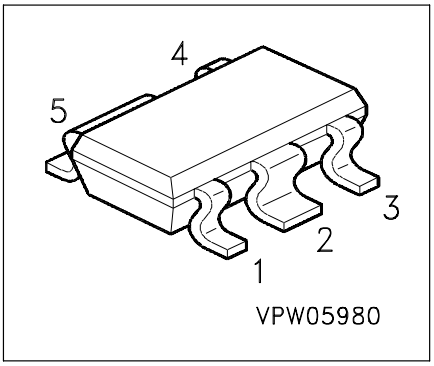
PNP Silicon AF Power Transistor

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°C	P_{tot}	1.7	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	- 65 ... + 150	

Thermal Resistance

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

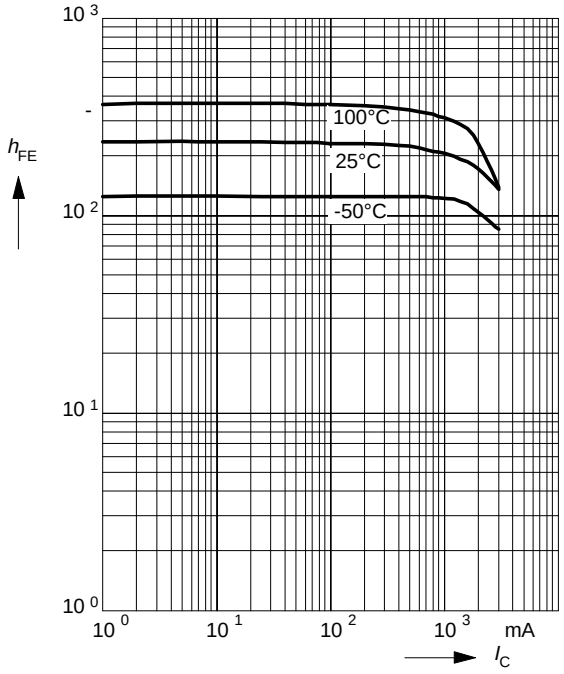
1) Package mounted on pcb 40mm x 40mm x 1.5mm / 6cm^2 Cu

Electrical Characteristics at T_A=25°C, unless otherwise specified

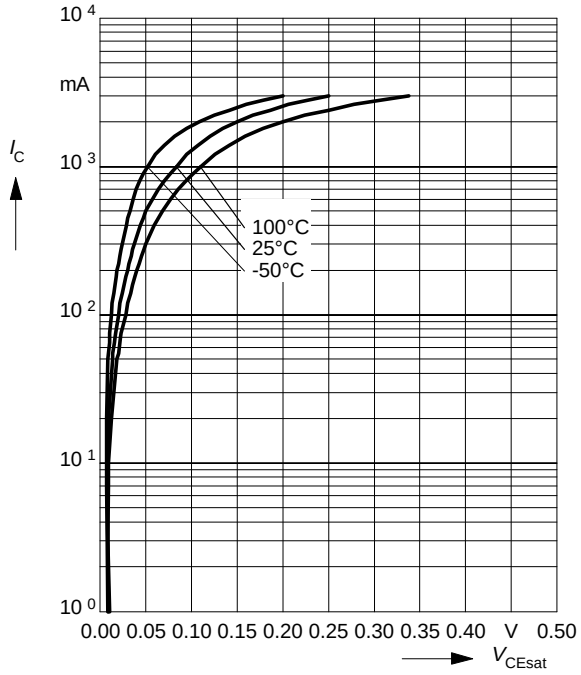
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage I_C = 100 µA, I_B = 0	$V_{(BR)CEO}$	15	-	-	V
Collector-base breakdown voltage I_C = 100 µA, I_B = 0	$V_{(BR)CBO}$	15	-	-	
Base-emitter breakdown voltage I_E = 10 µA, I_C = 0	$V_{(BR)EBO}$	5	-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

1) Pulse test: t < 300µs; D < 2%

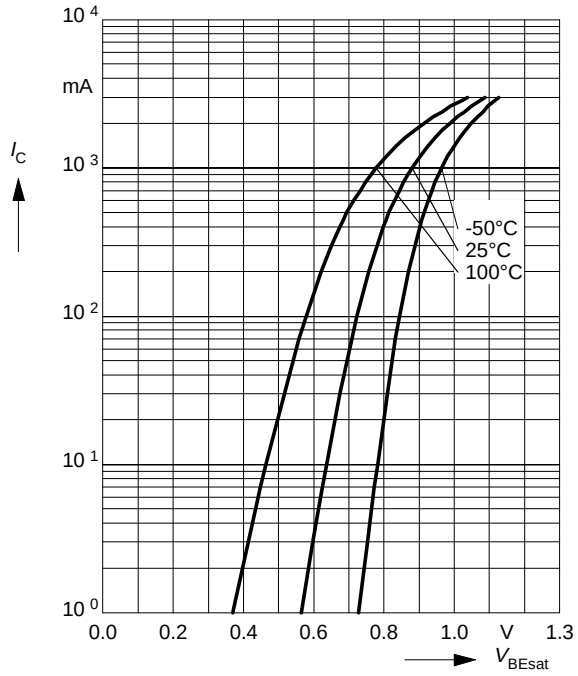
DC current gain $h_{FE} = f(I_C)$
V_{CE} = 2V



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



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



Collector current $I_C = f(V_{BE})$
V_{CE} = 2V