

PNP Silicon Planar Transistors

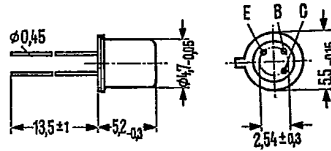
2 N 2906

SIEMENS AKTIENGESELLSCHAFT **D T-37-17**

2 N 2907

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 _{CB0} 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

Static characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$)		2 N 2906	2 N 2907	
Collector-base breakdown voltage ($-I_C = 10\text{ }\mu\text{A}$)	$-V_{(BR)CBO}$	> 60	> 60	V
Collector-emitter breakdown voltage ($-I_C = 10\text{ mA}$)	$-V_{(BR)CEO}$	> 40	> 40	V
Emitter-base breakdown voltage ($-I_E = 5\text{ V}$)	$-V_{(BR)EBO}$	> 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 ($-V_{CB} = 50\text{ V}$)	$-I_{CBO}$	< 20	< 20	nA
($-V_{CB} = 50\text{ V}$; $T_{amb} = 150\text{ }^{\circ}\text{C}$)	$-I_{CBO}$	< 20	< 20	μA
DC current gain ($-V_{CE} = 10\text{ V}$; $-I_C = 100\text{ }\mu\text{A}$)	h_{FE}	> 20	> 35	-
($-V_{CE} = 10\text{ V}$; $-I_C = 1\text{ mA}$)	h_{FE}	> 25	> 50	-
($-V_{CE} = 10\text{ V}$; $-I_C = 10\text{ mA}$)	h_{FE}	> 35	> 75	-
($-V_{CE} = 10\text{ V}$; $-I_C = 150\text{ mA}$)	h_{FE}	40 to 120	100 to 300	-
($-V_{CE} = 10\text{ V}$; $-I_C = 500\text{ mA}$)	h_{FE}	> 20	> 30	-
Dynamic characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$)				
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