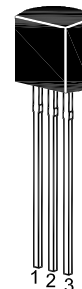


**NPN Silicon Epitaxial Planar Transistor**

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 ( $T_a = 25\text{ }^{\circ}\text{C}$ )**

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	$^{\circ}\text{C}$
Storage Temperature Range		$T_{stg}$	- 55 to + 150	$^{\circ}\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $V_{CE} = 10\text{ V}$ , $I_C = 0.1\text{ mA}$	$h_{FE}$	35	-	-
at $V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$	$h_{FE}$	50	-	-
at $V_{CE} = 10\text{ V}$ , $I_C = 10\text{ mA}$	$h_{FE}$	75	-	-
at $V_{CE} = 10\text{ V}$ , $I_C = 150\text{ mA}$	$h_{FE}$	100	300	-
at $V_{CE} = 10\text{ V}$ , $I_C = 500\text{ mA}$	$h_{FE}$	30	-	-
2N2222	$h_{FE}$	40	-	-
2N2222A	$h_{FE}$	40	-	-
Collector Base Cutoff Current				
at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	10	nA
at $V_{CB} = 60\text{ V}$	$I_{CBO}$	-	10	nA
Collector Base Breakdown Voltage				
at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	60	-	V
2N2222	$V_{(BR)CBO}$	75	-	V
2N2222A	$V_{(BR)CBO}$	75	-	V
Collector Emitter Breakdown Voltage				
at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	30	-	V
2N2222	$V_{(BR)CEO}$	40	-	V
2N2222A	$V_{(BR)CEO}$	40	-	V
Emitter Base Breakdown Voltage				
at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	V
2N2222	$V_{(BR)EBO}$	6	-	V
2N2222A	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage				
at $I_C = 150\text{ mA}$ , $I_B = 15\text{ mA}$	$V_{CE(sat)}$	-	0.4	V
2N2222	$V_{CE(sat)}$	-	0.3	V
2N2222A	$V_{CE(sat)}$	-	0.3	V
at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	1.6	V
2N2222	$V_{CE(sat)}$	-	1	V
2N2222A	$V_{CE(sat)}$	-	1	V
Base Emitter Saturation Voltage				
at $I_C = 150\text{ mA}$ , $I_B = 15\text{ mA}$	$V_{BE(sat)}$	-	1.3	V
2N2222	$V_{BE(sat)}$	0.6	1.2	V
2N2222A	$V_{BE(sat)}$	0.6	1.2	V
at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	2.6	V
2N2222	$V_{BE(sat)}$	-	2	V
2N2222A	$V_{BE(sat)}$	-	2	V
Gain Bandwidth Product	$f_T$	250	-	MHz
at $I_C = 20\text{ mA}$ , $V_{CE} = 20\text{ V}$ , $f = 100\text{ MHz}$	$f_T$	250	-	MHz
Collector Output Capacitance	$C_{ob}$	-	8	pF
at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	8	pF

Figure 1. DC Current Gain

