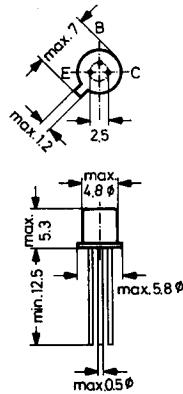


2N2906, 2N2907

PNP Silicon Epitaxial Planar Transistors
with high cutoff frequency, for high speed switching



Metal case JEDEC TO-18
18 A 3 according to DIN 41876
Collector connected to case

Weight approximately 0.35 g
Dimensions in mm

Absolute Maximum Ratings

	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	40	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	0.6	A
Power Dissipation at $T_{amb} = 25^\circ\text{C}$ at $T_C = 25^\circ\text{C}$	P_{tot} P_{tot}	0.4 1.8	W W
Junction Temperature	T_j	200	$^\circ\text{C}$
Storage Temperature Range	T_s	-65 ... +200	$^\circ\text{C}$

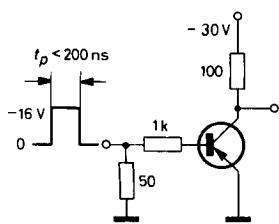


Fig. 1:
Test circuit for turn-on time,
saturated operation

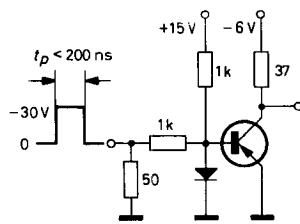


Fig. 2:
Test circuit for turn-off time,
saturated operation

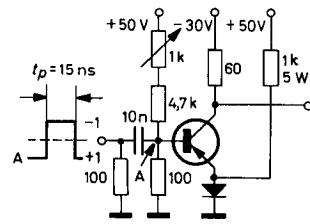


Fig. 3:
Test circuit for non-saturated
operation

Characteristics at $T_j = 25^\circ\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 10 \text{ V}$, $-I_C = 0.1 \text{ mA}$	2N2906 2N2907	h_{FE} h_{FE}	20 35	—	—
at $-V_{CE} = 10 \text{ V}$, $-I_C = 1 \text{ mA}$	2N2906 2N2907	h_{FE} h_{FE}	25 50	—	—
at $-V_{CE} = 10 \text{ V}$, $-I_C = 10 \text{ mA}$	2N2906 2N2907	h_{FE} h_{FE}	35 75	—	—
at $-V_{CE} = 10 \text{ V}$, $-I_C = 150 \text{ mA}$	2N2906 2N2907	h_{FE} h_{FE}	40 100	120 300	—
at $-V_{CE} = 10 \text{ V}$, $-I_C = 0.5 \text{ A}$	2N2906 2N2907	h_{FE} h_{FE}	20 30	—	—
Collector Saturation Voltage at $-I_C = 150 \text{ mA}$, $-I_B = 15 \text{ mA}$ at $-I_C = 500 \text{ mA}$, $-I_B = 50 \text{ mA}$		$-V_{CEsat}$ $-V_{CEsat}$	— —	0.4 1.6	V V
Base Saturation Voltage at $-I_C = 150 \text{ mA}$, $-I_B = 15 \text{ mA}$ at $-I_C = 500 \text{ mA}$, $-I_B = 50 \text{ mA}$		$-V_{BEsat}$ $-V_{BEsat}$	— —	1.3 2.6	V V
Collector Cutoff Current at $-V_{CB} = 50 \text{ V}$ at $-V_{CB} = 50 \text{ V}$, $T_{amb} = 150^\circ\text{C}$ at $-V_{CB} = 30 \text{ V}$, $-V_{EB} = 0.5 \text{ V}$		$-I_{CBO}$ $-I_{CBO}$ $-I_{CEV}$	— — —	20 20 50	nA μA nA
Base Cutoff Current at $-V_{CE} = 30 \text{ V}$, $-V_{EB} = 0.5 \text{ V}$	$-I_{EBV}$	—	—	50	nA
Collector Base Breakdown Voltage at $-I_C = 10 \mu\text{A}$	$-V_{(BR)CBO}$	60	—	—	V
Collector Emitter Breakdown Voltage at $-I_C = 10 \text{ mA}$	$-V_{(BR)CEO}$	40	—	—	V
Emitter Base Breakdown Voltage at $-I_E = 10 \mu\text{A}$	$-V_{(BR)EBO}$	5	—	—	V
Gain Bandwidth Product at $-V_{CE} = 20 \text{ V}$, $-I_C = 50 \text{ mA}$, $f = 100 \text{ MHz}$	f_T	200	—	—	MHz
Collector Base Capacitance at $-V_{CB} = 10 \text{ V}$, $f = 100 \text{ kHz}$	C_{CBO}	—	—	8	pF
Emitter Base Capacitance at $-V_{EB} = 2 \text{ V}$, $f = 100 \text{ kHz}$	C_{EBO}	—	—	30	pF
Thermal Resistance Junction to Ambient Junction to Case	R_{thA} R_{thC}	— —	— —	440 97	K/W K/W
Switching Times Delay Time (see Fig. 1) Rise Time (see Fig. 1) Turn-On Time (see Fig. 1) Storage Time (see Fig. 2) Fall Time (see Fig. 2) Turn-Off Time (see Fig. 2) Total Switching Time (see Fig. 3)	t_d t_r t_{on} t_s t_f t_{off} t_{total}	— — — — — — —	6 20 26 50 20 70 12	10 40 45 80 30 100 —	ns ns ns ns ns ns ns