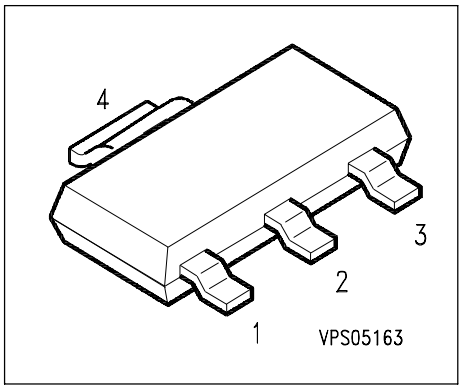
PNP Silicon AF Power Transistor

- For AF drivers and output stages
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary type: BDP951...BDP955 (NPN)



Type	Marking	Ordering Code	Pin Configuration				Package
BDP 952	BDP 952	Q62702-D1340	1 = B	2 = C	3 = E	4 = C	SOT-223
BDP 954	BDP 954	Q62702-D1342	1 = B	2 = C	3 = E	4 = C	SOT-223
BDP 956	BDP 956	Q62702-D1344	1 = B	2 = C	3 = E	4 = C	SOT-223

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CEO}		V
BDP 952		80	
BDP 954		100	
BDP 956		120	
Collector-base voltage	V_{CBO}		
BDP 952		100	
BDP 954		120	
BDP 956		140	
Emitter-base voltage	V_{EBO}	5	
DC collector current	I_C	3	A
Peak collector current	I_{CM}	5	
Base current	I_B	200	mA
Peak base current	I_{BM}	500	
Total power dissipation, T_S = 99°C	P_{tot}		W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	- 65 ... + 150	

Thermal Resistance

Junction ambient [1)]	R_{thJA}	≤ 42	K/W
Junction - soldering point	R_{thJS}	≤ 17	

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

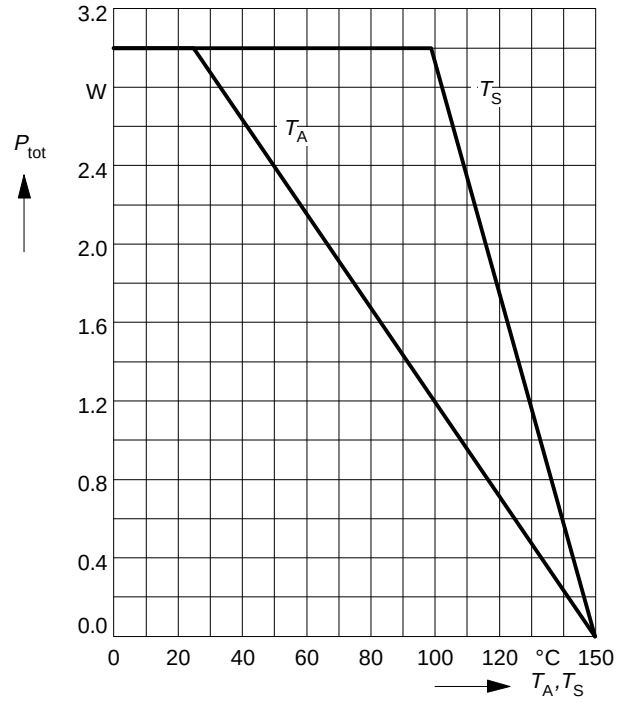
Electrical Characteristics at T_A=25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage	$V_{(BR)CEO}$				V
I_C = 10 mA, I_B = 0 mA, BDP 952		80	-	-	
I_C = 10 mA, I_B = 0 mA, BDP 954		100	-	-	
I_C = 10 mA, I_B = 0 mA, BDP 956		120	-	-	
Collector-base breakdown voltage	$V_{(BR)CBO}$				
I_C = 100 µA, I_B = 0 , BDP 952		100	-	-	
I_C = 100 µA, I_B = 0 , BDP 954		120	-	-	
I_C = 100 µA, I_B = 0 , BDP 956		140	-	-	
Base-emitter breakdown voltage	$V_{(BR)EBO}$				
I_E = 10 µA, I_C = 0		5	-	-	
Collector cutoff current	I_{CBO}				
V_{CB} = 100 V, I_E = 0 , T_A = 25 °C		-	-	100	nA
V_{CB} = 100 V, I_E = 0 , T_A = 150 °C		-	-	20	µA
Emitter cutoff current	I_{EBO}				nA
V_{EB} = 4 V, I_C = 0		-	-	100	
DC current gain	h_{FE}				-
I_C = 10 mA, V_{CE} = 5 V		25	-	-	
I_C = 500 mA, V_{CE} = 1 V		40	-	475	
I_C = 2 A, V_{CE} = 2 V		15	-	-	
Collector-emitter saturation voltage 1)	V_{CEsat}				V
I_C = 2 A, I_B = 0.2 A		-	-	0.8	
Base-emitter saturation voltage 1)	V_{BEsat}				
I_C = 2 A, I_B = 0.2 A		-	-	1.5	
AC Characteristics					
Transition frequency	f_T				MHz
I_C = 50 mA, V_{CE} = 10 V, f = 100 MHz		-	100	-	
Collector-base capacitance	C_{cb}				pF
V_{CB} = 10 V, f = 1 MHz		-	40	-	

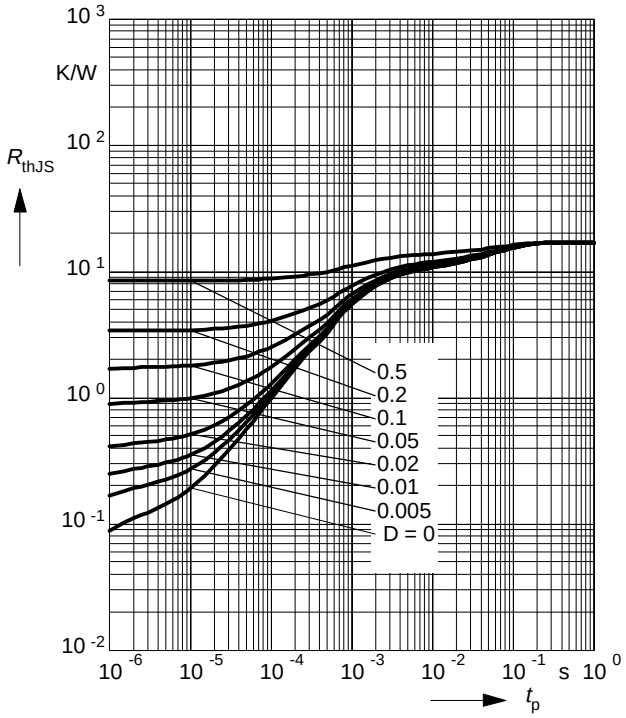
1) Pulse test: t < 300µs; D < 2%

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

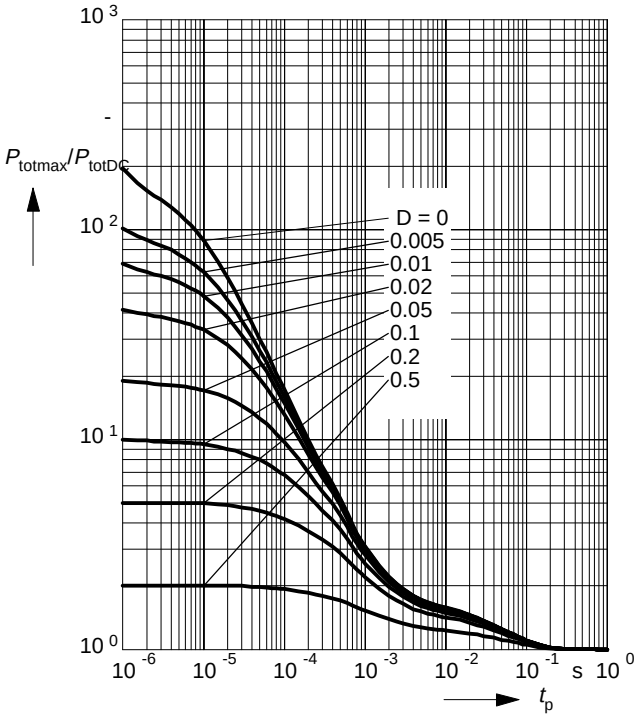
* Package mounted on epoxy



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

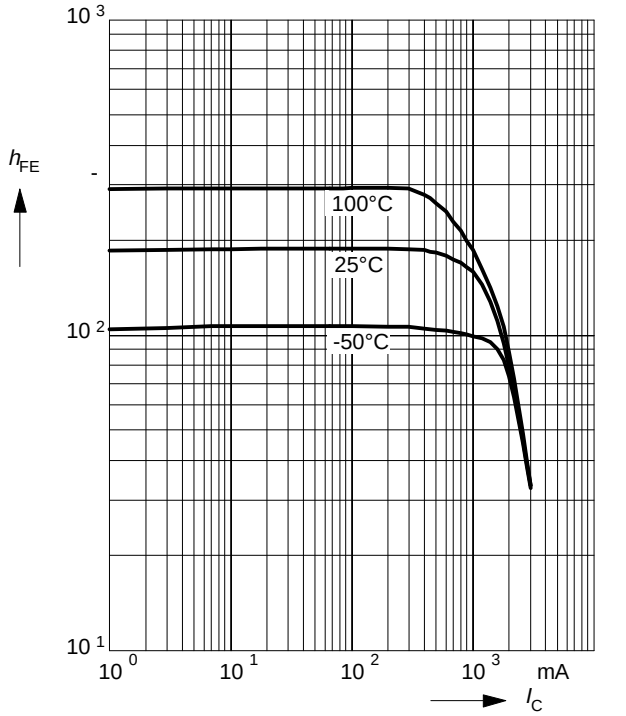


Permissible Pulse Load $P_{totmax} / P_{totDC} = f(t_p)$

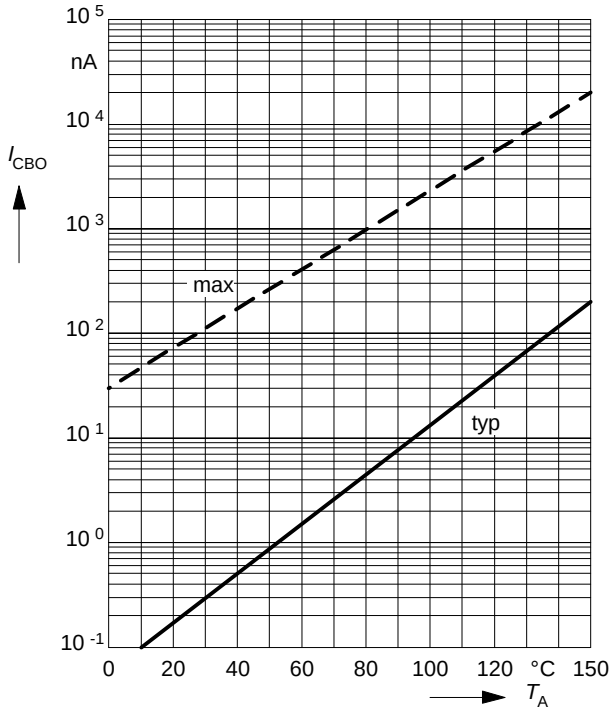


DC current gain $h_{FE} = f(I_C)$

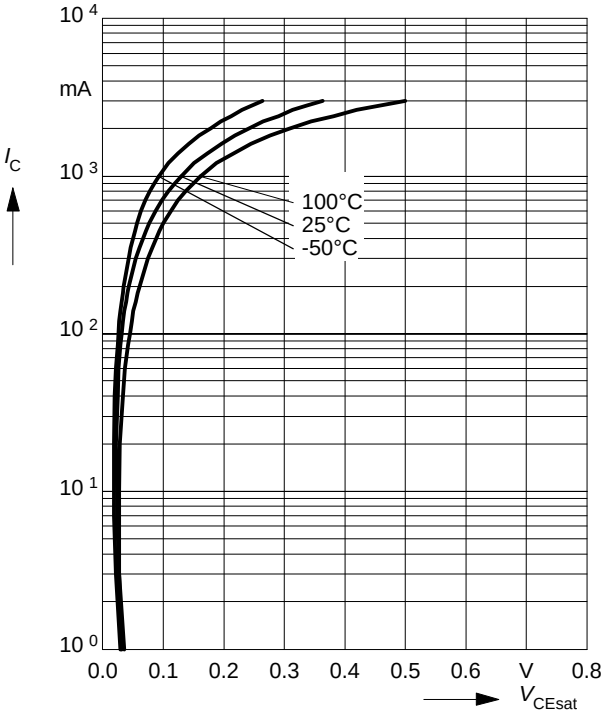
$V_{CE} = 2V$



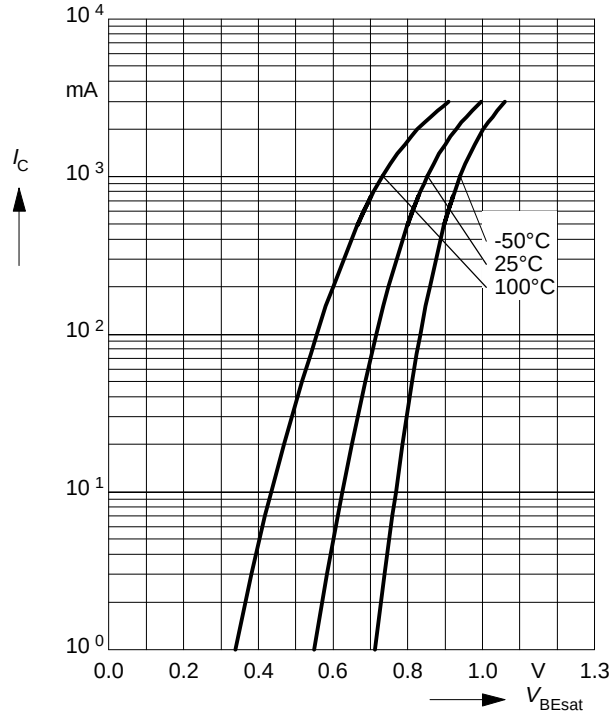
Collector cutoff current $I_{CBO} = f(T_A)$
V_{CB} = 45V



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

