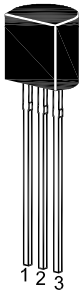
2SA683 / 2SA684

PNP Silicon Epitaxial Planar Transistor

for low frequency power amplification and driver amplification

The transistor is subdivided into three group, Q, R and S according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

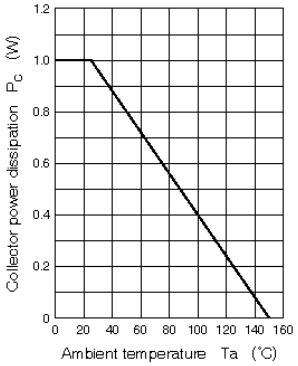
Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Collector Base Voltage	2SA683 2SA684	$-V_{CBO}$	30 40	V
Collector Emitter Voltage	2SA683 2SA684	$-V_{CEO}$	25 30	V
Emitter Base Voltage		$-V_{EBO}$	5	V
Collector Current		$-I_C$	1	A
Peak Collector Current		$-I_{CP}$	1.5	A
Collector Power Dissipation		P_C	1	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	- 55 to + 150	°C

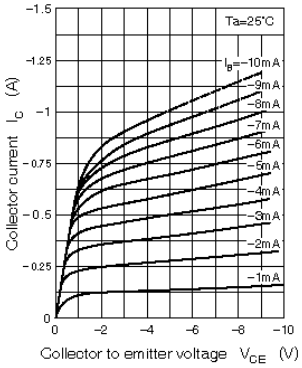
Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 10 V, $-I_C$ = 500 mA Current Gain Group	Q R S	h_{FE} h_{FE} h_{FE}	85 120 170	- - -	170 240 340	- - -
at $-V_{CE}$ = 5 V, $-I_C$ = 1 A		h_{FE}	50	-	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 20 V		$-I_{CBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C$ = 10 µA	2SA683 2SA684	$-V_{(BR)CBO}$	30 40	- -	- -	V
Collector Emitter Breakdown Voltage at $-I_C$ = 2 mA	2SA683 2SA684	$-V_{(BR)CEO}$	25 30	- -	- -	V
Emitter Base Breakdown Voltage at $-I_C$ = 10 µA		$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{CE(sat)}$	-	-	0.4	V
Base Emitter Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{BE(sat)}$	-	-	1.2	V
Transition Frequency at $-V_{CB}$ = 10 V, I_E = 50 mA, f = 200 MHz		f_T	-	200	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, I_E = 0, f = 1 MHz		C_{ob}	-	-	30	pF

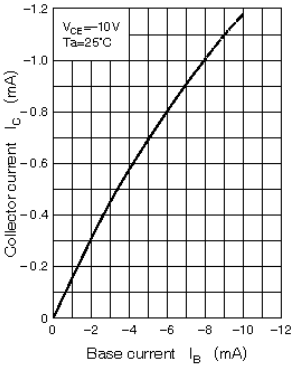
P_C — Ta



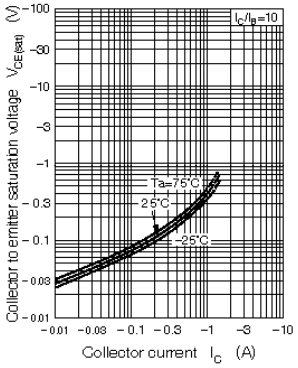
I_C — V_{CB}



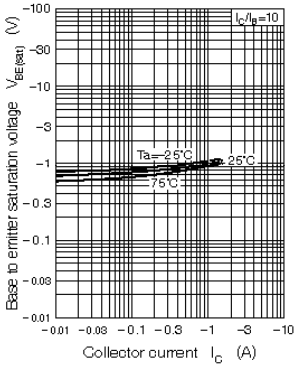
I_C — I_B



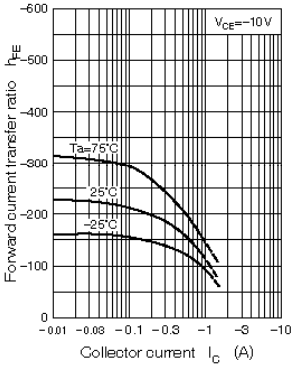
$V_{CB(sat)}$ — I_C



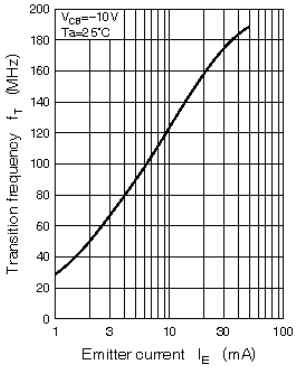
$V_{BE(sat)}$ — I_C



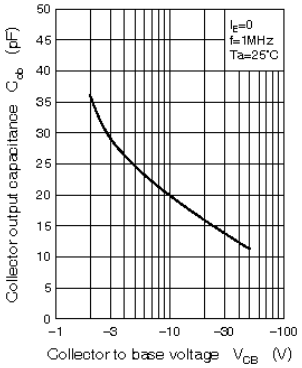
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



V_{CER} — R_{BE}