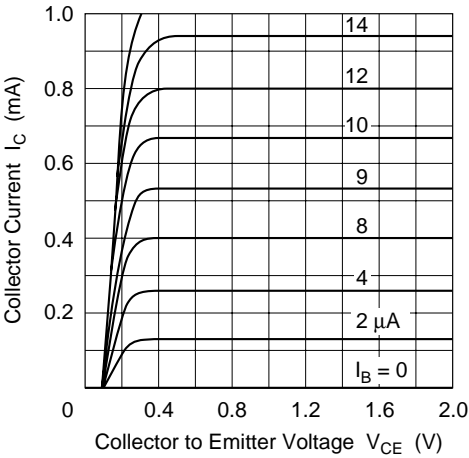
**Electrical Characteristics** ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	300	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$ , $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	300	—	—	V	$I_{\text{C}} = 1 \text{ mA}$ , $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	5	—	—	V	$I_{\text{E}} = 10 \mu\text{A}$ , $I_{\text{C}} = 0$
Collector cutoff current	$I_{\text{CEO}}$	—	—	1	$\mu\text{A}$	$V_{\text{CE}} = 250 \text{ V}$ , $R_{\text{BE}} = \infty$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	—	1.5	V	$I_{\text{C}} = 20 \text{ mA}$ , $I_{\text{B}} = 2 \text{ mA}$
DC current transfer ratio	$h_{\text{FE}}$	30	—	200		$V_{\text{CE}} = 20 \text{ V}$ , $I_{\text{C}} = 20 \text{ mA}$
Gain bandwidth product	$f_{\text{T}}$	—	80	—	MHz	$V_{\text{CE}} = 20 \text{ V}$ , $I_{\text{C}} = 20 \text{ mA}$
Collector output capacitance	$C_{\text{ob}}$	—	—	4	pF	$V_{\text{CB}} = 20 \text{ V}$ , $I_{\text{E}} = 0$ , $f = 1 \text{ MHz}$

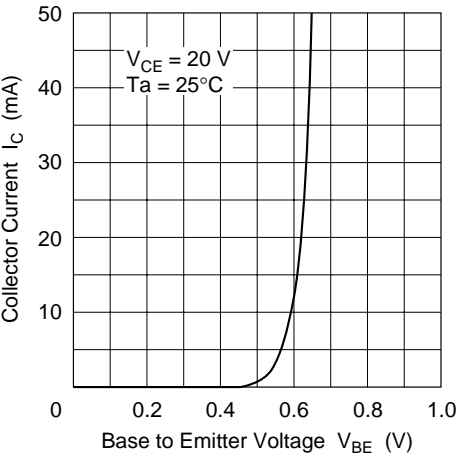
Maximum Collector Dissipation Curve



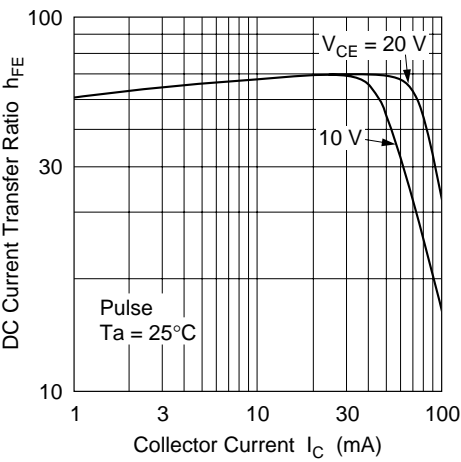
Typical Output Characteristics

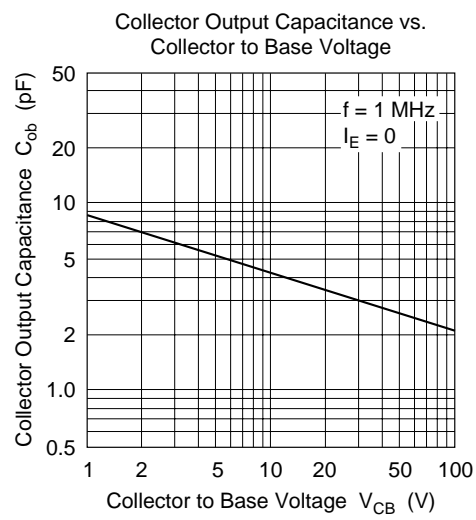
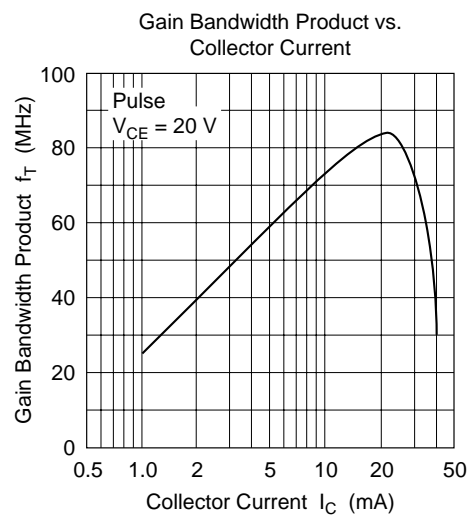
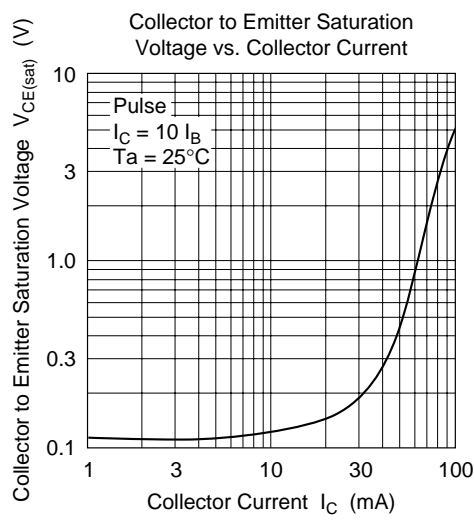


Typical Transfer Characteristics



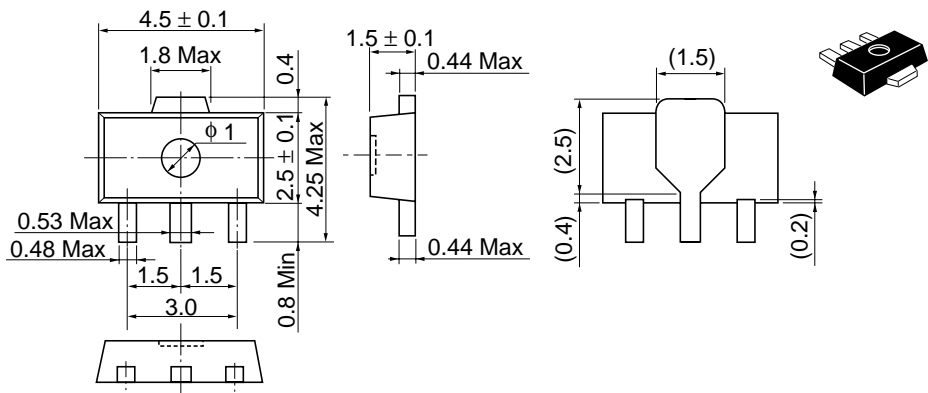
DC Current Transfer Ratio vs. Collector Current





Package Dimensions

As of January, 2001  
Unit: mm



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

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