2SD2342

Silicon NPN Triple Diffused

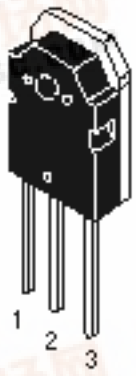
HITACHI

Application

Low frequency power amplifier

Outline

TO-3P



1. Base
2. Collector (Flange)
3. Emitter

Hitachi

2SD2342

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	150	V
Collector to emitter voltage	V_{CEO}	80	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	6	A
Collector peak current	$I_{C(peak)}$	10	A
Collector power dissipation	P_C*[1]	50	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–50 to +150	°C

Note: 1. Value at T_C = 25°C.

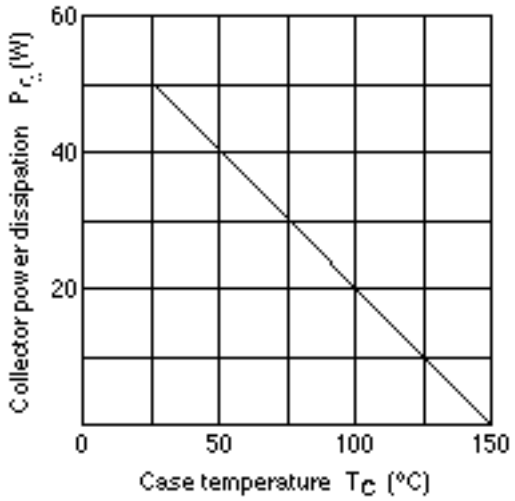
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	150	—	—	V	I_C = 5 mA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	V	I_C = 50 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	I_E = 5 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	10	µA	V_{CB} = 120 V, I_E = 0
DC current transfer ratio	h_{FE1}*[1]	60	—	200		V_{CE} = 5 V, I_C = 1 A
	h_{FE2}	22	—	—		V_{CE} = 5 V, I_C = 5 A
Base to emitter voltage	V_{BE}	—	—	1.0	V	V_{CE} = 5 V, I_C = 1 A
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C = 5 A, I_B = 1 A

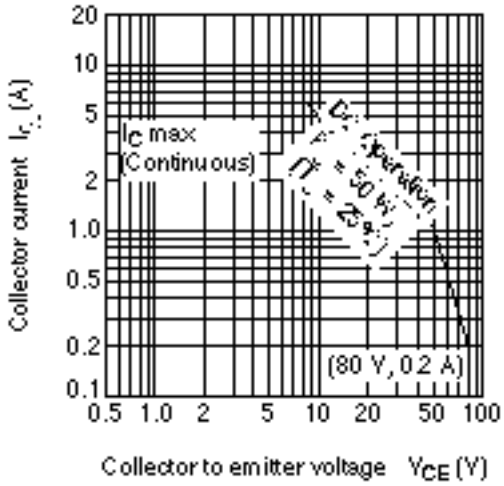
Note: 1. The 2SD2342 is grouped by h_{FE1} as follows.

B	C
60 to 120	100 to 200

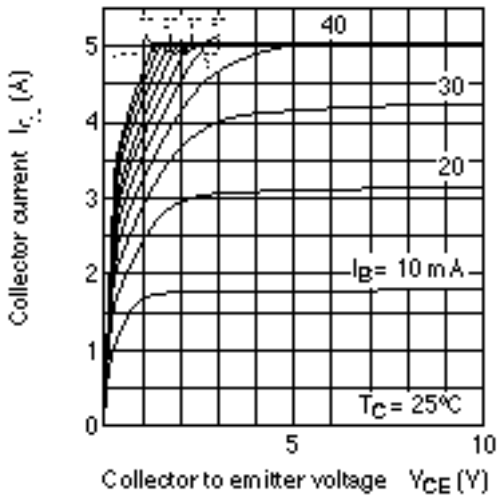
Maximum Collector Dissipation Curve



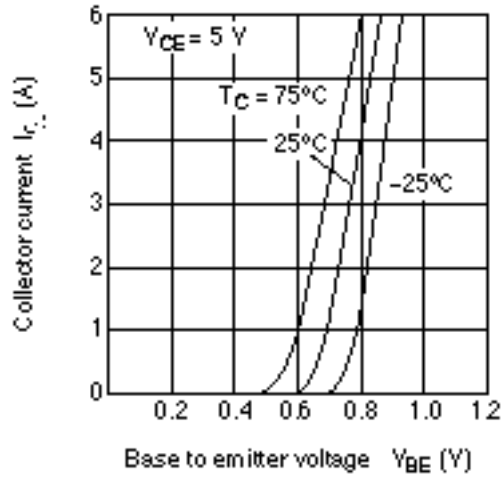
Area of Safe Operation

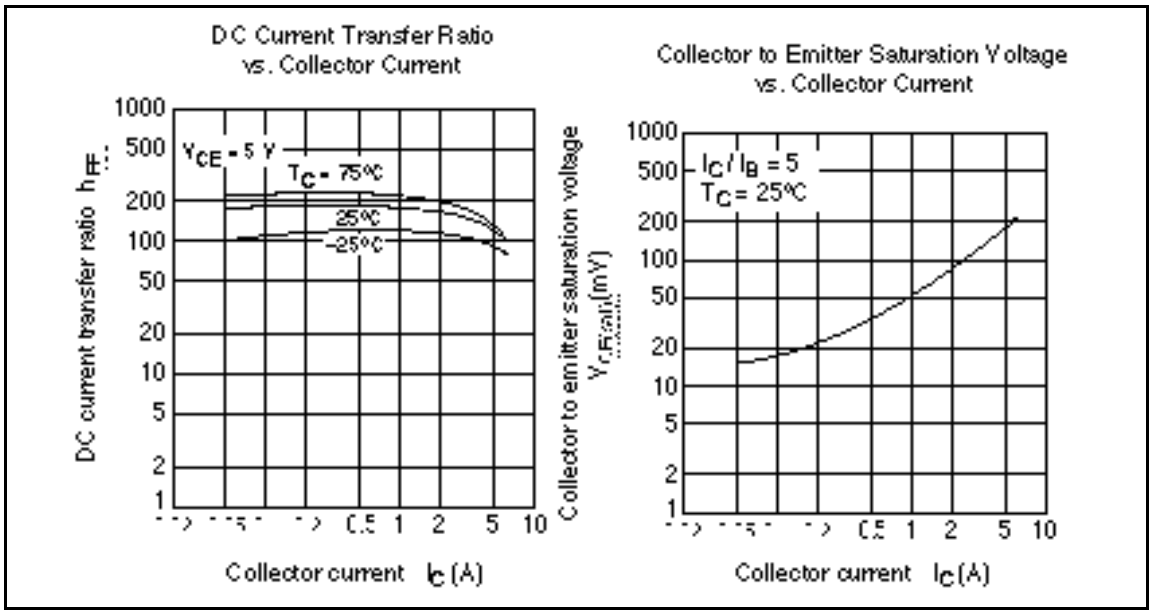


Typical Output Characteristics



Typical Transfer Characteristics




DC Current Transfer Ratio
vs. Collector Current
DC current transfer ratio h_{FE}
1000
500
200
100
50
20
10
5
2
1
V_{CE} = 5 V
T_C = 75°C
25°C
–25°C
0.5
1
2
5
10
Collector current I_C (A)
Collector to Emitter Saturation Voltage
vs. Collector Current
Collector to emitter saturation voltage
I_C / I_B = 5
T_C = 25°C
Collector current I_C (A)

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