

NPN Silicon Transistor

2N2222

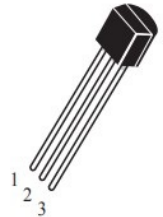
Package: TO-92

Maximum Ratings (Ta = 25°)

Parameter	Symbol	Rating	Unit
Collector-base voltage	BV_{CBO}	60	V
Collector-emitter voltage	BV_{CEO}	30	V
Emitter-base voltage	BV_{EBO}	5	V
Collector current	I_{CM}	600	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ +150	°C

TO-92

1. EMITTER
2. BASE
3. COLLECTOR



Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=10\ \mu A, I_E=0$	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10mA, I_B=0$	30			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=10\ \mu A, I_C=0$	5			V
collector-base cut-off current	I_{CBO}	$V_{CB}=50V, I_E=0$			10	nA
collector-emitter cut-off current	I_{CEX}	$V_{CE}=30V, V_{EB}=3V$			10	nA
emitter-base cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$			10	nA
DC current gain	H_{FE}	$V_{CE}=10V, I_B=0.1mA$	35			
		$V_{CE}=10V, I_B=1mA$	50			
		$V_{CE}=10V, I_B=10mA$	75			
		$V_{CE}=10V, I_B=10mA$	35			
		$V_{CE}=10V, I_B=150mA$	100		300	
		$V_{CE}=1V, I_B=150mA$	50			
		$V_{CE}=10V, I_B=500mA$	40			
collector-emitter saturation voltage	V_{CESAT}	$I_C=150mA, I_B=15mA$			0.3	V
		$I_C=500mA, I_B=50mA$			1	
Base-Emitter Saturation Voltage	V_{BESAT}	$I_C=150mA, I_B=15mA$			1.2	V
		$I_C=500mA, I_B=50mA$			2	
Transition frequency	f_T	$V_{CE}=20V, I_B=20mA, f=100MHz$	300			MHz

Classification of H_{FE}

Rank	2N2222-A	2N2222-B
Range	100-200	200-300