

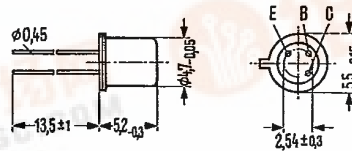
25C D ■ 8235605 0004901 6 ■ SIEG

PNP Silicon Planar Transistors
SIEMENS AKTIENGESELLSCHAFT T-37-17

2 N 2906 A
2 N 2907 A

2 N 2906 A and 2 N 2907 A are epitaxial PNP silicon planar transistors in TO 18 case (18 A 3 DIN 41876). The collector is electrically connected to the case. The transistors are particularly suitable for use as high-speed switches.

Type	Ordering code
2 N 2906 A	Q62702-F408
2 N 2907 A	Q62702-S170



Approx. weight 0.3 g Dimensions in mm

Maximum ratings

	2 N 2906 A	2 N 2907 A
Collector-emitter voltage	-V _{CEO} 60	V
Collector-base voltage	-V _{CBO} 60	V
Emitter-base voltage	-V _{EBO} 5	V
Collector current	-I _C 0.6	A
Junction temperature	T _j 200	°C
Storage temperature range	T _{stg} -65 to +200	°C
Total power dissipation (T _{amb} = 25 °C)	P _{tot} 0.4	W
Total power dissipation (T _{case} = 25 °C)	P _{tot} 1.8	W

Thermal resistance

Junction to ambient air	R _{thJA} < 438	K/W
Junction to case	R _{thJC} < 97	K/W

2263

A-04

947

Static characteristics ($T_{amb} = 25^\circ\text{C}$)

		2 N 2906 A	2 N 2907 A	
Collector-base breakdown voltage ($-I_C = 10 \mu\text{A}$)	$-V_{(BR)CBO}$	> 60	> 60	V
Collector-emitter breakdown voltage ($-I_C = 10 \text{ mA}$)	$-V_{(BR)CEO}$	> 60	> 60	V
Emitter-base breakdown voltage ($-I_E = 10 \mu\text{A}$)	$-V_{(BR)EBO}$	> 5	> 5	V
Collector-emitter saturation voltage ($-I_B = 15 \text{ mA}; -I_C = 150 \text{ mA}$)	$-V_{CEsat}$	< 0.4	< 0.4	V
($-I_B = 50 \text{ mA}; -I_C = 500 \text{ mA}$)	$-V_{CEsat}$	< 1.6	< 1.6	V
Base-emitter saturation voltage ($-I_C = 150 \text{ mA}; -I_B = 15 \text{ mA}$)	$-V_{BEsat}$	< 1.3	< 1.3	V
($-I_C = 500 \text{ mA}; -I_B = 50 \text{ mA}$)	$-V_{BEsat}$	< 2.6	< 2.6	V
Collector cutoff current ($-V_{CB} = 50 \text{ V}$)	$-I_{CBO}$	< 10	< 10	nA
($-V_{CB} = 50 \text{ V}; T_{amb} = 150^\circ\text{C}$)	$-I_{CBO}$	< 10	< 10	μA
DC current gain ($-V_{CE} = 10 \text{ V}; -I_C = 100 \mu\text{A}$)	h_{FE}	> 40	> 75	-
($-V_{CE} = 10 \text{ V}; -I_C = 1 \text{ mA}$)	h_{FE}	> 40	> 100	-
($-V_{CE} = 10 \text{ V}; -I_C = 10 \text{ mA}$)	h_{FE}	> 40	> 100	-
($-V_{CE} = 10 \text{ V}; -I_C = 150 \text{ mA}$)	h_{FE}	40 to 120	100 to 300	-
($-V_{CE} = 10 \text{ V}; -I_C = 500 \text{ mA}$)	h_{FE}	> 40	> 50	-

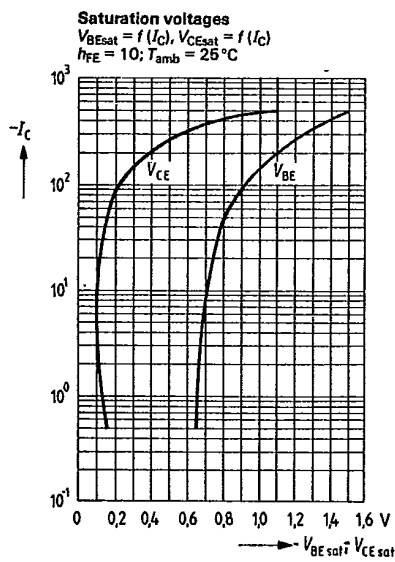
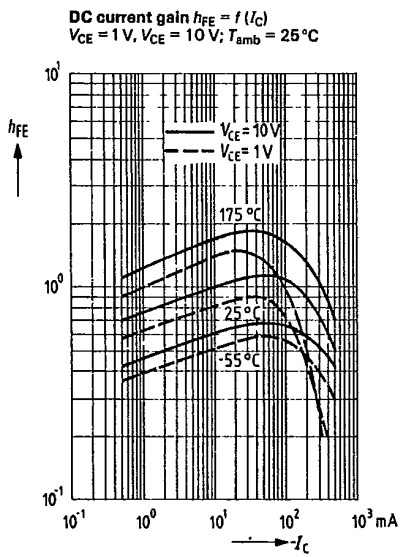
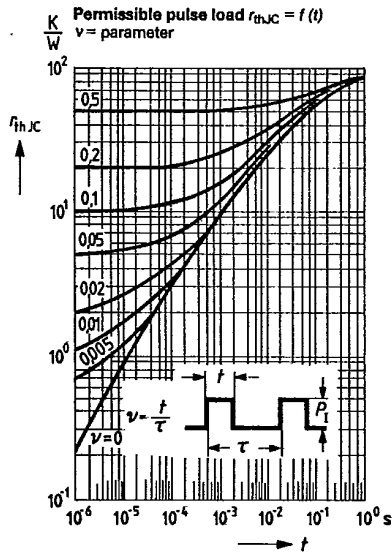
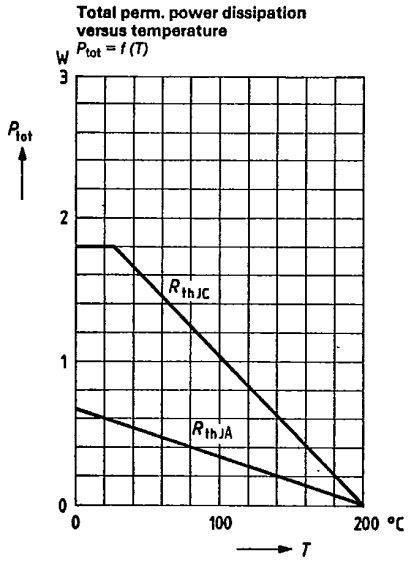
Dynamic characteristics ($T_{amb} = 25^\circ\text{C}$)

Collector-base capacitance ($-V_{CB} = 10 \text{ V}; f = 100 \text{ kHz}$)	C_{CBO}	< 8	< 8	pF
Transition frequency ($-V_{CE} = 20 \text{ V}; -I_C = 50 \text{ mA}; f = 100 \text{ MHz}$)	f_T	> 200	> 200	MHz

Switching times:

($-V_{CC} = 30 \text{ V}; -I_C = 150 \text{ mA};$ I_{B1} approx. $-I_{B2}$ approx. 15 mA)				
Delay time	t_d	< 10	< 10	ns
Rise time	t_r	< 40	< 40	ns
Storage time	t_s	< 80	< 80	ns
Fall time	t_f	< 30	< 30	ns

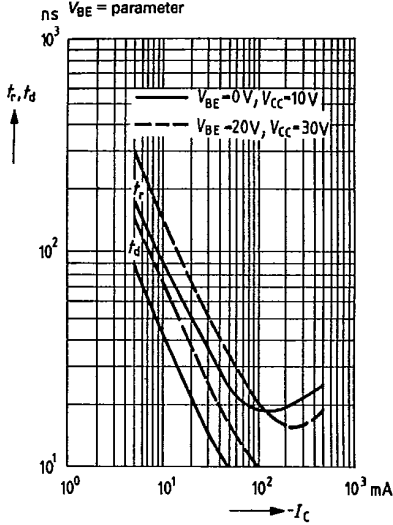
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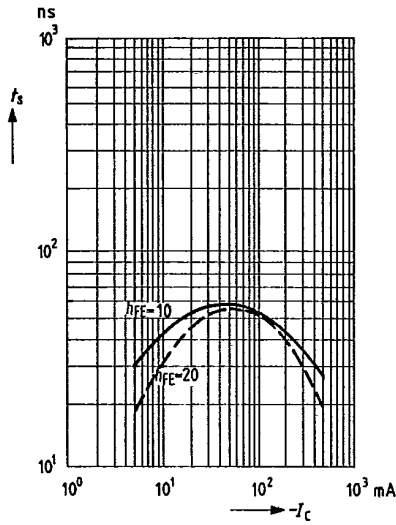
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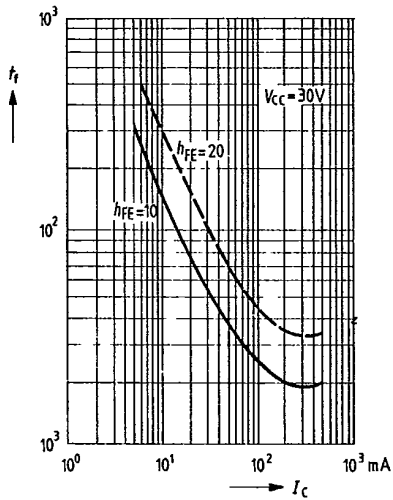
Turn-on time $t_{on} = f(I_C)$
 $h_{FE} = 10; T_{amb} = 25^\circ C; V_{CC} = 30 V$
 $V_{BE} = \text{parameter}$



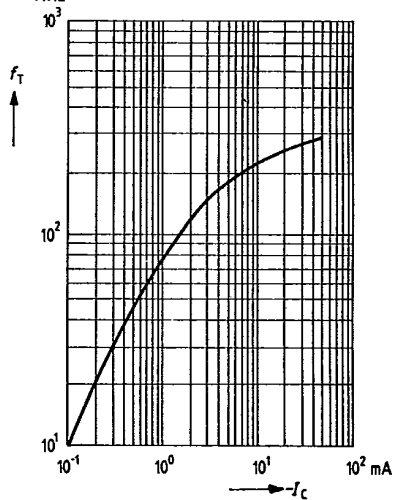
Storage time $t_s = f(I_C)$
 Fall time $t_f = f(I_C); T_{amb} = 25^\circ C$



Fall time $t_f = f(I_C)$
 $V_{CC} = 30 V; h_{FE} = \text{parameter}$



Transition frequency $f_T = f(I_C)$
 $V_{CE} = 20 V; T_{amb} = 25^\circ C$



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