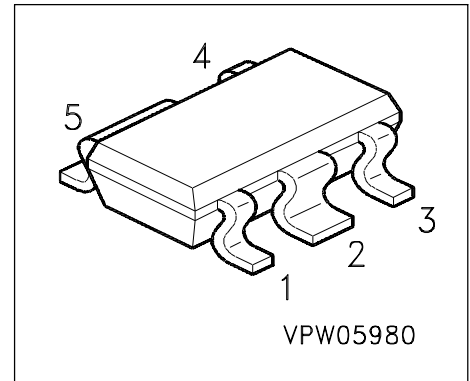


PNP Silicon AF Power Transistor

Preliminary data

- For AF driver and output stages
- High collector current
- High current gain
- Low collector-emitter saturation voltage



Type	Marking	Ordering Code	Pin Configuration					Package
BCP 72	PAs	Q62702-	1 = E	2 = C	3 = E	4 = B	5 = C	SOT-23-5

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CEO}	15	V
Collector-base voltage	V_{CBO}	15	
Emitter-base voltage	V_{EBO}	5	
DC collector current	I_C	3	A
Peak collector current	I_{CM}	6	
Base current	I_B	200	mA
Peak base current	I_{BM}	500	
Total power dissipation, $T_S = 99^\circ\text{C}$	P_{tot}	1.7	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	- 65 ... + 150	

Thermal Resistance

Junction ambient ¹⁾	R_{thJA}	≤ 55	K/W
Junction - soldering point	R_{thJS}	≤ 30	

1) Package mounted on pcb 40mm x 40mm x 1.5mm / 6cm² Cu

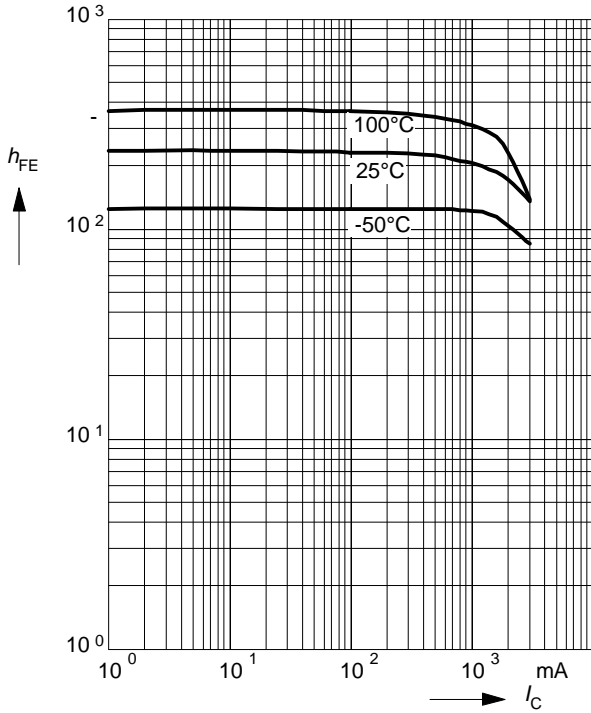
Electrical Characteristics at $T_A=25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage $I_C = 100 \mu\text{A}, I_B = 0$	$V_{(BR)CEO}$	15	-	-	V
Collector-base breakdown voltage $I_C = 100 \mu\text{A}, I_B = 0$	$V_{(BR)CBO}$	15	-	-	
Base-emitter breakdown voltage $I_E = 10 \mu\text{A}, I_C = 0$	$V_{(BR)EBO}$	5	-	-	
Collector cutoff current $V_{CB} = 15 \text{ V}, I_E = 0, T_A = 25^\circ\text{C}$ $V_{CB} = 15 \text{ V}, I_E = 0, T_A = 150^\circ\text{C}$	I_{CBO}	-	-	100 20	nA μA
Emitter cutoff current $V_{EB} = 4 \text{ V}, I_C = 0$	I_{EBO}	-	-	100	nA
DC current gain $I_C = 10 \text{ mA}, V_{CE} = 5 \text{ V}$ $I_C = 500 \text{ mA}, V_{CE} = 1 \text{ V}$ $I_C = 1 \text{ A}, V_{CE} = 2 \text{ V}$	h_{FE}	25 85 50	- - -	- 475 -	-
Collector-emitter saturation voltage 1) $I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$	V_{CEsat}	-	0.15	-	V
Base-emitter saturation voltage 1) $I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$	V_{BEsat}	-	-	1.2	mV
AC Characteristics					
Transition frequency $I_C = 50 \text{ mA}, V_{CE} = 10 \text{ V}, f = 100 \text{ MHz}$	f_T	-	100	-	MHz
Collector-base capacitance $V_{CB} = 10 \text{ V}, f = 1 \text{ MHz}$	C_{cb}	-	50	-	pF

1) Pulse test: $t < 300\mu\text{s}; D < 2\%$

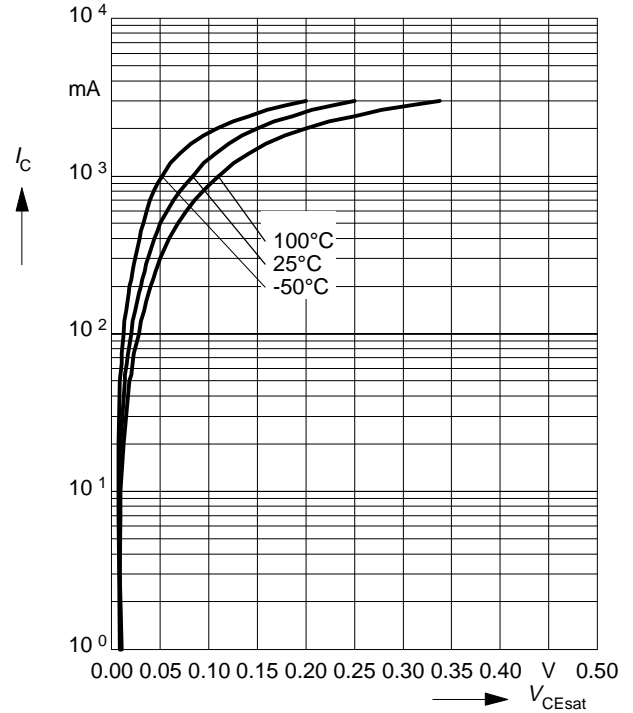
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 2V$



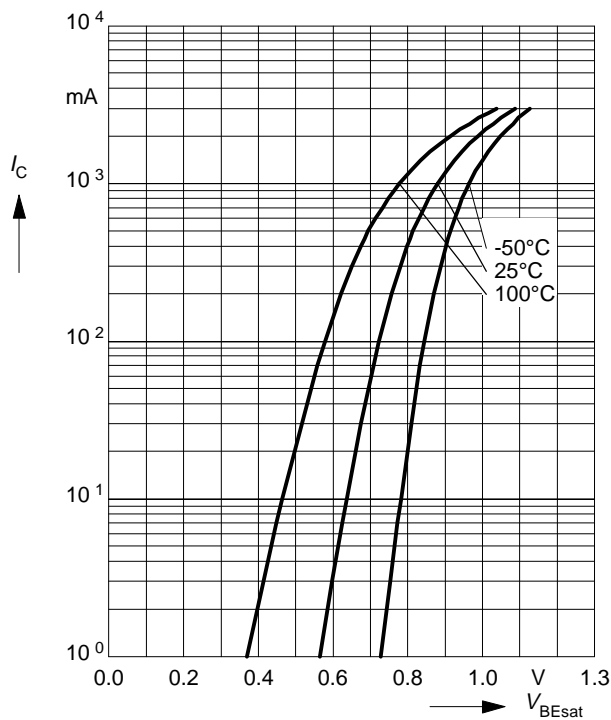
Collector-emitter saturation voltage $I_C = f(V_{CEsat}), h_{FE} = 10$

$I_C = f(V_{CEsat}), h_{FE} = 10$



Base-emitter saturation voltage $I_C = f(V_{BEsat}), h_{FE} = 10$

$I_C = f(V_{BEsat}), h_{FE} = 10$



Collector current $I_C = f(V_{BE})$

$V_{CE} = 2V$

