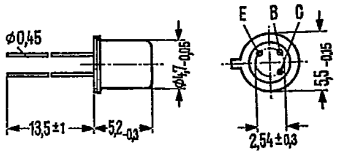
PNP Silicon Planar Transistors **2 N 2906**
2 N 2907

SIEMENS AKTIENGESELLSCHAF D T-37-17

2 N 2906 and 2 N 2907 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	Q62702-F137
2 N 2907	Q62702-S111



Approx. weight 0.3 g

Dimensions in mm

Maximum ratings		2 N 2906 2 N 2907	
Collector-emitter voltage	$-V_{CEO}$	40	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

2 N 2906
2 N 2907

Static characteristics (T_{amb} = 25 °C)		**2 N 2906**	**2 N 2907**	
Collector-base breakdown voltage ($-I_C$ = 10 µA)	$-V_{(BR)CBO}$	> 60	> 60	V
Collector-emitter breakdown voltage ($-I_C$ = 10 mA)	$-V_{(BR)CEO}$	> 40	> 40	V
Emitter-base breakdown voltage ($-I_E$ = 5 V)	$-V_{(BR)EBO}$	> 5	> 5	V
Collector-emitter saturation voltage ($-I_B$ = 15 mA; $-I_C$ = 150 mA)	$-V_{CEsat}$	< 0.4	< 0.4	V
($-I_B$ = 50 mA; $-I_C$ = 500 mA)	$-V_{CEsat}$	< 1.6	< 1.6	V
Base-emitter saturation voltage ($-I_C$ = 150 mA; $-I_B$ = 15 mA)	$-V_{BEsat}$	< 1.3	< 1.3	V
($-I_C$ = 500 mA; $-I_B$ = 50 mA)	$-V_{BEsat}$	< 2.6	< 2.6	V
Collector cutoff current ($-V_{CB}$ = 50 V)	$-I_{CBO}$	< 20	< 20	nA
($-V_{CB}$ = 50 V; T_{amb} = 150 °C)	$-I_{CBO}$	< 20	< 20	µA
DC current gain ($-V_{CE}$ = 10 V; $-I_C$ = 100 µA)	h_{FE}	> 20	> 35	–
($-V_{CE}$ = 10 V; $-I_C$ = 1 mA)	h_{FE}	> 25	> 50	–
($-V_{CE}$ = 10 V; $-I_C$ = 10 mA)	h_{FE}	> 35	> 75	–
($-V_{CE}$ = 10 V; $-I_C$ = 150 mA)	h_{FE}	40 to 120	100 to 300	–
($-V_{CE}$ = 10 V; $-I_C$ = 500 mA)	h_{FE}	> 20	> 30	–
Dynamic characteristics (T_{amb} = 25 °C)				
Collector base capacitance ($-V_{CB}$ = 10 V; f = 100 kHz)	C_{CBO}	< 8	< 8	pF
Transition frequency ($-V_{CE}$ = 20 V; $-I_C$ = 50 mA; f = 100 MHz)	f_T	> 200	> 200	MHz
Switching times: ($-V_{CC}$ = 30 V; $-I_C$ = 150 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