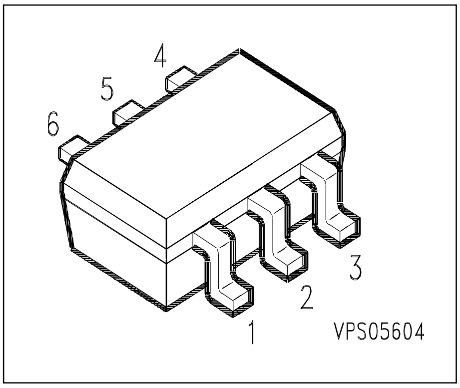
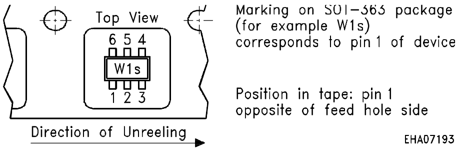
BCR 35PN

NPN/PNP Silicon Digital Tansistor Array



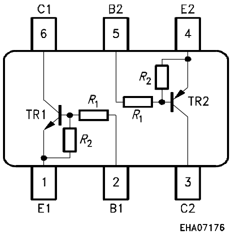
- Switching circuit, inverter, interface circuit, drive circuit
- Two (galvanic) internal isolated NPN/PNP Transistor in one package
- Built in bias resistor (R_1=10kΩ, R_2=47kΩ)

Tape loading orientation



Marking on SOT-363 package (for example W1s) corresponds to pin 1 of device

Position in tape: pin 1 opposite of feed hole side



Type	Marking	Ordering Code	Pin Configuration						Package
BCR 35PN	WUs	Q62702-C2495	1=E1	2=B1	3=C2	4= E2	5=B2	6= C1	SOT-363

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CEO}	50	V
Collector-base voltage	V_{CBO}	50	
Emitter-base voltage	V_{EBO}	6	
Input on Voltage	$V_{i(on)}$	20	
DC collector current	I_C	100	mA
Total power dissipation, T_S = 115°C	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	- 65 ... + 150	

Thermal Resistance

Junction ambient [1]	R_{thJA}	≤ 275	K/W
Junction - soldering point	R_{thJS}	≤ 140	

1) Package mounted on pcb 40mm x 40mm x 1.5mm / 0.5cm^2 Cu

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

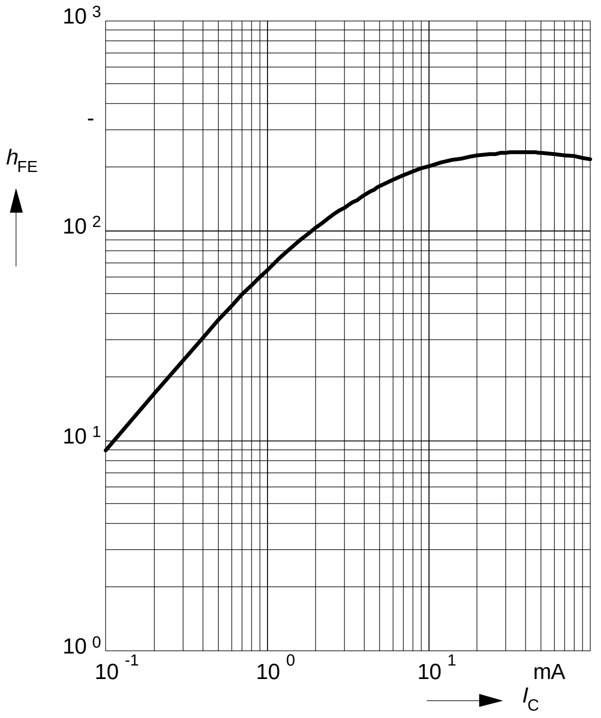
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage I_C = 100 µA, I_B = 0	$V_{(BR)CEO}$	50	-	-	V
Collector-base breakdown voltage I_C = 10 µA, I_B = 0	$V_{(BR)CBO}$	50	-	-	
Collector cutoff current V_{CB} = 40 V, I_E = 0	I_{CBO}	-	-	100	nA
Emitter cutoff current V_{EB} = 6 V, I_C = 0	I_{EBO}	-	-	167	µA
DC current gain I_C = 5 mA, V_{CE} = 5 V	h_{FE}	70	-	-	-
Collector-emitter saturation voltage 1) I_C = 10 mA, I_B = 0.5 mA	V_{CEsat}	-	-	0.3	mV
Input off voltage I_C = 100 µA, V_{CE} = 5 V	$V_{i(off)}$	0.5	-	1	V
Input on Voltage I_C = 2 mA, V_{CE} = 0.3 V	$V_{i(on)}$	0.5	-	1.4	
Input resistor	R_1	7	10	13	kΩ
Resistor ratio	R_1/R_2	0.19	0.21	0.24	-
AC Characteristics for NPN Type					
Transition frequency I_C = 10 mA, V_{CE} = 5 V, f = 100 MHz	f_T	-	150	-	MHz
Collector-base capacitance V_{CB} = 10 V, f = 1 MHz	C_{cb}	-	2	-	pF

1) Pulse test: t < 300µs; D < 2%

NPN TYPE

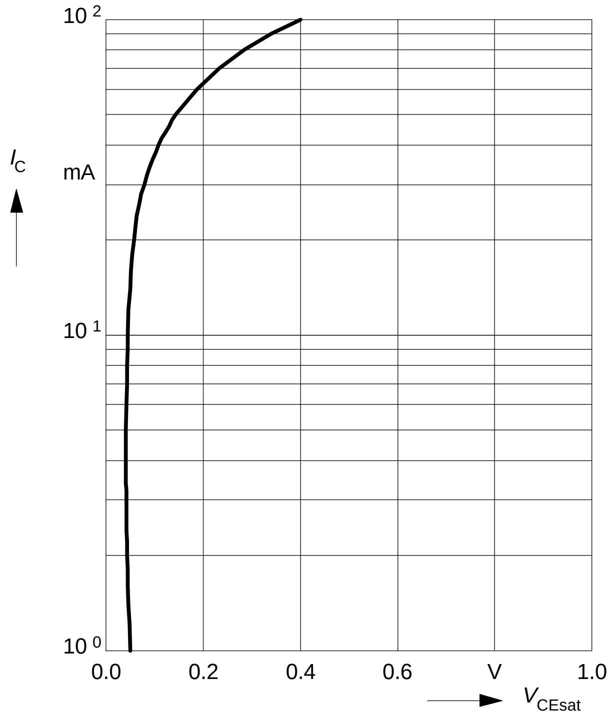
DC Current Gain $h_{FE} = f\ (I_C)$

V_{CE} = 5V (common emitter configuration)



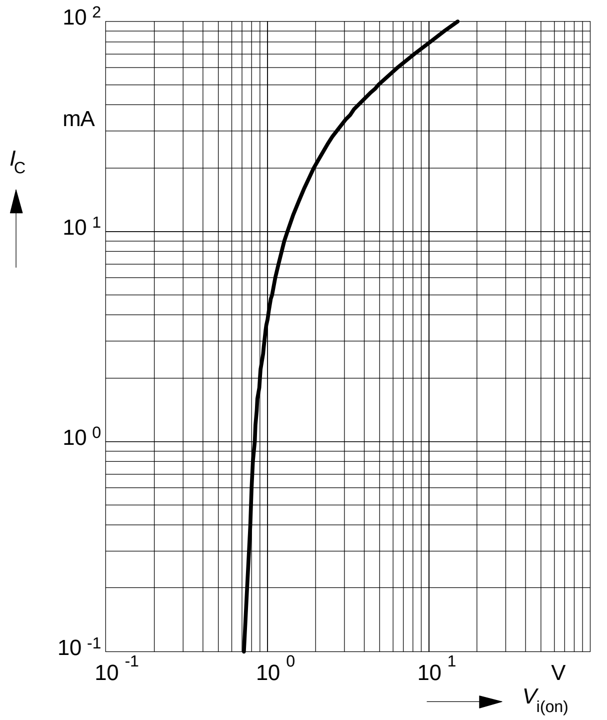
Collector-Emitter Saturation Voltage

$V_{CEsat} = f(I_C)$, $h_{FE} = 20$



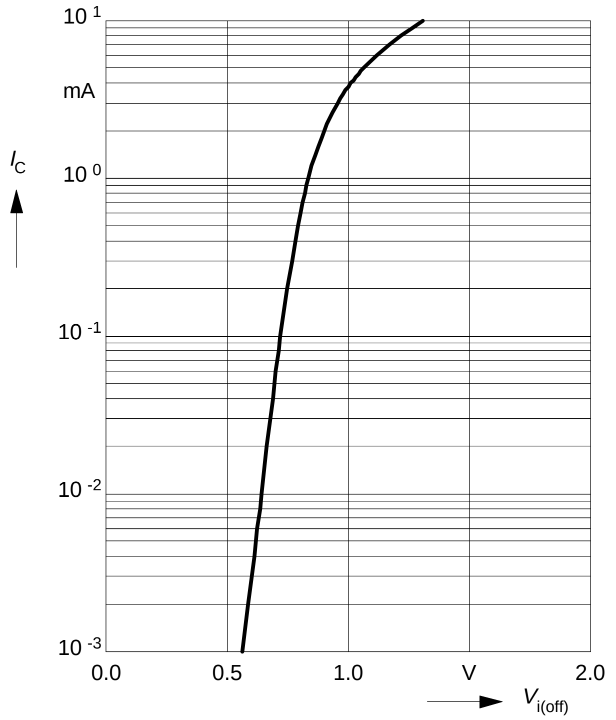
Input on Voltage $V_{i(on)} = f(I_C)$

V_{CE} = 0.3V (common emitter configuration)



Input off voltage $V_{i(off)} = f(I_C)$

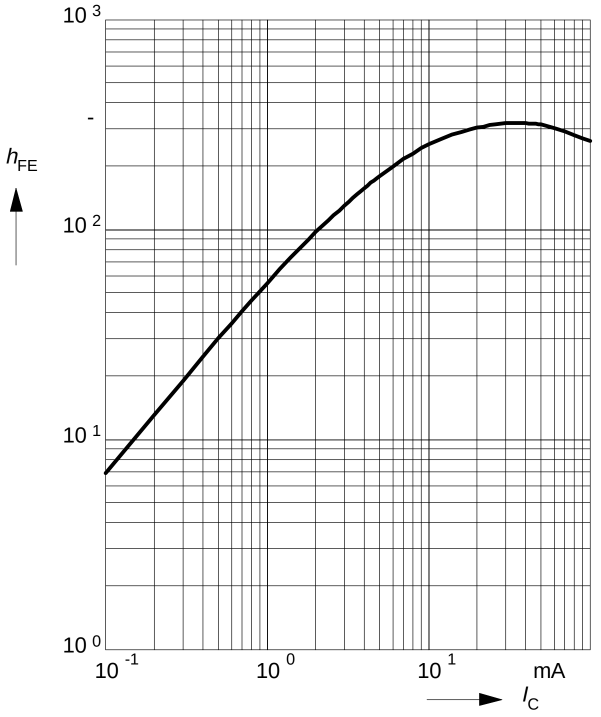
V_{CE} = 5V (common emitter configuration)



PNP TYPE

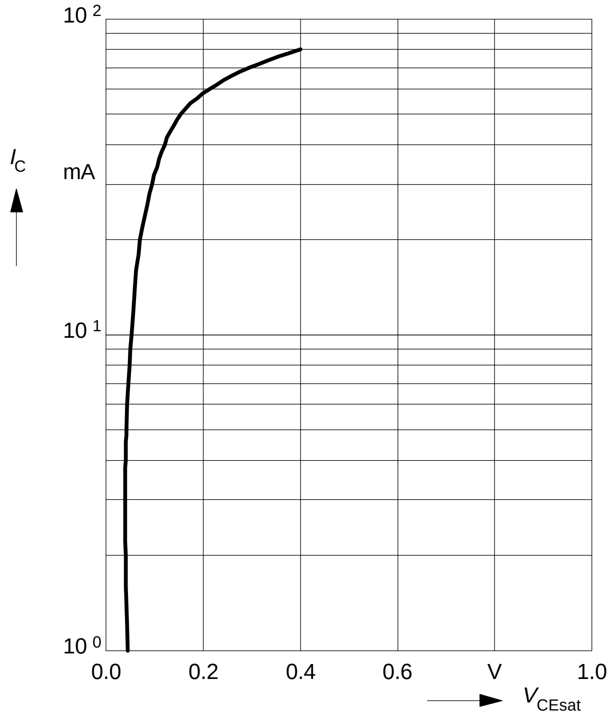
DC Current Gain $h_{FE} = f\ (I_C)$

V_{CE} = 5V (common emitter configuration)



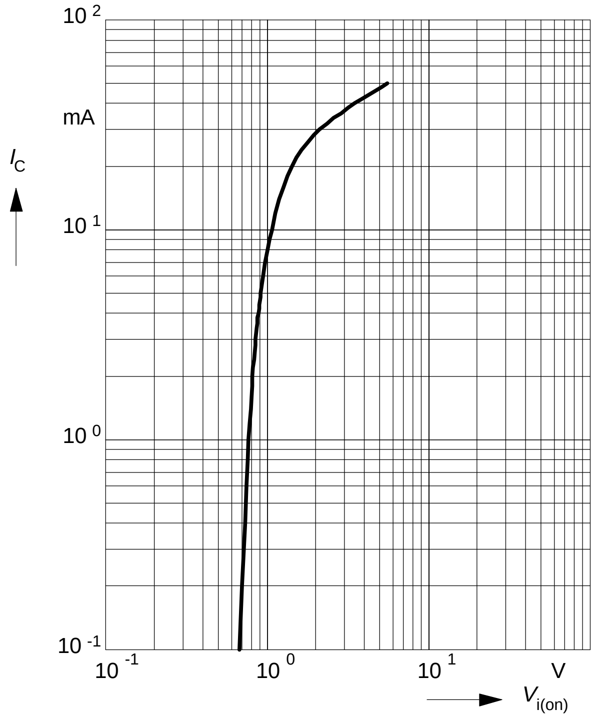
Collector-Emitter Saturation Voltage

$V_{CEsat} = f(I_C)$, $h_{FE} = 20$



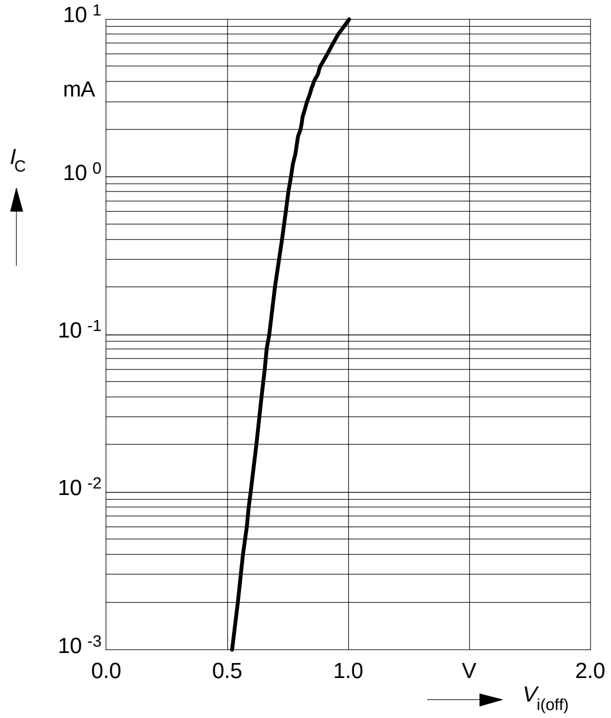
Input on Voltage $V_{i(on)} = f(I_C)$

V_{CE} = 0.3V (common emitter configuration)

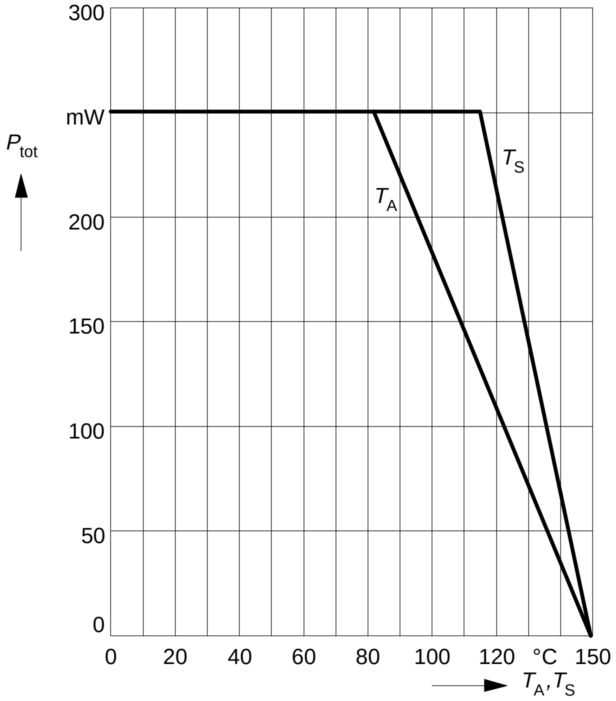


Input off voltage $V_{i(off)} = f(I_C)$

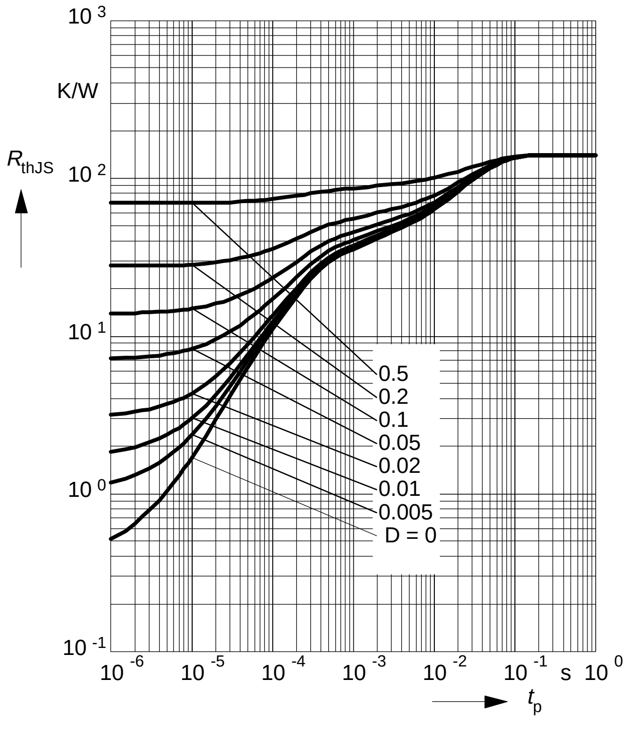
V_{CE} = 5V (common emitter configuration)



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