

# 2SB1078(K)

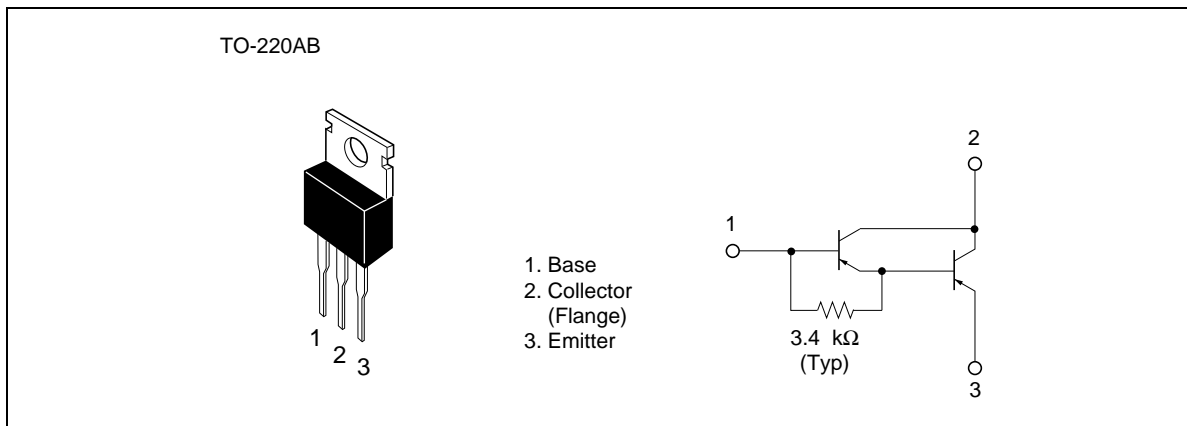
Silicon PNP Epitaxial

## HITACHI

### Application

Low frequency power amplifier complementary pair with 2SD1377(K)

### Outline



### Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V <sub>CBO</sub>	-120	V
Collector to emitter voltage	V <sub>CEO</sub>	-120	V
Emitter to base voltage	V <sub>EBO</sub>	-7	V
Collector current	I <sub>C</sub>	-8	A
Collector peak current	I <sub>C(peak)</sub>	-12	A
Collector power dissipation	P <sub>C</sub> <sup>*1</sup>	40	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

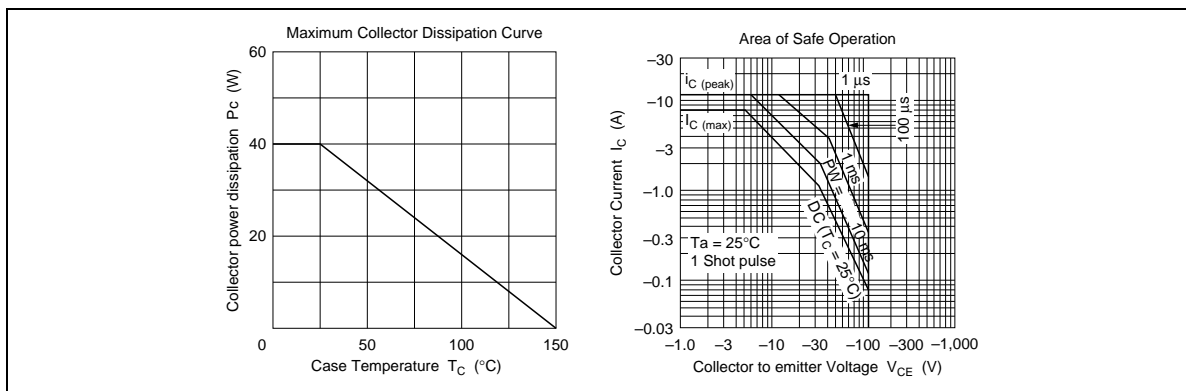
Note: 1. Value at T<sub>c</sub> = 25°C

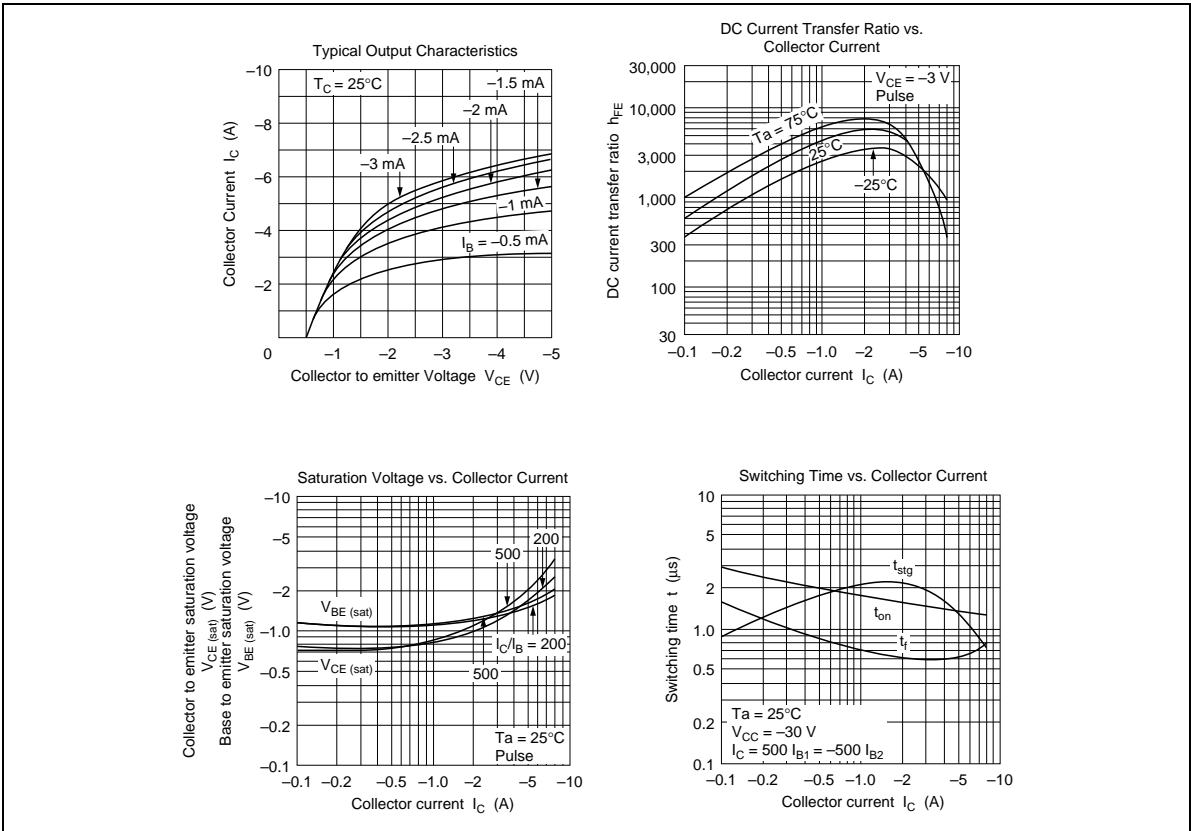
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### Electrical Characteristics (Ta = 25°C)

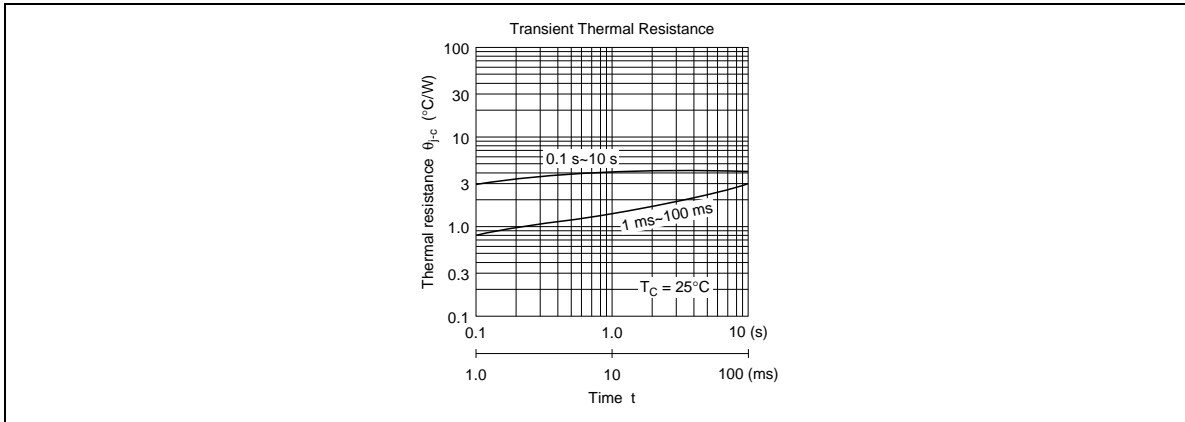
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-120	—	—	V	$I_C = -25 \text{ mA}$ , $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-7	—	—	V	$I_E = -50 \text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-100	$\mu\text{A}$	$V_{CB} = -120 \text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	-10	$\mu\text{A}$	$V_{CE} = -100 \text{ V}$ , $R_{BE} = \infty$
DC current transfer ratio	$h_{FE}$	1000	—	20000		$V_{CE} = -3 \text{ V}$ , $I_C = -4 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	-1.5	V	$I_C = -4 \text{ A}$ , $I_B = -8 \text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	-3.0	V	$I_C = -8 \text{ A}$ , $I_B = -80 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	-2.0	V	$I_C = -4 \text{ A}$ , $I_B = -8 \text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	-3.5	V	$I_C = -8 \text{ A}$ , $I_B = -80 \text{ mA}^{*1}$
Turn on time	$t_{on}$	—	1.5	—	$\mu\text{s}$	$I_C = -4 \text{ A}$ , $I_{B1} = -I_{B2} = -8 \text{ mA}$
Storage time	$t_{stg}$	—	2.0	—	$\mu\text{s}$	
Fall time	$t_f$	—	0.5	—	$\mu\text{s}$	

Note: 1. Pulse test





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