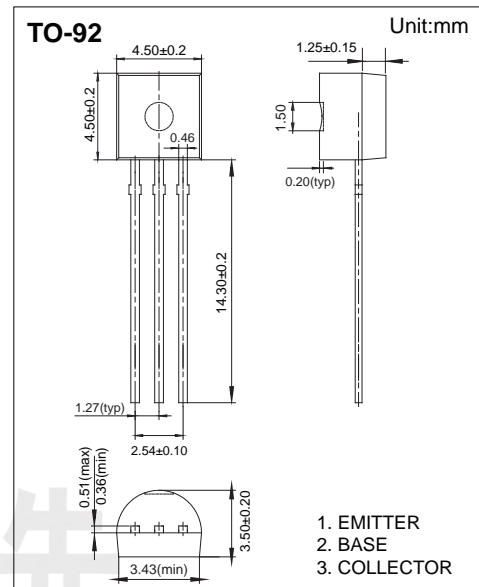


Transistor

NPN Transistors 2N2907

■ Features

- High current (max. 600 mA)
- Low voltage (max. 60 V)
- Complementary to 2N2222



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Collector - Base Voltage	V_{CB0}	-60	V	
Collector - Emitter Voltage	V_{CE0}	-40		
Emitter - Base Voltage	V_{EB0}	-5		
Collector Current - Continuous	I_C	-0.6	A	
Peak Collector Current	I_{CM}	-0.8		
Peak Base Current	I_{BM}	-0.2		
Collector Power Dissipation	P_C	$T_{amb} \leq 25^\circ\text{C}$	400	mW
		$T_{case} \leq 25^\circ\text{C}$	1.2	W
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	438	$^\circ\text{C/W}$	
Thermal Resistance From Junction to Case	$R_{\theta JC}$	146		
Junction Temperature	T_J	150	$^\circ\text{C}$	
Storage Temperature	T_{stg}	-65 to 150		

Transistor

NPN Transistors

2N2907

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collecto- base breakdown voltage	V_{CB0}	$I_C = -100 \mu\text{A}, I_E = 0$	-60			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = -0.1 \text{mA}, I_B = 0$	-40			
Emitter - base breakdown voltage	V_{EB0}	$I_E = -100 \mu\text{A}, I_C = 0$	-5			
Collector cut-off current	I_{CBO}	$V_{CB} = -50 \text{V}, I_E = 0$			-20	nA
		$V_{CB} = -50 \text{V}, I_E = 0, T_{amb} = 150^\circ\text{C}$			-20	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5 \text{V}, I_C = 0$			-50	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -150 \text{mA}, I_B = -15 \text{mA}$			-0.4	V
		$I_C = -500 \text{mA}, I_B = -50 \text{mA}$			-1.6	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -150 \text{mA}, I_B = -15 \text{mA}$			-1.3	V
		$I_C = -500 \text{mA}, I_B = -50 \text{mA}$			-2.6	
DC current gain	$h_{FE(1)}$	$V_{CE} = -10 \text{V}, I_C = -0.1 \text{mA}$	35			
	$h_{FE(2)}$	$V_{CE} = -10 \text{V}, I_C = -1 \text{mA}$	50			
	$h_{FE(3)}$	$V_{CE} = -10 \text{V}, I_C = -10 \text{mA}$	75			
	$h_{FE(4)}$	$V_{CE} = -10 \text{V}, I_C = -150 \text{mA}$	100		300	
	$h_{FE(5)}$	$V_{CE} = -10 \text{V}, I_C = -500 \text{mA}$	30			
Turn-on time	t_{on}	$I_{Con} = -150 \text{mA}; I_{Bon} = -15 \text{mA}; I_{Boff} = 15 \text{mA}$			45	ns
Delay time	t_d				15	
Rise time	t_r				35	
Turn-off time	t_{off}				300	
Storage time	t_s				250	
Fall time	t_f				50	
Collector capacitance	C_{ob}	$V_{CB} = -10 \text{V}, I_E = I_C = 0, f = 1 \text{MHz}$			8	pF
Emitter capacitance	C_e	$V_{EB} = -2 \text{V}, I_C = I_E = 0, f = 1 \text{MHz}$			30	
Transition frequency	f_T	$V_{CE} = -20 \text{V}, I_C = -50 \text{mA}, f = 100 \text{MHz}$	200			MHz