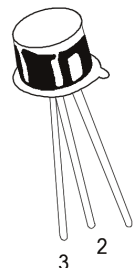


Transistor PNP, TO-18



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

Absolute Maximum Ratings

Description	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	40	V
Collector Base Voltage	V_{CBO}	60	
Emitter Base Voltage	V_{EBO}	5	
Collector Current Continuous	I_C	600	mA
Power Dissipation @ $T_a = 25^\circ\text{C}$ Derate above 25°C	P_D	400 2.28	mW mW/°C
Power Dissipation @ $T_c = 25^\circ\text{C}$ Derate Above 25°C	P_D	1.8 10.3	W mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200	°C

Electrical Characteristics ($T_a=25^\circ\text{C}$ unless specified otherwise)

Description	Symbol	Test Condition	Min.	Max,	Unit
Collector Emitter Voltage	* V_{CEO}	$I_C=10\text{mA}, I_B=0$	40	-	V
Collector Base Voltage	V_{CBO}	$I_C=10\mu\text{A}, I_E=0$	60	-	
Emitter Base Voltage	V_{EBO}	$I_E=10\mu\text{A}, I_C=0$	5	-	
Collector Cut Off Current	I_{CEX}	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$	-	50	nA
Collector Cut Off Current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$	-	20	
		$V_{CB}=50\text{V}, I_E=0,$ $T_a=150^\circ\text{C}$	-	20	A
Base Current	I_B	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$	-	50	nA

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DC Current Gain	h_{FE}	$I_C=0.1\text{mA}, V_{CE}=10\text{V}$	>20	>35	-
		$I_C=1\text{mA}, V_{CE}=10\text{V}$	>25	>50	
		$I_C=10\text{mA}, V_{CE}=10\text{V}$	>35	>75	
		* $I_C=150\text{mA}, V_{CE}=10\text{V}$	40 - 120	100 - 300	
		* $I_C=500\text{mA}, V_{CE}=10\text{V}$	>20	>30	

*Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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Small Signal Characteristics

Description	Symbol	Test Condition	Min.	Max.	Unit
Collector Emitter Saturation Voltage	*V _{CE (sat)}	I _C =150mA, I _B =15mA I _C =500mA, I _B =50mA	-	0.4 1.6	V
Base Emitter Saturation Voltage	*V _{BE (sat)}	I _C =150mA, I _B =15mA I _C =500mA, I _B =50mA	-	1.3 2.6	
Transition Frequency	**f _T	I _C =50mA, V _{CE} =20V, f=100MHz	200	-	MHz
Output Capacitance	C _{obo}	V _{CB} =10V, I _E =0, f=100KHz	-	8	pF
	C _{ibo}	V _{BE} =2V, I _C =0, f=100KHz	-	30	

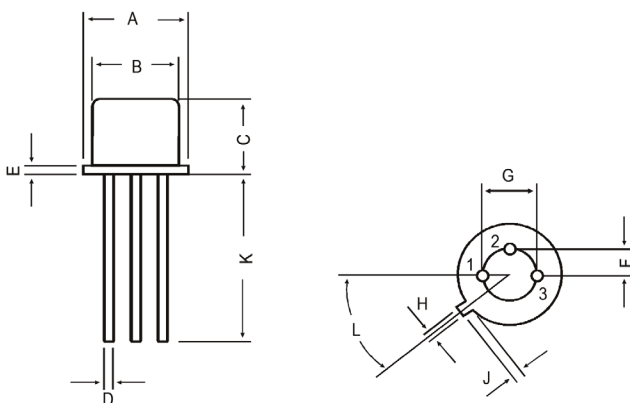
Switching Time

Description	Symbol	Test Condition	Min.	Max.	Unit
Delay Time	t _d	I _C =150mA, I _{B1} =15mA, V _{CC} =30V	-	10	ns
Rise Time	t _r		-	40	
Turn On Time	t _{on}		-	45	
Storage Time	t _s	I _C =150mA, I _{B2} =15mA, V _{CC} =6V	-	80	
Fall Time	t _f		-	30	
Turn Off Time	t _{off}		-	100	

*Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

** f_T is defined as the frequency at which |h_{fe}| extrapolates to unity

TO-18 Metal Can Package



Din	Min.	Max.	Din	Min.	Max.
A	5.24	5.84	G	-	2.97
B	4.52	4.97	H	0.91	1.17
C	4.31	5.33	J	0.71	1.21
D	0.4	0.53	K	12.7	-
E	-	0.76	L	45°	-
F	-	1.27			

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, PNP, TO-18	2N2907

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