2SD2115(L)/(S)

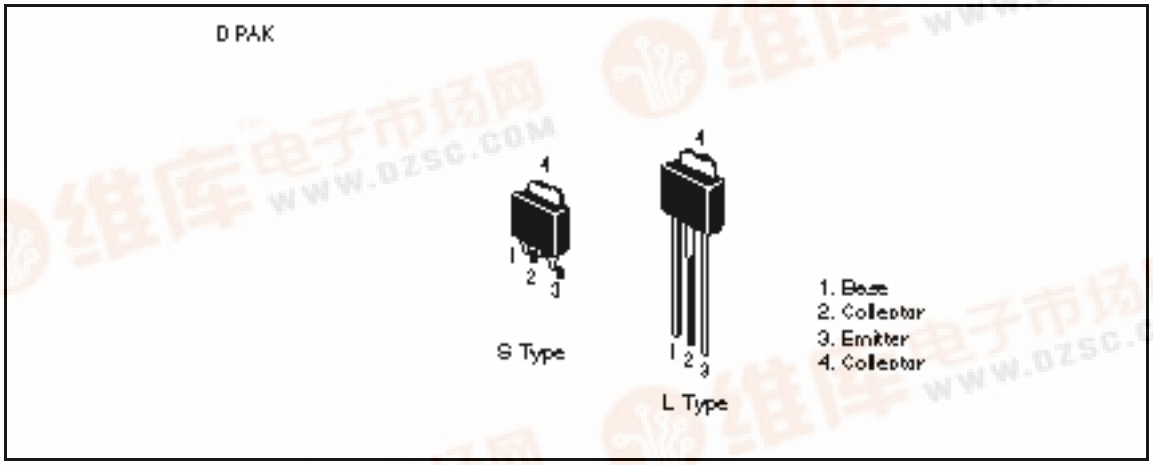
Silicon NPN Epitaxial Planar

HITACHI

Application

Low frequency power amplifier

Outline



Absolute Maximum Ratings (Ta = 25°C)

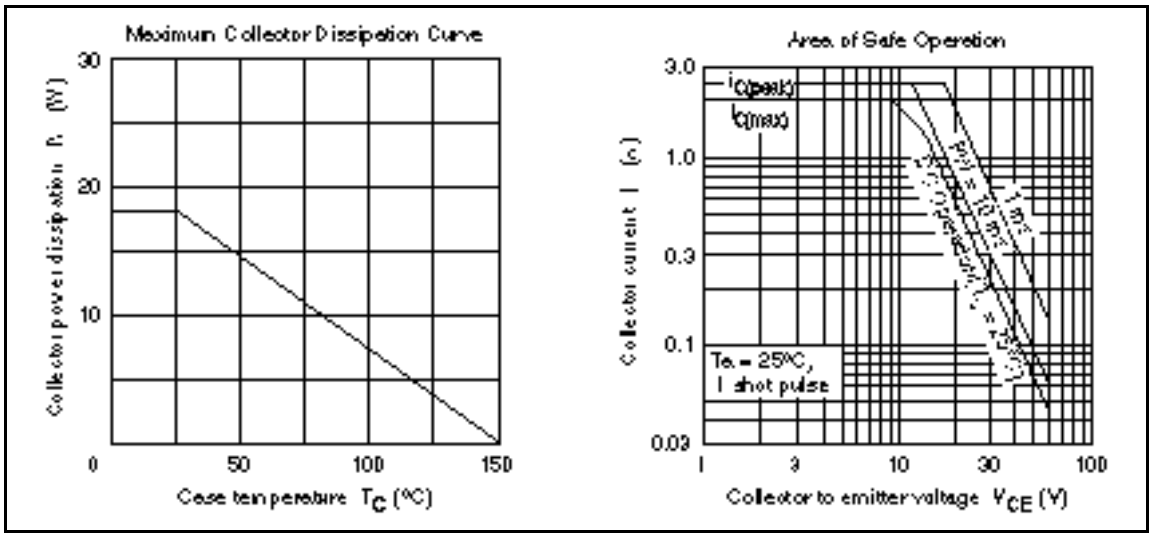
Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	150	V
Collector to emitter voltage	V_{CEO}	60	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	2	A
Collector peak current	$I_{C(peak)}$	2.5	A
Collector power dissipation	P_C*[1]	18	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

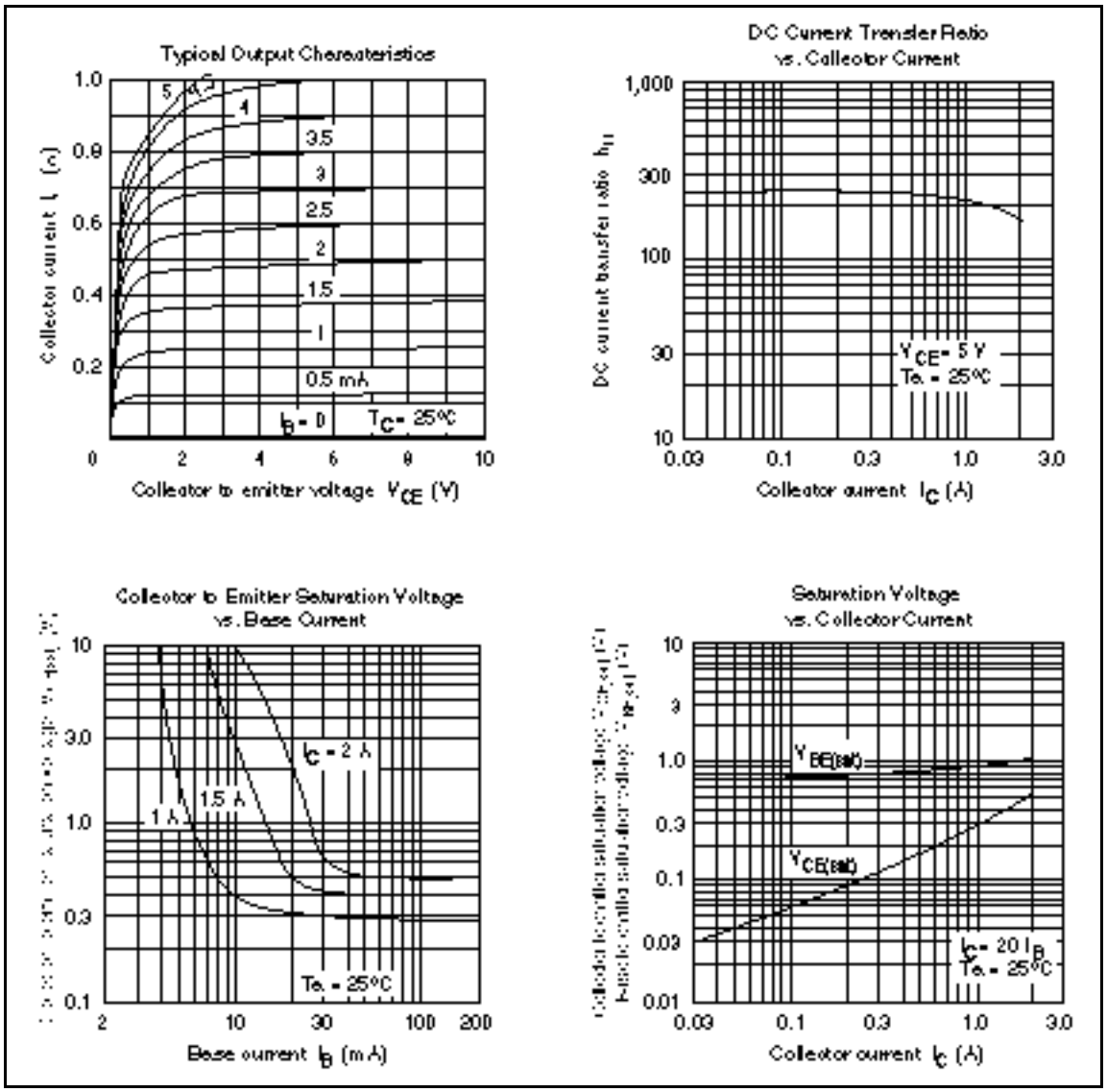
Note: 1. Value at T_C = 25°C.

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 = 1 mA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	60	—	—	V	I_C = 10 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	I_E = 1 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	10	µA	V_{CB} = 100 V, I_E = 0
DC current transfer ratio	h_{FE}	150	—	—		V_{CE} = 5 V, I_C = 1.5 A*[1]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.8	V	I_C = 1.5 A, I_B = 0.05 A*[1]
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.3	V	I_C = 1.5 A, I_B = 0.05 A*[1]
Fall time	t_f	—	—	0.6	µs	I_C = 1.5 A, I_{B1} = $-I_{B2}$ = 50 mA

Note: 1. Pulse test.




Typical Output Characteristics
Collector current I_C (A)
Collector to emitter voltage V_{CE} (V)
5
4
3.5
3
2.5
2
1.5
1
0.5 mA
I_B = 0
T_C = 25°C
DC Current Transfer Ratio
vs. Collector Current
DC current transfer ratio h_{FE}
Collector current I_C (A)
V_{CE} = 5 V
Ta = 25°C
Collector to Emitter Saturation Voltage
vs. Base Current
Base current I_B (mA)
I_C = 2 A
1.5 A
1 A
Ta = 25°C
Saturation Voltage
vs. Collector Current
Collector current I_C (A)
$V_{BE(sat)}$
$V_{CE(sat)}$
I_C = 20 I_B
Ta = 25°C

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