
2SA1810

Silicon PNP Epitaxial

HITACHI

Application

High frequency amplifier

Features

- Excellent high frequency characteristics
 $f_T = 300$ MHz typ
- High voltage and low output capacitance
 $V_{CEO} = -200$ V, $C_{ob} = 5.0$ pF typ
- Suitable for wide band video amplifier

Outline

TO-126 MOD



1. Emitter
2. Collector
3. Base

2SA1810

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated	Unit
Collector to base voltage	V_{CBO}	-200	V
Collector to emitter voltage	V_{CEO}	-200	V
Emitter to base voltage	V_{EBO}	-5	V
Collector current	I_C	-0.2	A
Collector peak current	$I_{C(peak)}$	-0.5	A
Collector power dissipation	P_C	1.25	W
	P_C^{*1}	10	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Note: 1. Value at $T_C = 25^\circ\text{C}$.

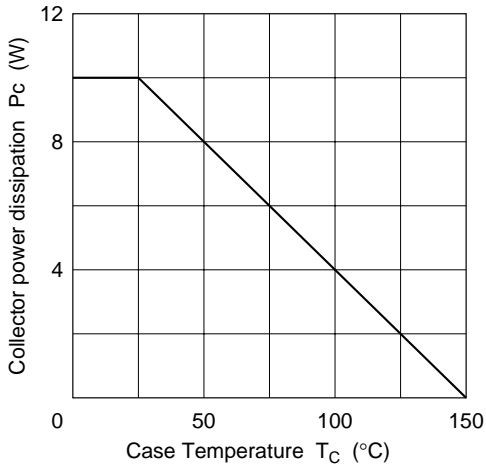
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-200	—	—	V	$I_C = -10 \mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-200	—	—	V	$I_C = -1 \text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10 \mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-10	μA	$V_{CB} = -160 \text{ V}$, $I_E = 0$
DC current transfer ratio	h_{FE}^{*1}	60	—	200		$V_{CE} = -5 \text{ V}$, $I_C = -10 \text{ mA}$
Base to emitter voltage	V_{BE}	—	—	-1.0	V	$V_{CE} = -5 \text{ V}$, $I_C = -30 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1.0	V	$I_C = -30 \text{ mA}$, $I_B = -3 \text{ mA}$
Gain bandwidth product	f_T	200	300	—	MHz	$V_{CE} = -20 \text{ V}$, $I_C = -30 \text{ mA}$
Collector output capacitance	C_{ob}	—	5.0	—	pF	$V_{CB} = -30 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$

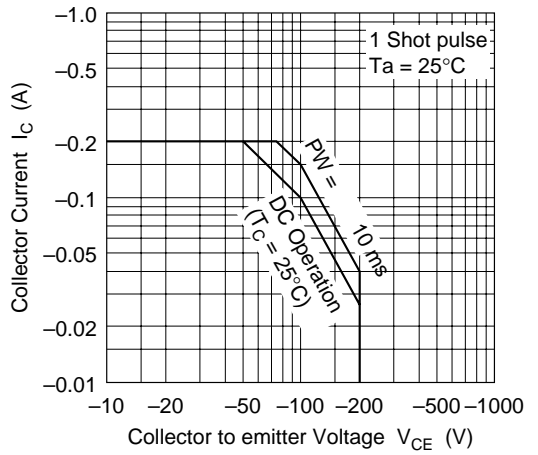
Note: 1. The 2SA1810 is grouped by h_{FE} as follows.

B	C
60 to 120	100 to 200

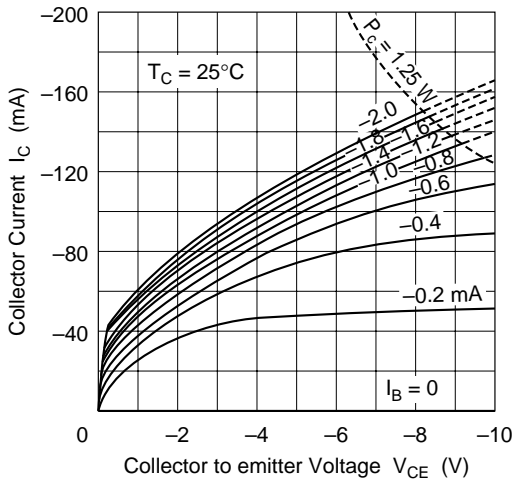
Maximum Collector Dissipation Curve



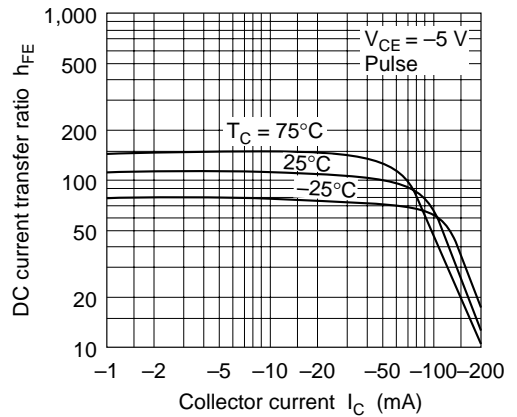
Area of Safe Operation



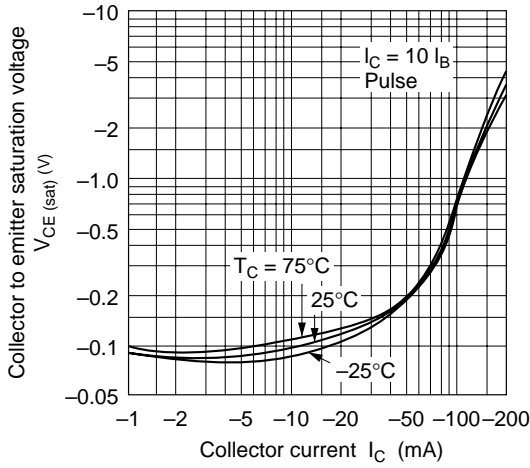
Typical Output Characteristics



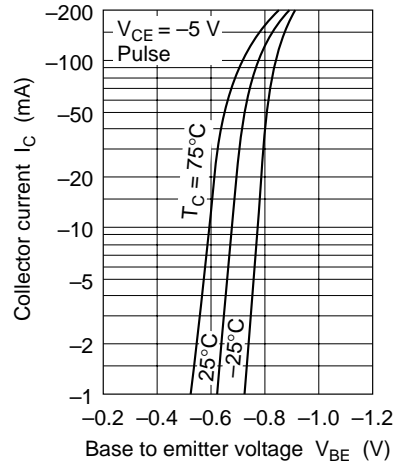
DC Current Transfer Ratio vs. Collector Current



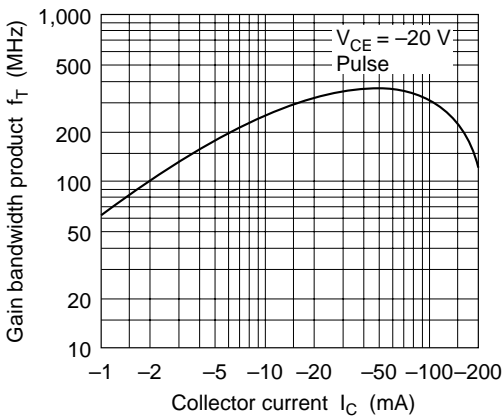
Collector to Emitter Saturation Voltage vs. Collector Current



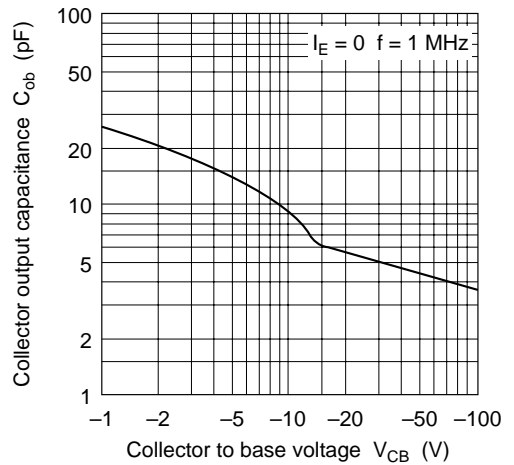
Typical Transfer Characteristics

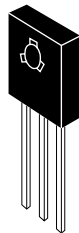
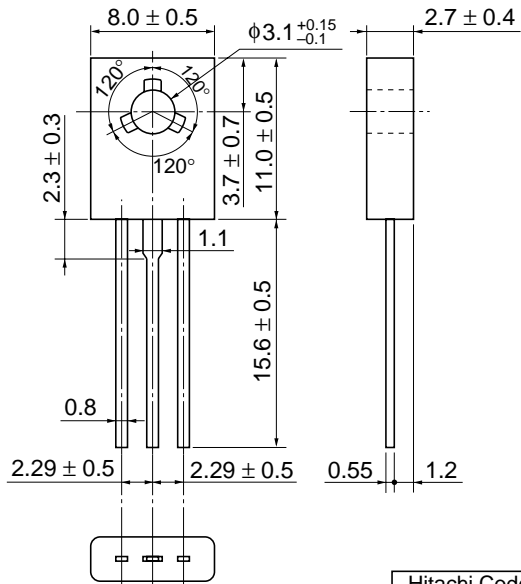


Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance Collector to Base Voltage





Hitachi Code	TO-126 Mod
JEDEC	—
EIAJ	—
Weight (reference value)	0.67 g

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