
4AC12

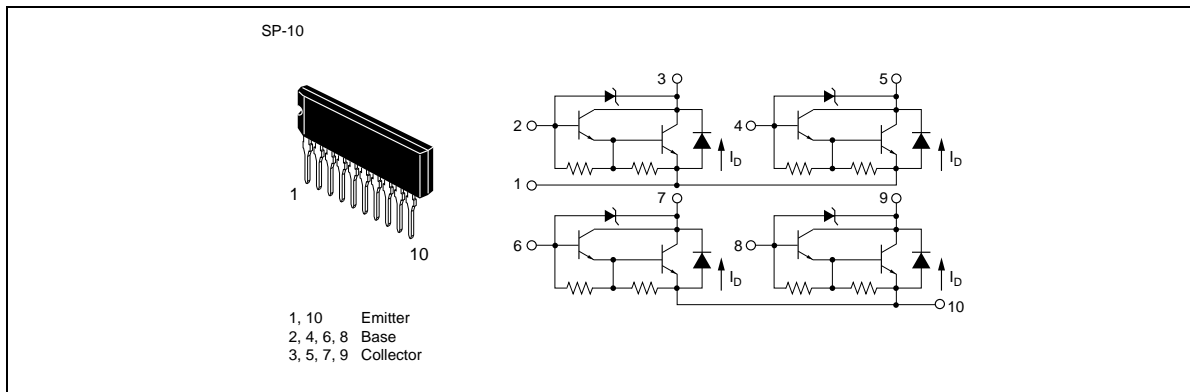
Silicon NPN Epitaxial

HITACHI

Application

Low frequency power amplifier

Outline



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

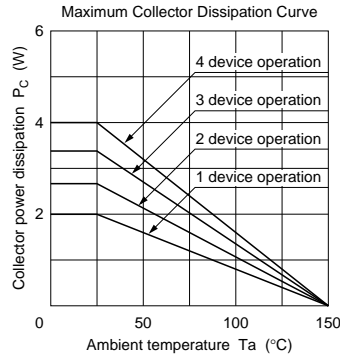
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	27	V
Collector to emitter voltage	V_{CEO}	27	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	2	A
Collector peak current	$I_{C(peak)}$	4	A
Diode current	I_D	2	A
Collector power dissipation	P_C^{*1}	4	W
	$P_C^{*1} (T_C = 25^\circ\text{C})$	28	
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. 4 devices operation.

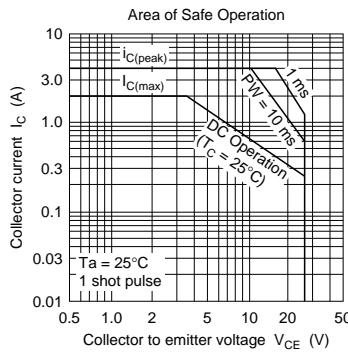
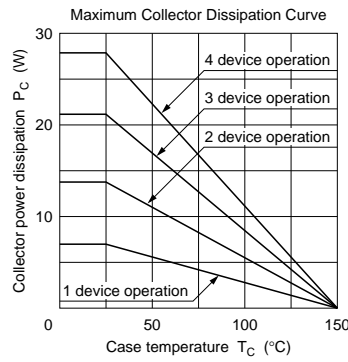
Electrical Characteristics (for each device, Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CBO}$	27	—	—	V	$I_C = 1 \text{ mA}, I_E = 0$
Collector to emitter sustain voltage	$V_{CEO(SUS)}$	28	—	36	V	$I_C = 1 \text{ A}, L = 20 \text{ mH}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 5 \text{ mA}, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 20 \text{ V}, I_E = 0$
	I_{CEO}	—	—	10		$V_{CE} = 20 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	h_{FE}	7000	—	30000		$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$
	h_{FE}	2000	—	—		$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 2 \text{ A}, I_B = 2 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	$I_C = 2 \text{ A}, I_B = 2 \text{ mA}^{*1}$
C to E diode forward current	V_D	—	—	3.5	V	$I_D = 2 \text{ A}$

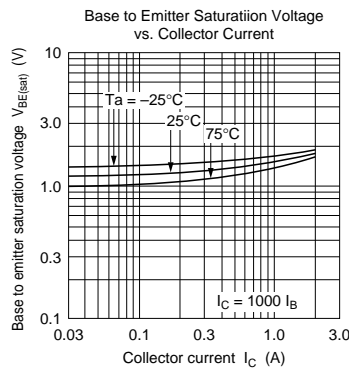
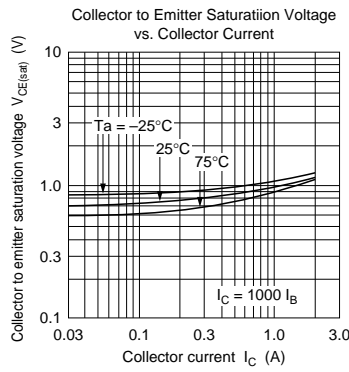
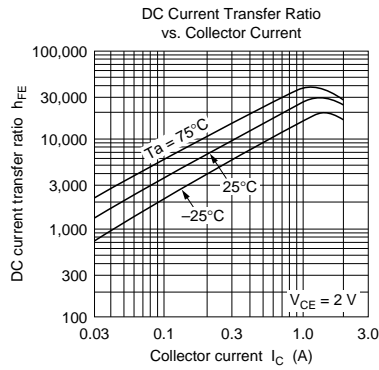
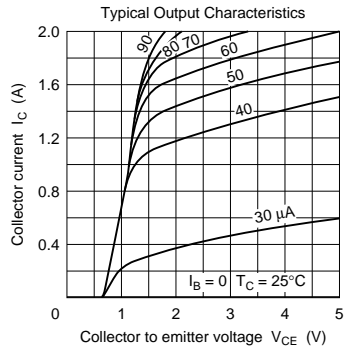
Note: 1. Pulse test.

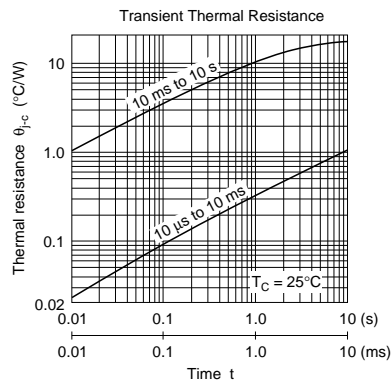
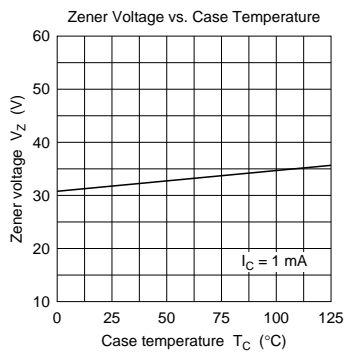
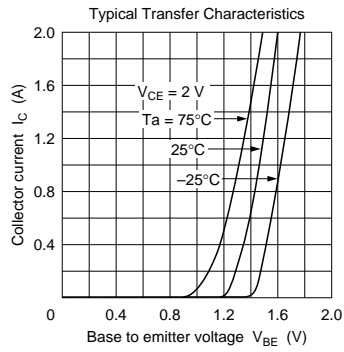


Note: Collector power dissipation of each devices is identical.

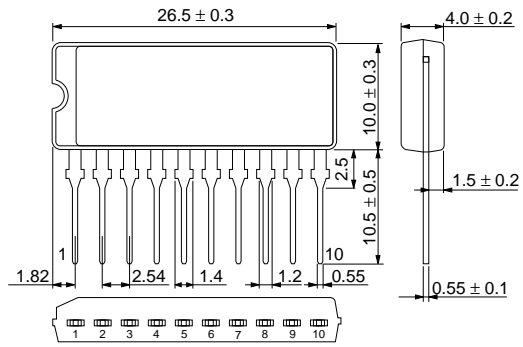


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Pin No.	1	2	3	4	5	6	7	8	9	10
Electrode	E	B	C	B	C	B	C	B	C	E

Note: B: Base
 C: Collector
 E: Emitter

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