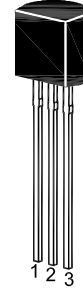


## NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into one group according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Base 3. Collector  
TO-92 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ °C}$ )

Parameter		Symbol	Value	Unit
Collector Base Voltage	2N2222	$V_{CBO}$	60	V
	2N2222A		75	
Collector Emitter Voltage	2N2222	$V_{CEO}$	30	V
	2N2222A		40	
Emitter Base Voltage	2N2222	$V_{EBO}$	5	V
	2N2222A		6	
Collector Current		$I_C$	600	mA
Power Dissipation		$P_{tot}$	625	mW
Junction Temperature		$T_j$	150	°C
Storage Temperature Range		$T_{stg}$	- 55 to + 150	°C



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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 10\text{ V}$ , $I_C = 0.1\text{ mA}$ at $V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$ at $V_{CE} = 10\text{ V}$ , $I_C = 10\text{ mA}$ at $V_{CE} = 10\text{ V}$ , $I_C = 150\text{ mA}$ at $V_{CE} = 10\text{ V}$ , $I_C = 500\text{ mA}$	$h_{FE}$ $h_{FE}$ $h_{FE}$ $h_{FE}$ $h_{FE}$ $h_{FE}$	35 50 75 100 30 40	- - - 300 - -	- - - - - -
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$ at $V_{CB} = 60\text{ V}$	$I_{CBO}$	- -	10 10	nA
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	60 75	- -	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	30 40	- -	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5 6	- -	V
Collector Emitter Saturation Voltage at $I_C = 150\text{ mA}$ , $I_B = 15\text{ mA}$ at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	$V_{CE(sat)}$	- - - -	0.4 0.3 1.6 1	V
Base Emitter Saturation Voltage at $I_C = 150\text{ mA}$ , $I_B = 15\text{ mA}$ at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	$V_{BE(sat)}$	- 0.6 - -	1.3 1.2 2.6 2	V
Gain Bandwidth Product at $I_C = 20\text{ mA}$ , $V_{CE} = 20\text{ V}$ , $f = 100\text{ MHz}$	$f_T$	250	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	8	pF



Figure 1. DC Current Gain

