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# 2SC4704

Silicon NPN Epitaxial

# HITACHI

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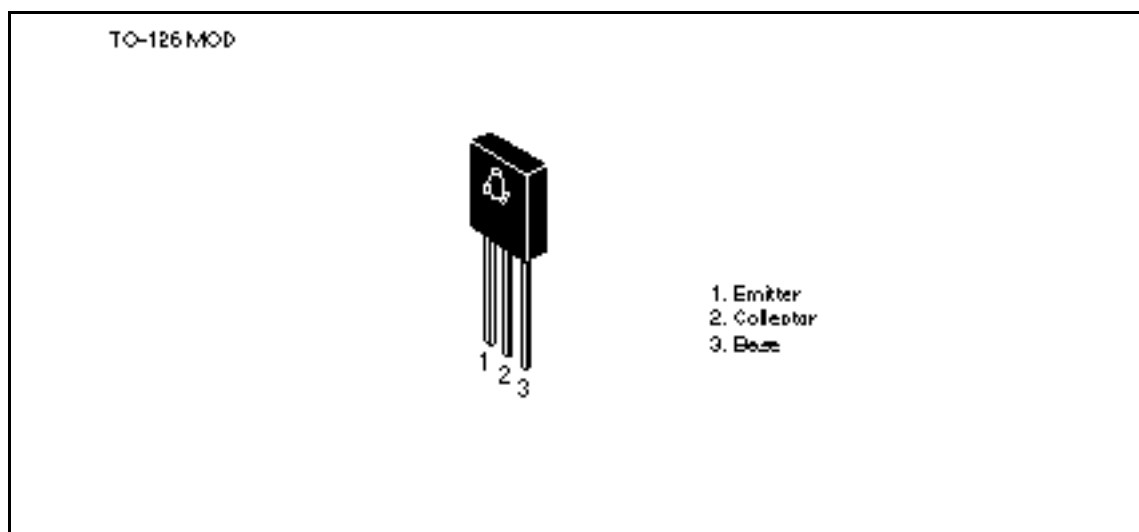
## Application

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
- Complementary pair of 2SA1810

## Outline



## 2SC4704

### 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	$V_{EBO}$	4	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	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

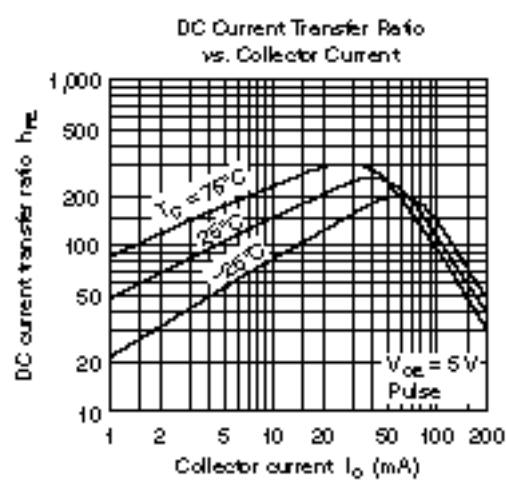
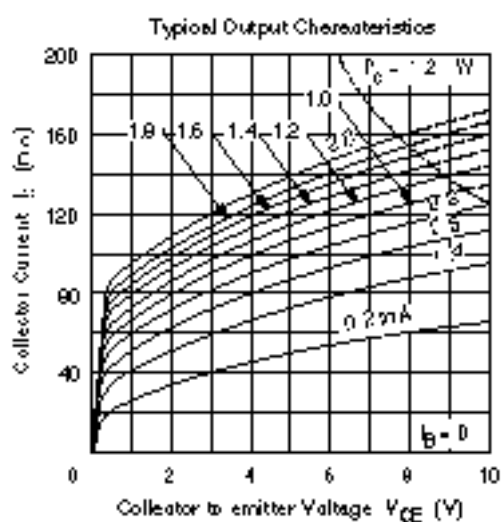
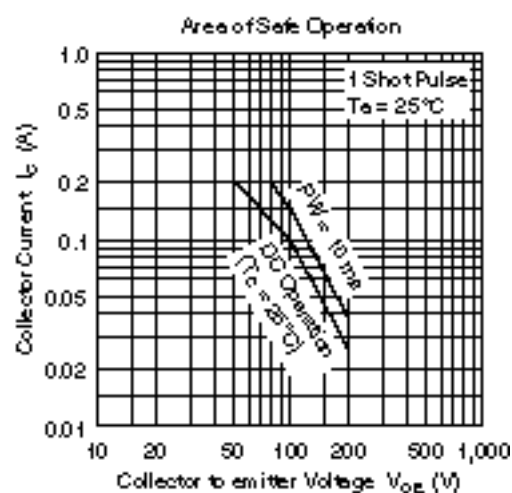
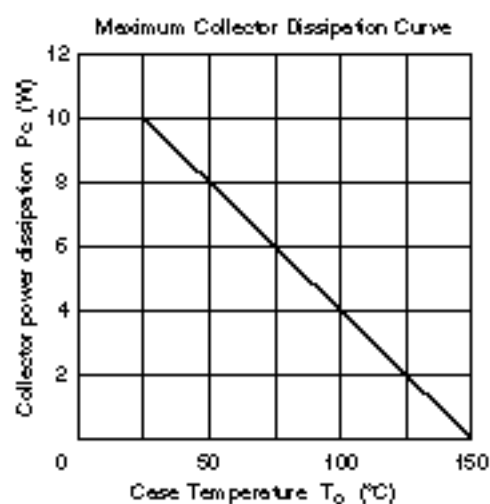
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

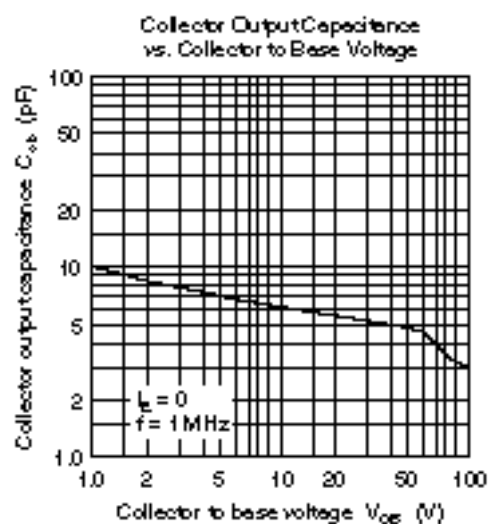
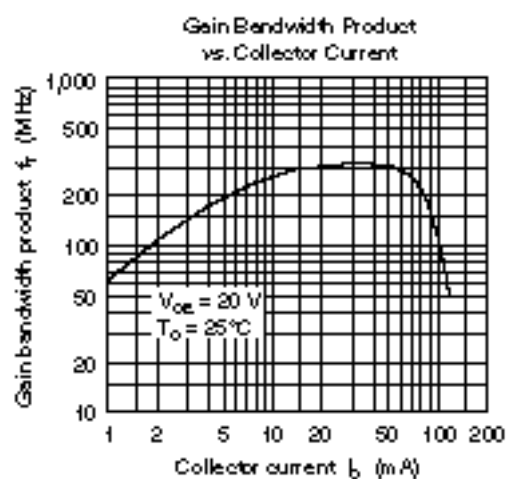
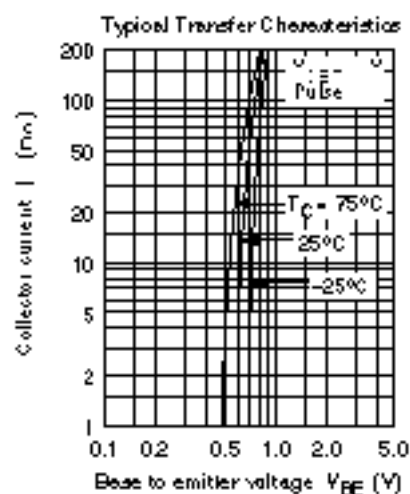
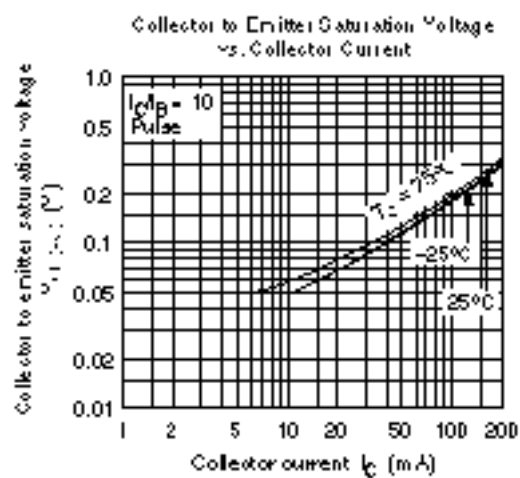
### Electrical Characteristics (Ta = 25°C)

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	$I_C = 1\ \text{mA}$ , $R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	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	Cob	—	5.0	—	pF	$V_{CB} = 30\ \text{V}$ , $I_E = 0$ , $f = 1\ \text{MHz}$

Note: 1. The 2SC4704 is grouped by  $h_{FE}$  and its specification is as follows.

B	C
60 to 120	100 to 120





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