

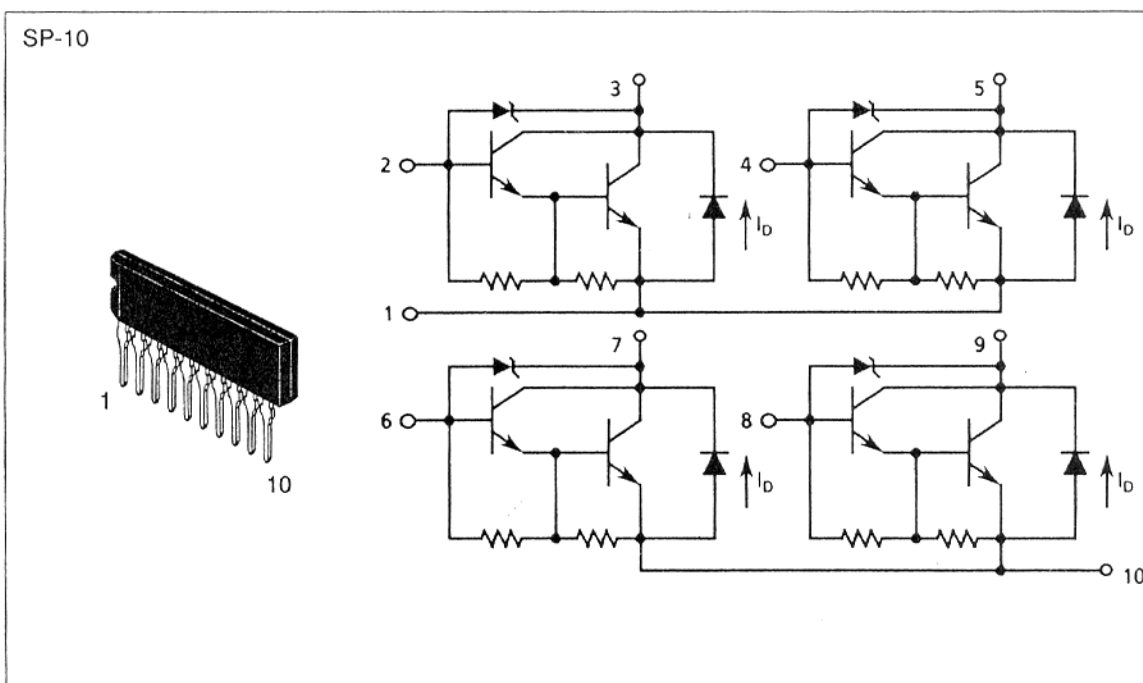
4AC12

Silicon NPN Epitaxial
Low Frequency Power Amplifier

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

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

Note: 1. 4 devices operation.

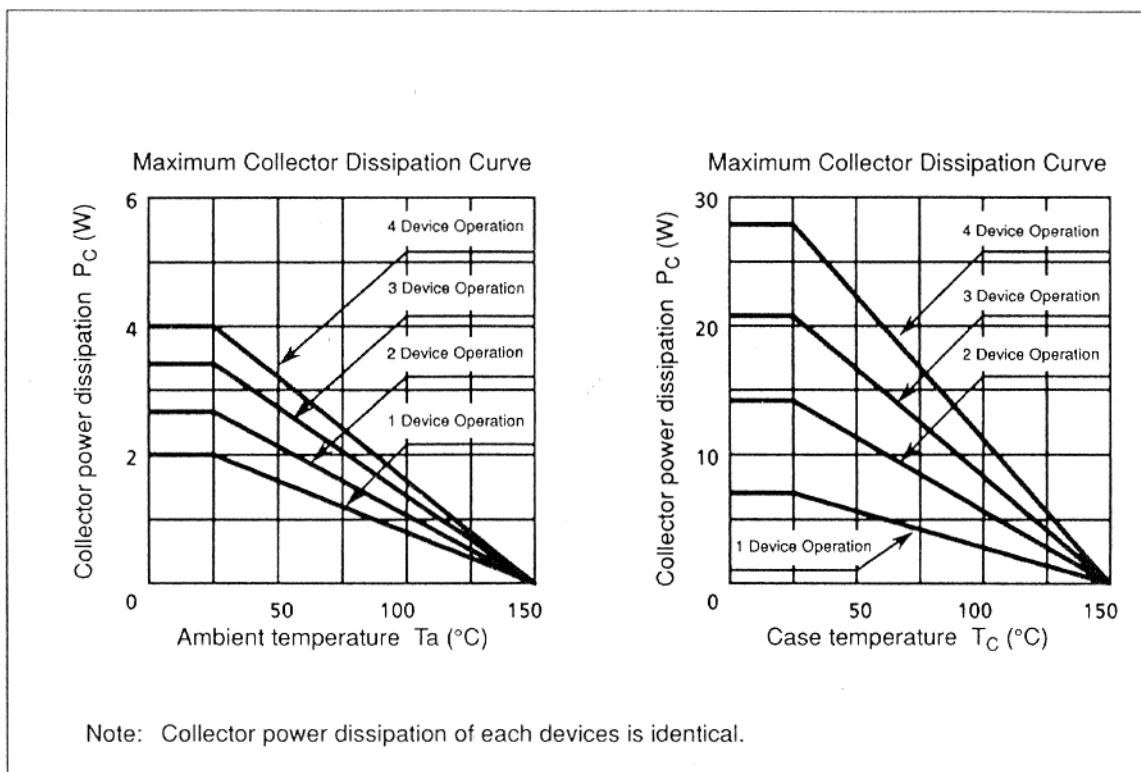


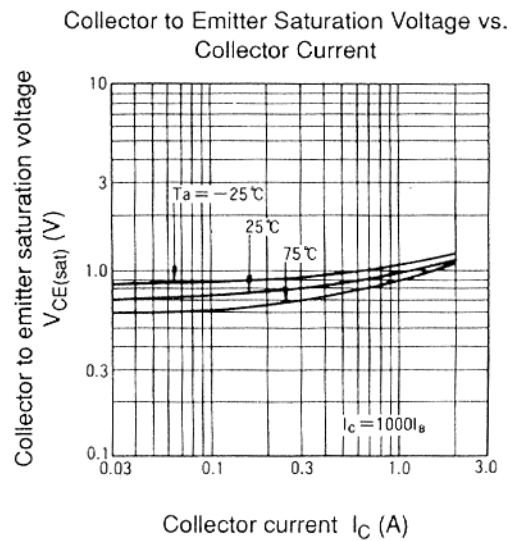
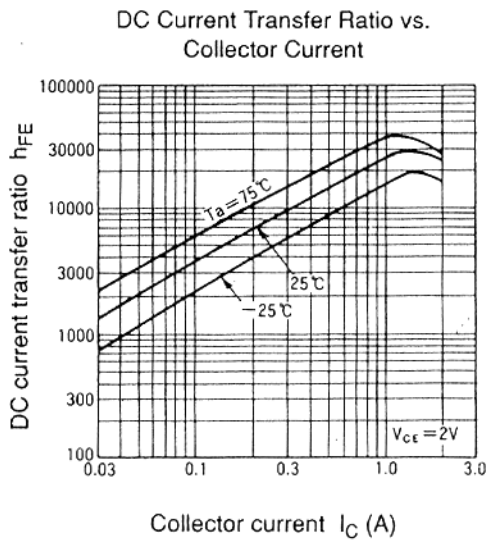
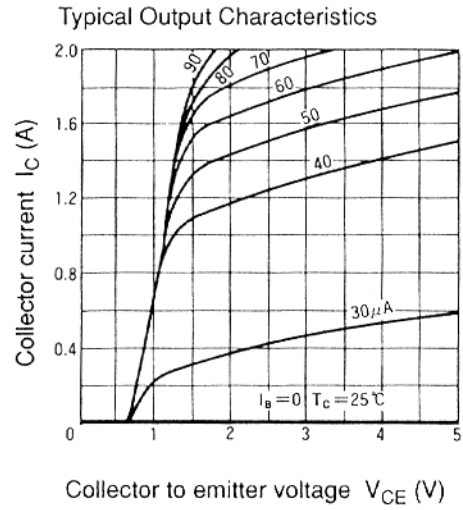
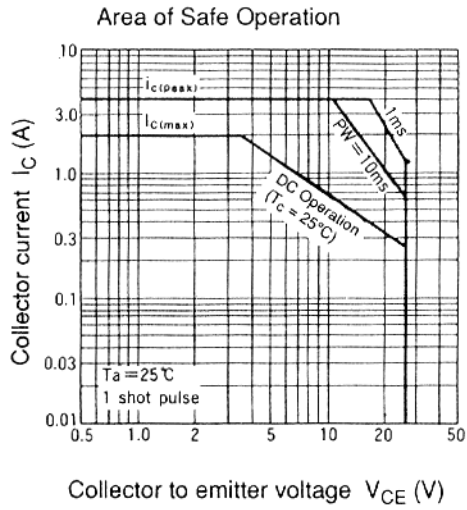
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Electrical Characteristics (for each device, $T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test condition
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	$I_D = 2 \text{ A}$

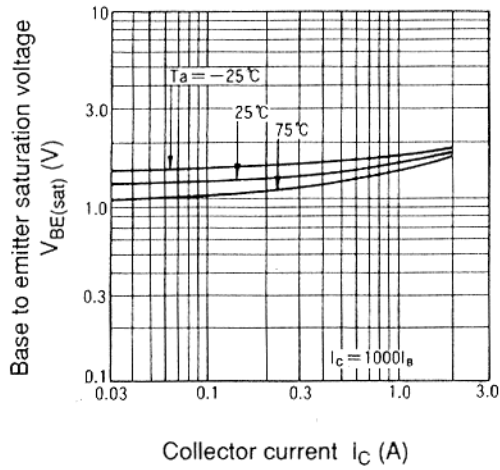
Note: 1. Pulse Test.



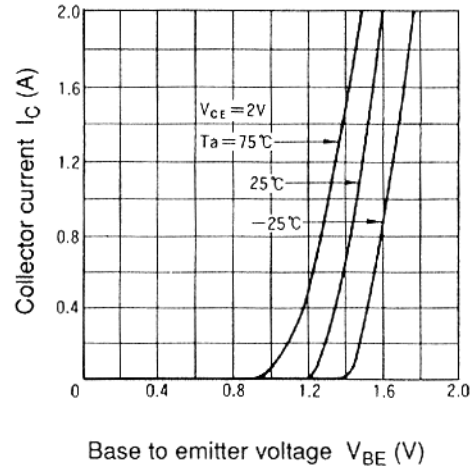


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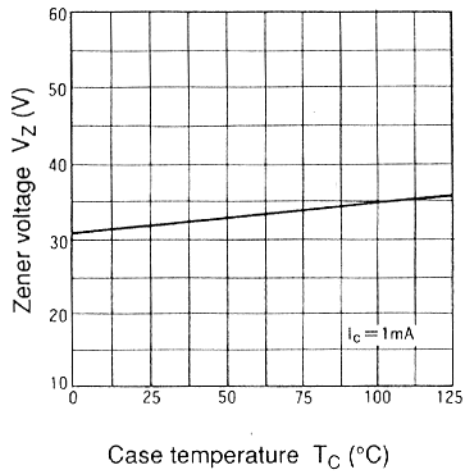
Base to Emitter Saturation Voltage vs. Collector Current



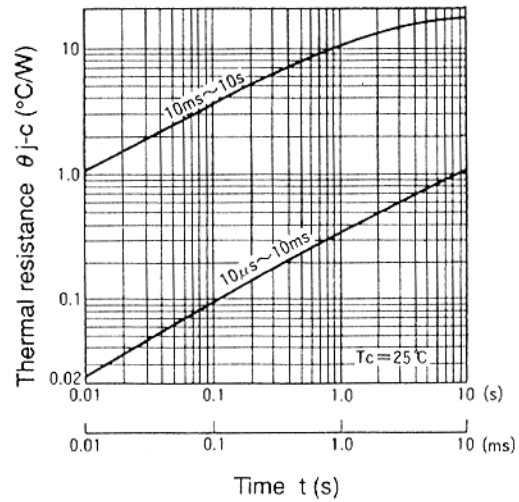
Typical Transfer Characteristics



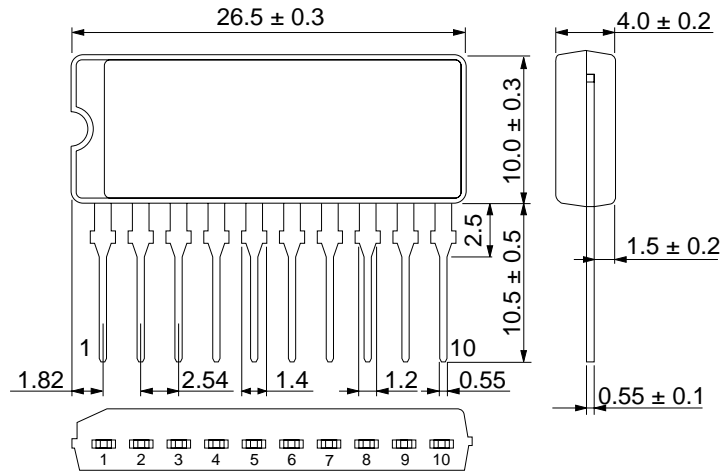
Zener Voltage vs. Case Temperature



Transient Thermal Resistance



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