2SC2298

Silicon NPN Epitaxial

HITACHI

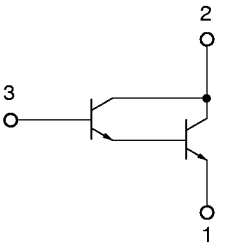
Application

High gain amplifier

Outline

TO-126 MOD

1. Emitter
2. Collector
3. Base



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	30	V
Emitter to base voltage	V_{EBO}	10	V
Collector current	I_C	1.0	A
Collector peak current	$I_{C(peak)}$	1.5	A
Collector power dissipation	P_C	0.8	W
	P_C *1	8	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

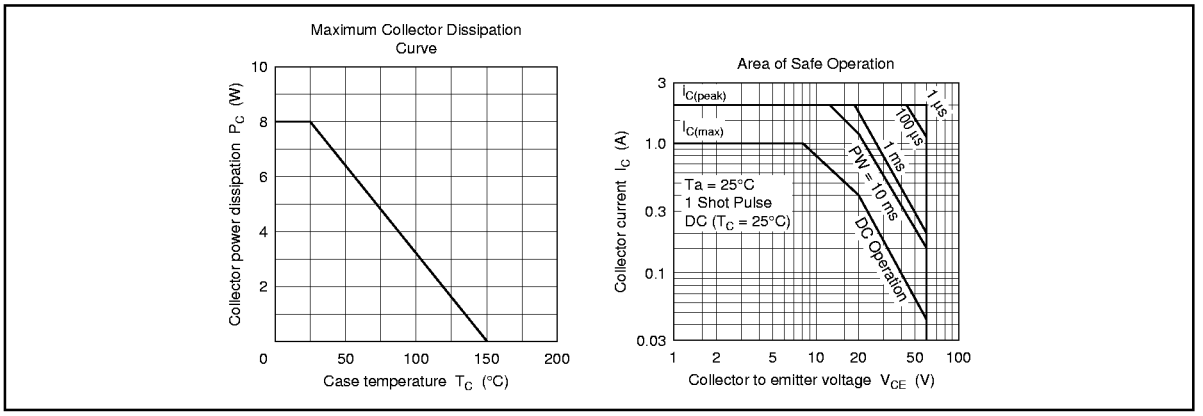
Note: 1. Value at T_C = 25°C.

Electrical Characteristics (Ta = 25°C)

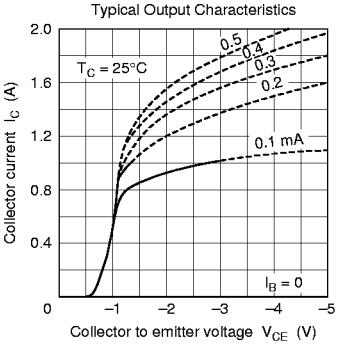
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	30	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	10	μA	V_{EB} = 10 V, I_C = 0
DC current transfer ratio	h_{FE1}*1	4000	—	—		V_{CE} = 3 V, I_C = 10 mA
	h_{FE2}*1	10000	—	—		V_{CE} = 3 V, I_C = 100 mA
	h_{FE3}*1	10000	—	—		V_{CE} = 3 V, I_C = 400 mA (pulse test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C = 400 mA, I_B = 0.1 mA (pulse test)
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	

Note: 1. The 2SC2298 is grouped by h_{FE} as follows.

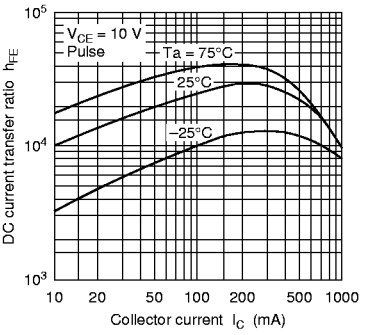
	B	C
h_{FE1}	more 4000	more 5000
h_{FE2}	more 10000	more 30000
h_{FE3}	more 10000	more 25000



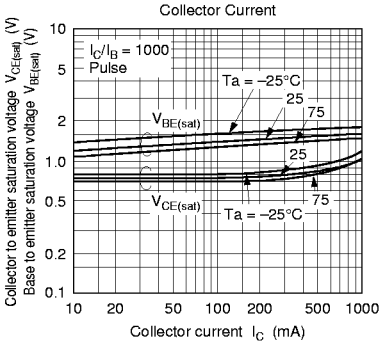
Typical Output Characteristics



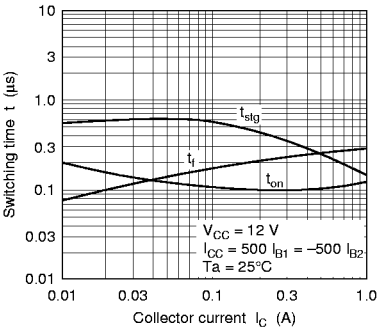
DC Current Transfer Ratio vs. Collector Current

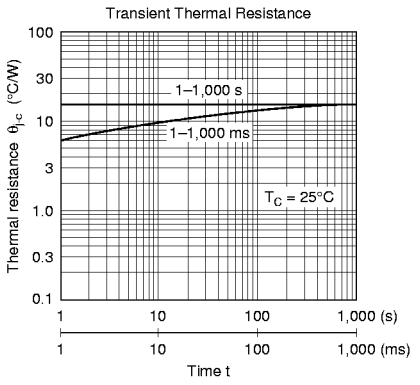


Saturation Voltage vs. Collector Current



Switching Time vs. Collector Current




Transient Thermal Resistance
100
30
10
3
1.0
0.3
0.1
Thermal resistance θjc (°C/W)
1–1,000 s
1–1,000 ms
TC = 25°C
1
10
100
1,000 (s)
1
10
100
1,000 (ms)
Time t