

2SC4704

Silicon NPN Epitaxial
High Frequency Amplifier

Feature

- Excellent high frequency characteristics
 $f_T = 300\text{ MHz typ}$
- High voltage and low output capacitance
 $V_{CEO} = 200\text{ V}$, $C_{ob} = 5.0\text{ pF typ}$
- Suitable for wide band video amplifier
- Complementary pair of 2SA1810

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	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	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 condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	200	—	—	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	200	—	—	V	$I_C = 1\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	V	$I_E = 10\text{ }\mu\text{A}$, $I_C = 0$
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	$V_{CE} = 5\text{ V}$, $I_C = 30\text{ mA}$

TO-126 MOD



- 1. Emitter
- 2. Collector
- 3. Base

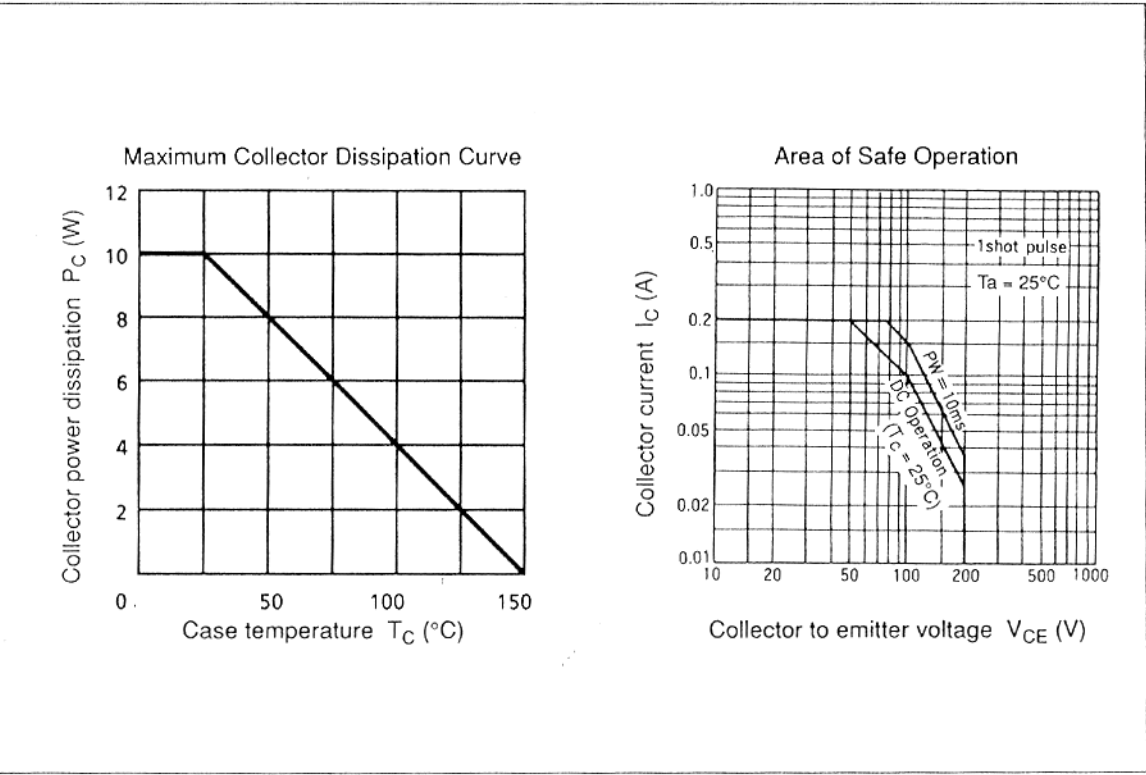
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Electrical Characteristics (Ta = 25°C) (cont)

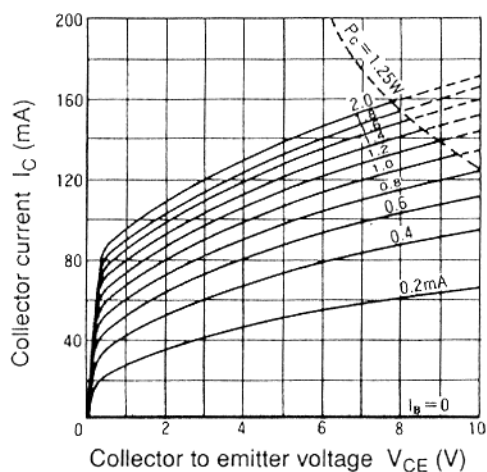
Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C = 30\text{ mA}$, $I_B = 3\text{ mA}$
Gain bandwidth product	f_T	200	300	—	MHz	$V_{CE} = 20\text{ V}$, $I_C = 30\text{ mA}$
Collector output capacitance	C_{ob}	—	5.0	—	pF	$V_{CB} = 30\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$

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

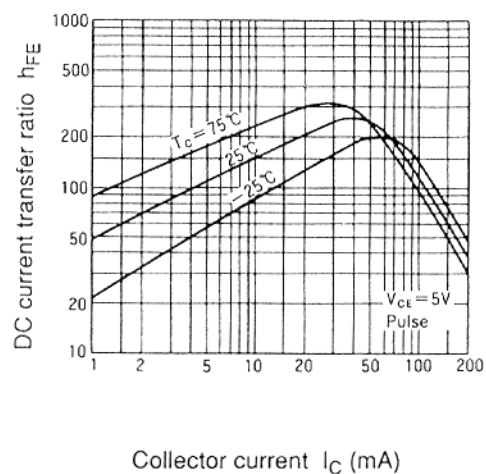
B	C
60 to 120	100 to 200



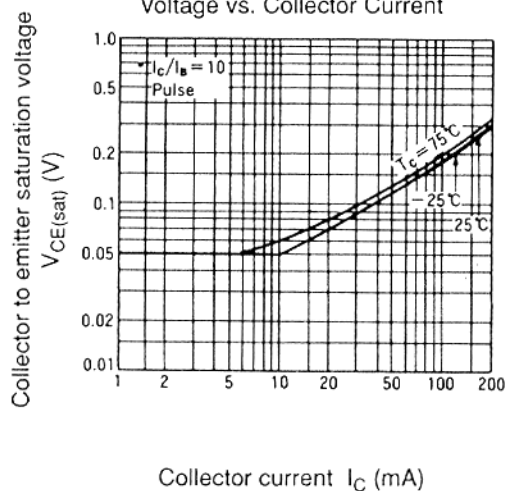
Typical Output Characteristics



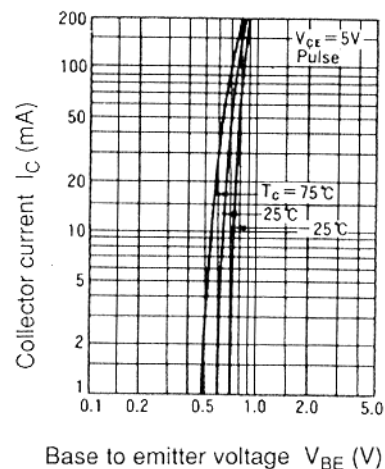
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



Typical Transfer Characteristics



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