
4AC13

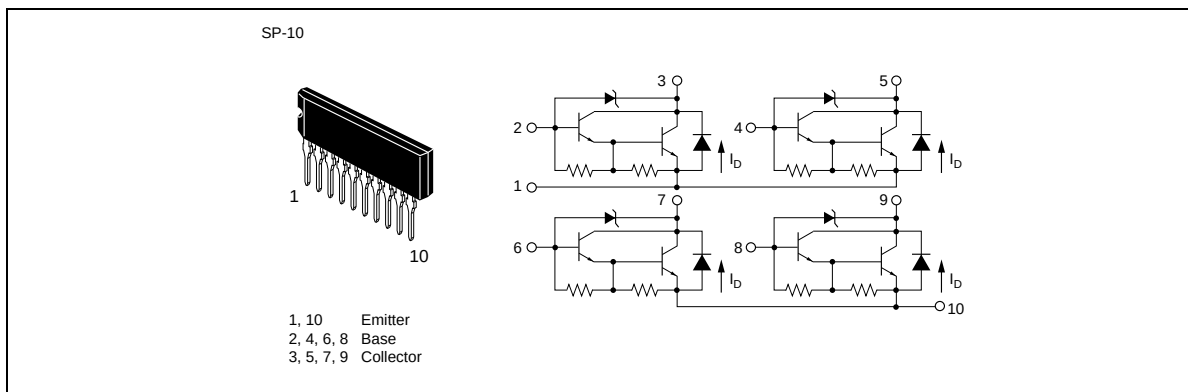
Silicon NPN Epitaxial

HITACHI

Application

Low frequency power amplifier

Outline



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Absolute Maximum Ratings (for each device, Ta = 25°C)

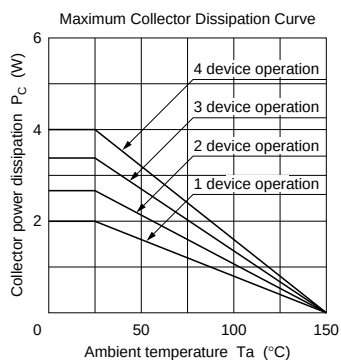
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	50	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	5	A
Collector peak current	$I_{C(peak)}$	10	A
Diode current	I_D	5	A
Collector power dissipation	P_C^{*1}	4	W
	$P_C^{*1} (T_c = 25^\circ\text{C})$	28	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Note: 1. 4 devices operation.

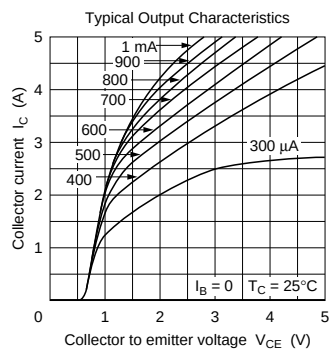
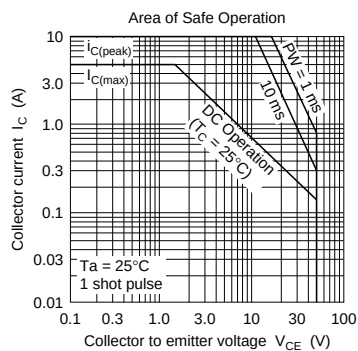
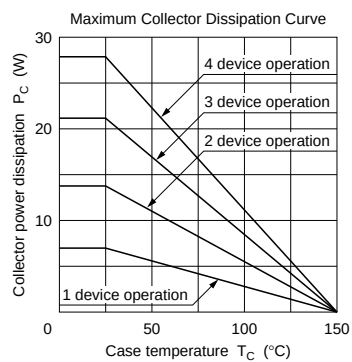
Electrical Characteristics (for each device, Ta = 25°C)

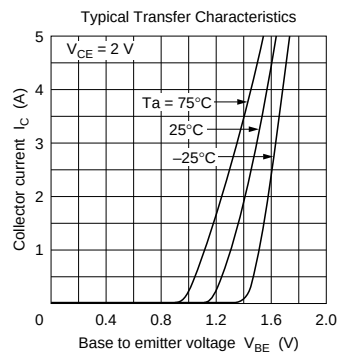
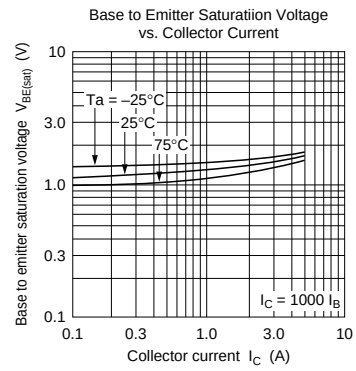
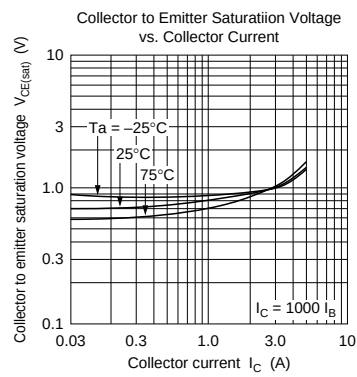
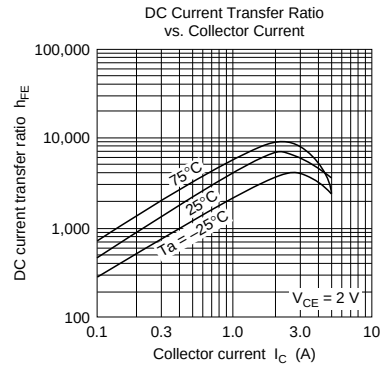
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CBO}$	50	—	—	V	$I_C = 1 \text{ mA}, I_E = 0$
Collector to emitter sustain voltage	$V_{CEO(SUS)}$	50	—	70	V	$I_C = 2 \text{ A}, L = 10 \text{ mH}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 40 \text{ V}, I_E = 0$
	I_{CEO}	—	—	10		$V_{CE} = 40 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	h_{FE}	2000	—	20000		$V_{CE} = 2 \text{ V}, I_C = 3 \text{ A}^{*1}$
	h_{FE}	1000	—	—		$V_{CE} = 2 \text{ V}, I_C = 5 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 3 \text{ A}, I_B = 3 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	$I_C = 3 \text{ A}, I_B = 3 \text{ mA}^{*1}$
C to E diode forward current	V_D	—	—	3.5	V	$I_D = 5 \text{ A}$

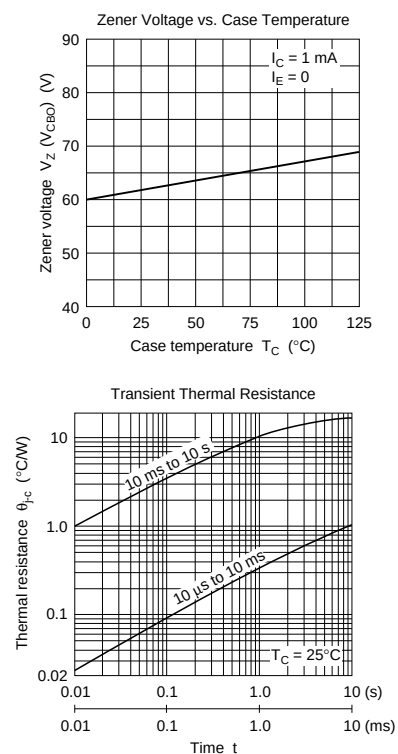
Note: 1. Pulse test.



Note: Collector power dissipation of each devices is identical.

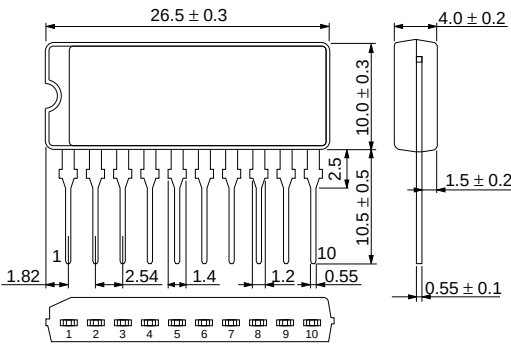






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Unit: mm



Pin No.	1	2	3	4	5	6	7	8	9	10
Electrode	E	B	C	B	C	B	C	B	C	E

Note: B: Base
C: Collector
E: Emitter

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