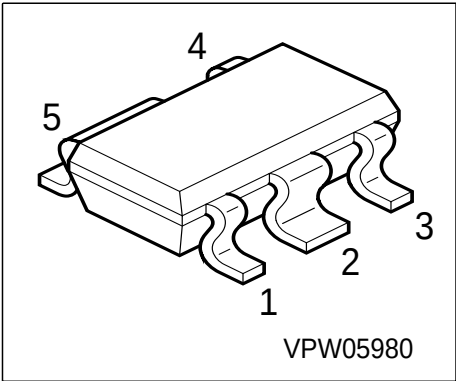


PNP Silicon AF Power Transistor

Preliminary data

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



Type	Marking	Ordering Code	Pin Configuration					Package
BCP 70M	PBs	Q62702-C2596	1 = E	2 = C	3 = E	4 = B	5 = C	SCT-595

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	32	V
Collector-base voltage	V_{CBO}	32	
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, $T_S \leq 94\text{ °C}$	P_{tot}	1.7	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65...+150	

Thermal Resistance

Junction ambient ¹⁾	R_{thJA}	≤ 88	K/W
Junction - soldering point	R_{thJS}	≤ 33	

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

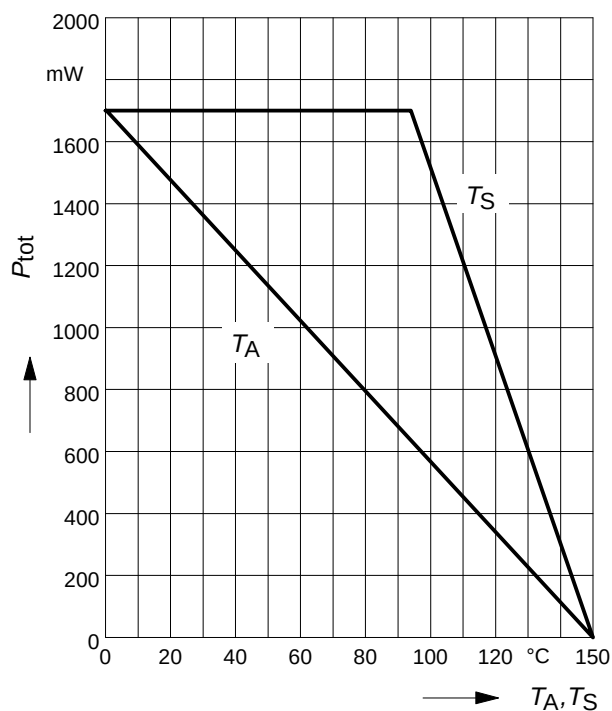
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage $I_C = 100\ \mu\text{A}$, $I_B = 0$	$V_{(\text{BR})\text{CEO}}$	32	-	-	V
Collector-base breakdown voltage $I_C = 100\ \mu\text{A}$, $I_B = 0$	$V_{(\text{BR})\text{CBO}}$	32	-	-	
Emitter-base breakdown voltage $I_E = 10\ \mu\text{A}$, $I_C = 0$	$V_{(\text{BR})\text{EBO}}$	5	-	-	
Collector cutoff current $V_{\text{CB}} = 30\ \text{V}$, $I_E = 0$	I_{CBO}	-	-	100	nA
Collector cutoff current $V_{\text{CB}} = 30\ \text{V}$, $I_E = 0$, $T_A = 150\ ^\circ\text{C}$	I_{CBO}	-	-	20	μA
Emitter cutoff current $V_{\text{EB}} = 4\ \text{V}$, $I_C = 0$	I_{EBO}	-	-	100	nA
DC current gain 1) $I_C = 10\ \text{mA}$, $V_{\text{CE}} = 5\ \text{V}$ $I_C = 500\ \text{mA}$, $V_{\text{CE}} = 1\ \text{V}$ $I_C = 2\ \text{A}$, $V_{\text{CE}} = 2\ \text{V}$	h_{FE}	25 85 50	- - -	- 475 -	-
Collector-emitter saturation voltage1) $I_C = 2\ \text{A}$, $I_B = 0.2\ \text{A}$	V_{CEsat}	-	0.18	-	V
Base-emitter saturation voltage 1) $I_C = 2\ \text{A}$, $I_B = 0.2\ \text{A}$	V_{BEsat}	-	-	1.2	
AC Characteristics					
Transition frequency $I_C = 50\ \text{mA}$, $V_{\text{CE}} = 10\ \text{V}$, $f = 100\ \text{MHz}$	f_{T}	-	100	-	MHz
Collector-base capacitance $V_{\text{CB}} = 10\ \text{V}$, $f = 1\ \text{MHz}$	C_{cb}	-	80	-	pF

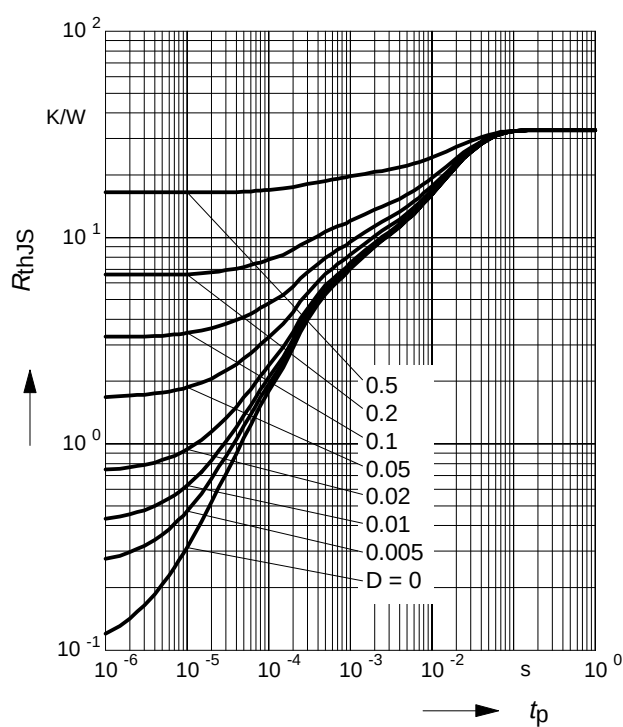
1) Pulse test: $t < 300\ \mu\text{s}$; $D < 2\%$

Total power dissipation $P_{\text{tot}} = f(T_A^*; T_S)$

* Package mounted on epoxy

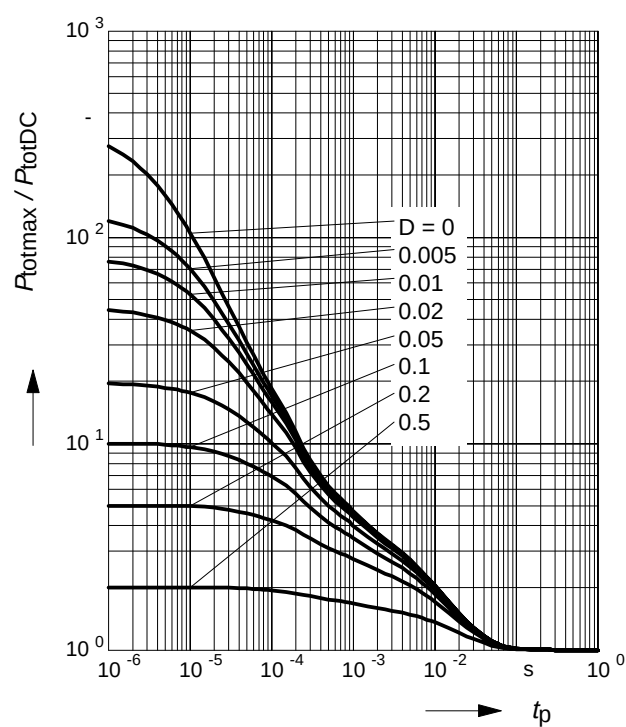


Permissible Pulse Load $R_{\text{thJS}} = f(t_p)$



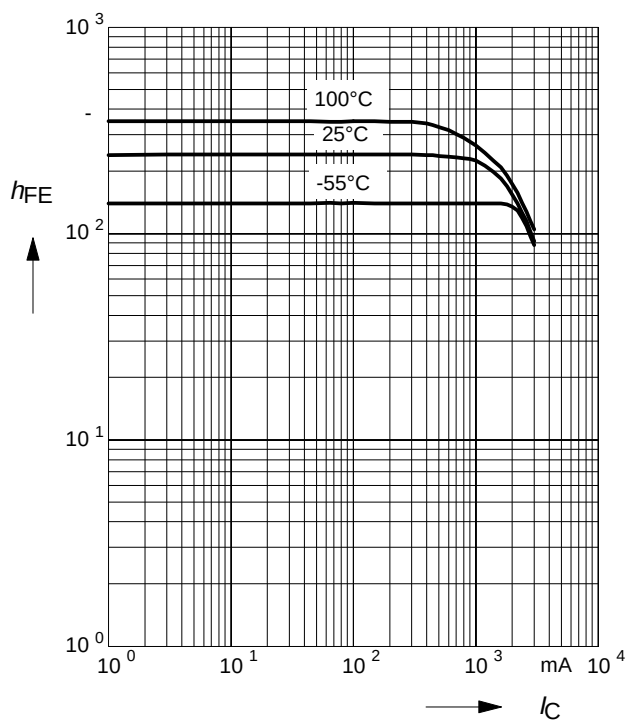
Permissible Pulse Load

$P_{\text{totmax}} / P_{\text{totDC}} = f(t_p)$



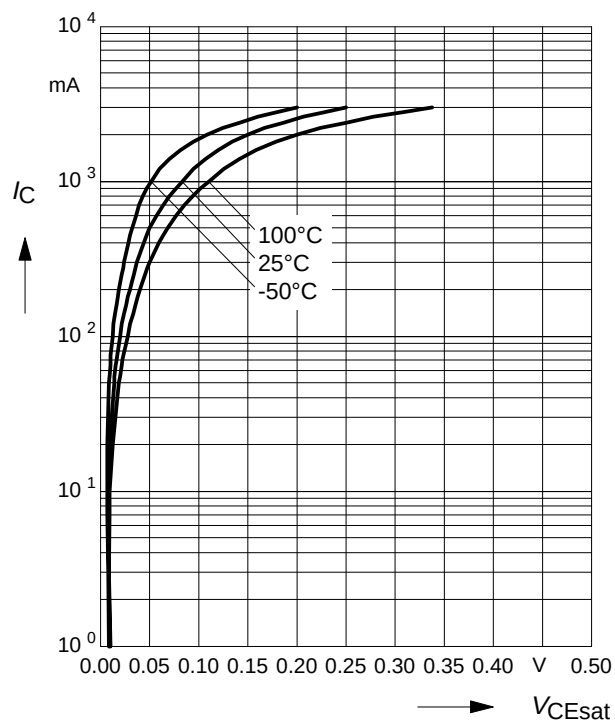
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 2V$



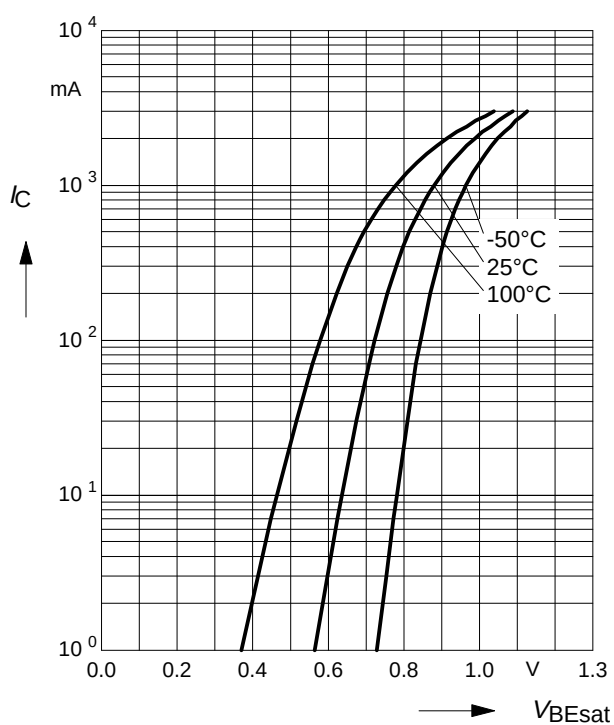
Collector-emitter saturation voltage

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



Base-emitter saturation voltage

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



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

$V_{CE} = 2V$

