HITACHI

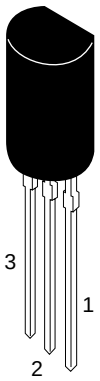
2SD2213

Silicon NPN Epitaxial
Low Frequency Power Amplifier

Features

- Large h_{FE} at low current operation. (2000, at I_C = 0.15A)

TO-92MOD



1. Emitter
2. Collector
3. Base

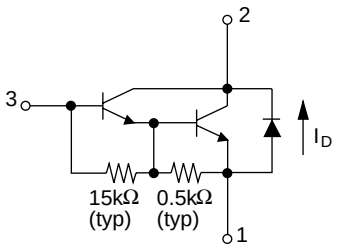


Table 1 Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	150	V
Collector to emitter voltage	V_{CEO}	80	V
Emitter to base voltage	V_{EBO}	8	V
Collector current	I_C	1.5	A
Collector peak current	$i_{C(peak)}$	3	A
Collector power dissipation	P_C	0.9	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C
C to E diode forward current	I_D	1.5	A

Table 2 Electrical Characteristics (Ta = 25°C)

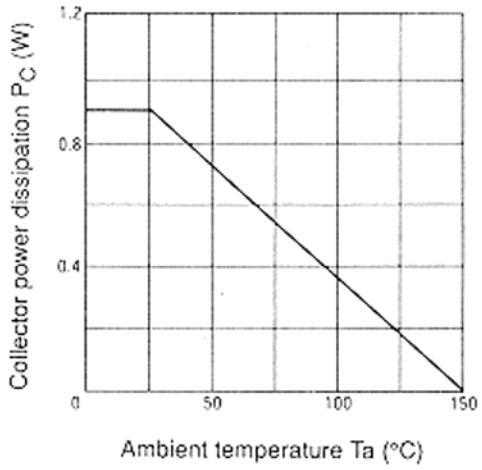
Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	150	—	—	V	I_C = 1 mA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	V	I_C = 10 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	8	—	—	V	I_E = 50 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	5.0	µA	V_{CB} = 120 V, I_E = 0
Collector cutoff current	I_{CEO}	—	—	5.0	µA	V_{CE} = 65 V, R_{BE} = ∞
DC current transfer ratio	h_{FE}	2000	—	—	—	V_{CE} = 2 V, I_C = 0.15 A*
DC current transfer ratio	h_{FE}	5000	—	30000	—	V_{CE} = 2 V, I_C = 1 A*
DC current transfer ratio	h_{FE}	1000	—	—	—	V_{CE} = 2 V, I_C = 1.5 A*

Table 2 Electrical Characteristics (Ta = 25°C) (cont)

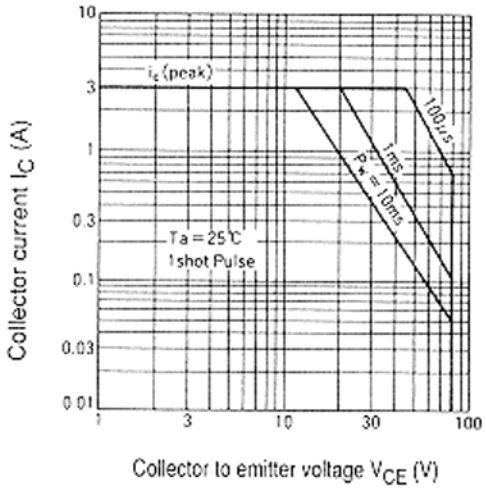
Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C = 1 A*, I_B = 1 mA
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	I_C = 1 A*, I_B = 1 mA
C to E diode forward voltage	V_D	—	—	3.0	V	I_D = 1.5 A*

* Pulse test

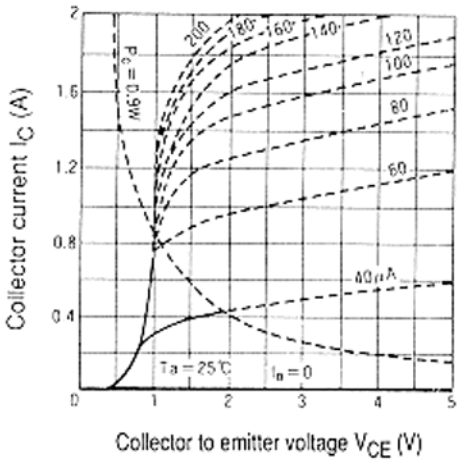
Maximum collector dissipation curve



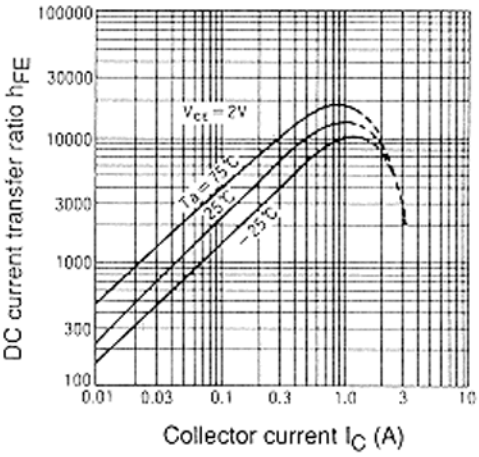
Area of safe operation



Typical output characteristics



DC current transfer ratio vs. collector current



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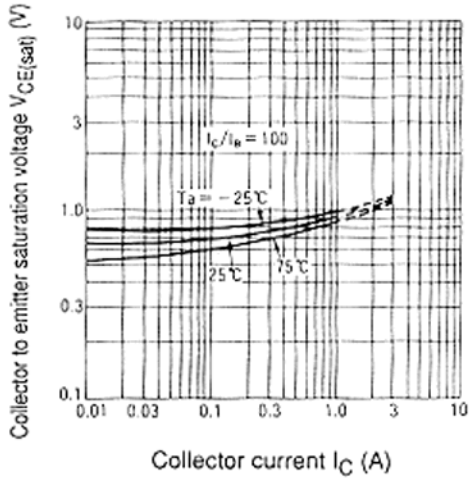
Collector to Emitter Saturation voltage
vs. collector current



Transient thermal resistance