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# 2SA1810

Silicon PNP Epitaxial

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## Application

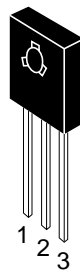
High frequency amplifier

## 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-18 MOD



1. Emitter
2. Collector
3. Base

## 2SA1810

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	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  $T_C = 25^\circ\text{C}$ .

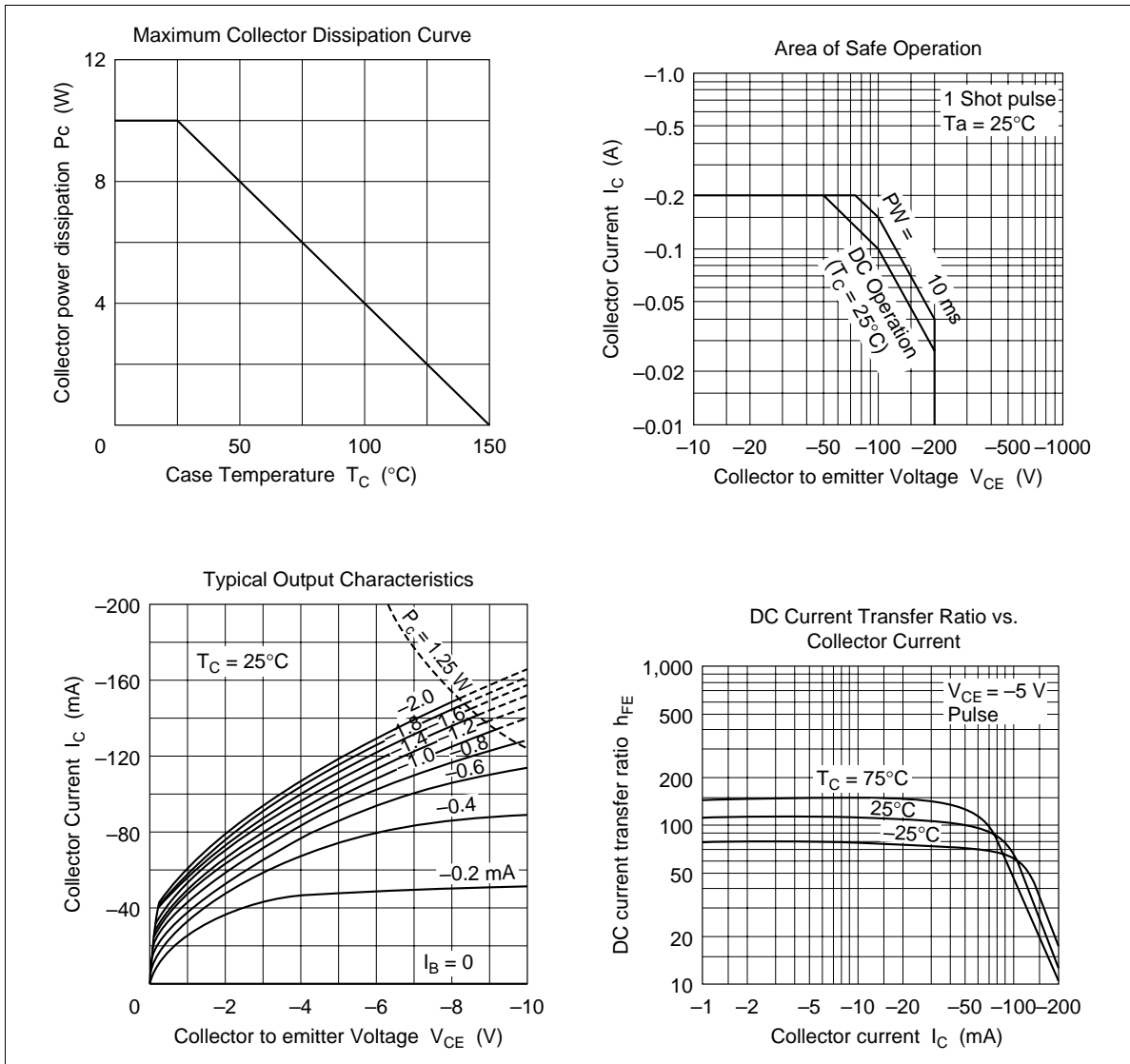
### Electrical Characteristics (Ta = 25°C)

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	$\mu\text{A}$	$V_{CB} = -160 \text{ V}$ , $I_E = 0$
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	$V_{CB} = -30 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$

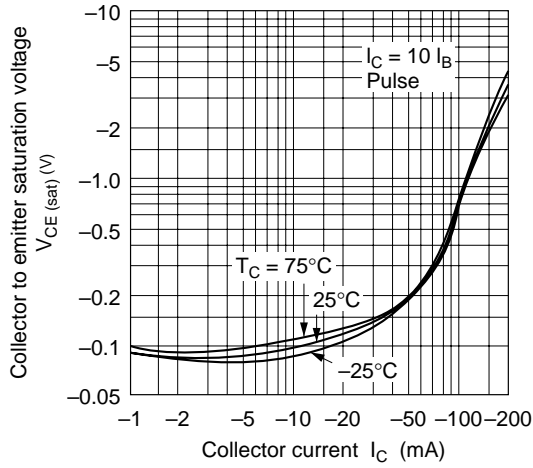
Note: 1. The 2SA1810 is grouped by  $h_{FE}$  as follows.

B	C
60 to 120	100 to 200

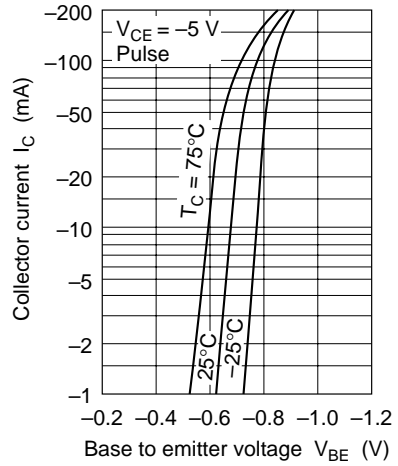
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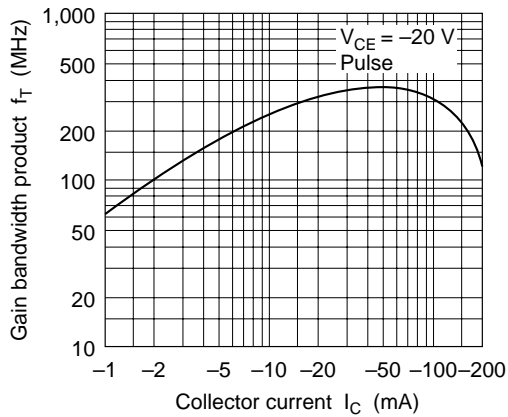
Collector to Emitter Saturation Voltage vs. Collector Current



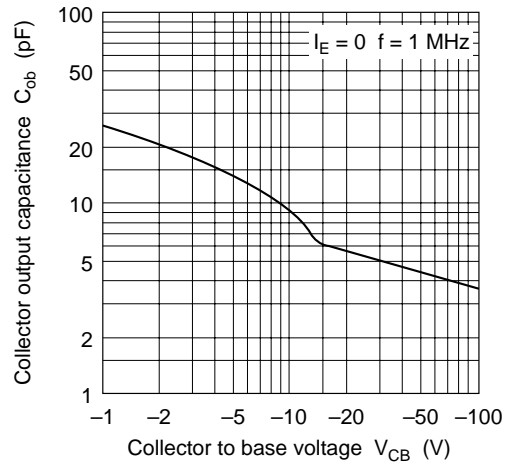
Typical Transfer Characteristics



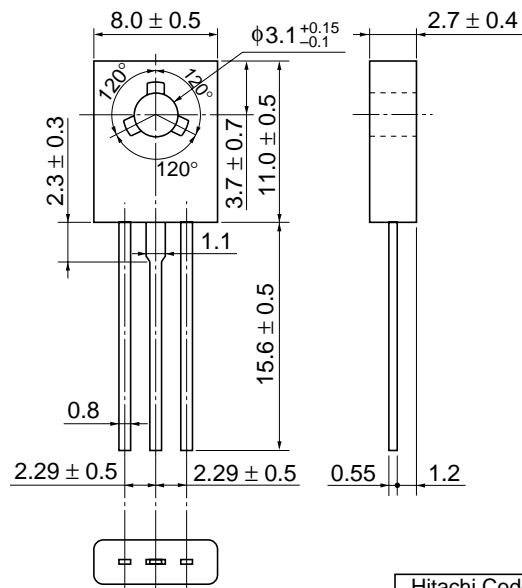
Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance Collector to Base Voltage



Unit: mm



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

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