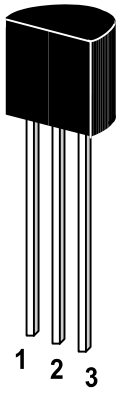
2N2222 / 2N2222A

NPN Silicon Epitaxial Planar Transistor
for switching and AF amplifier applications.

The transistor is subdivided into one group according to its DC current gain. As complementary type the PNP transistor ST 2N2907 and ST 2N2907A are recommended.

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



1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings (T_a = 25 ^{O}C)

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

G S P FORM A IS AVAILABLE

Characteristics at T_{amb}=25 °C

		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at I_C=0.1mA, V_{CE}=10V		h_{FE}	35	-	-	-
at I_C=1mA, V_{CE}=10V		h_{FE}	50	-	-	-
at I_C=10mA, V_{CE}=10V		h_{FE}	75	-	-	-
at I_C=150mA, V_{CE}=10V	ST 2N2222	h_{FE}	100	-	300	-
at I_C=500mA, V_{CE}=10V	ST	h_{FE}	30	-	-	-
	2N2222A	h_{FE}	40	-	-	-
Collector Cutoff Current	ST 2N2222					
at V_{CB}=50V	ST	I_{CBO}	-	-	0.01	μA
V_{CB}=60V	2N2222A	I_{CBO}	-	-	0.01	μA
Collector Base Breakdown Voltage						
at I_C=10μA	ST 2N2222	$V_{(BR)CBO}$	60	-	-	V
	ST	$V_{(BR)CBO}$	75	-	-	V
Collector Emitter Breakdown Voltage						
at I_C=10mA	ST 2N2222	$V_{(BR)CEO}$	30	-	-	V
	ST	$V_{(BR)CEO}$	40	-	-	V
Emitter Base Breakdown Voltage						
at I_E=10μA	ST 2N2222	$V_{(BR)EBO}$	5	-	-	V
	ST	$V_{(BR)EBO}$	6	-	-	V
Collector Saturation Voltage						
at I_C=150mA, I_B=15mA	ST 2N2222	$V_{CE(sat)}$	-	-	0.4	V
	ST	$V_{CE(sat)}$	-	-	0.3	V
at I_C=500mA, I_B=50mA	2N2222A	$V_{CE(sat)}$	-	-	1.6	V
	ST 2N2222	$V_{CE(sat)}$	-	-	1	V
Base Saturation Voltage						
at I_C=150mA, I_B=15mA	ST 2N2222	$V_{BE(sat)}$	-	-	1.3	V
	ST	$V_{BE(sat)}$	0.6	-	1.2	V
at I_C=500mA, I_B=50mA	2N2222A	$V_{BE(sat)}$	-	-	2.6	V
	ST 2N2222	$V_{BE(sat)}$	-	-	2.0	v
Gain Bandwidth Product						
at I_C=20mA, V_{CE}=20V, f=100MHz		f_T	250	-	-	MHz
Collector Output Capacitance						
at V_{CB}=10V, f=1MHz		C_{ob}	-	-	8	pF
Input Capacitance						
at V_{CB}=0.5V, f=1MHz		C_{ib}	-	-	30	pF

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Figure 1. DC Current Gain

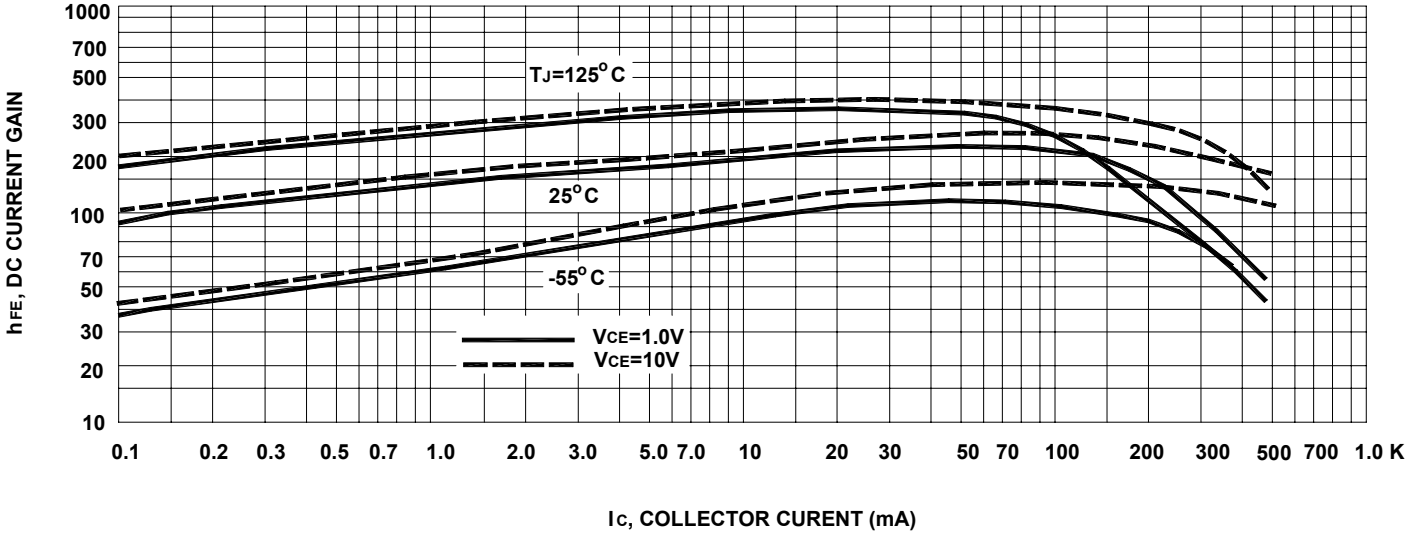

Figure 2. Collector Saturetion Region

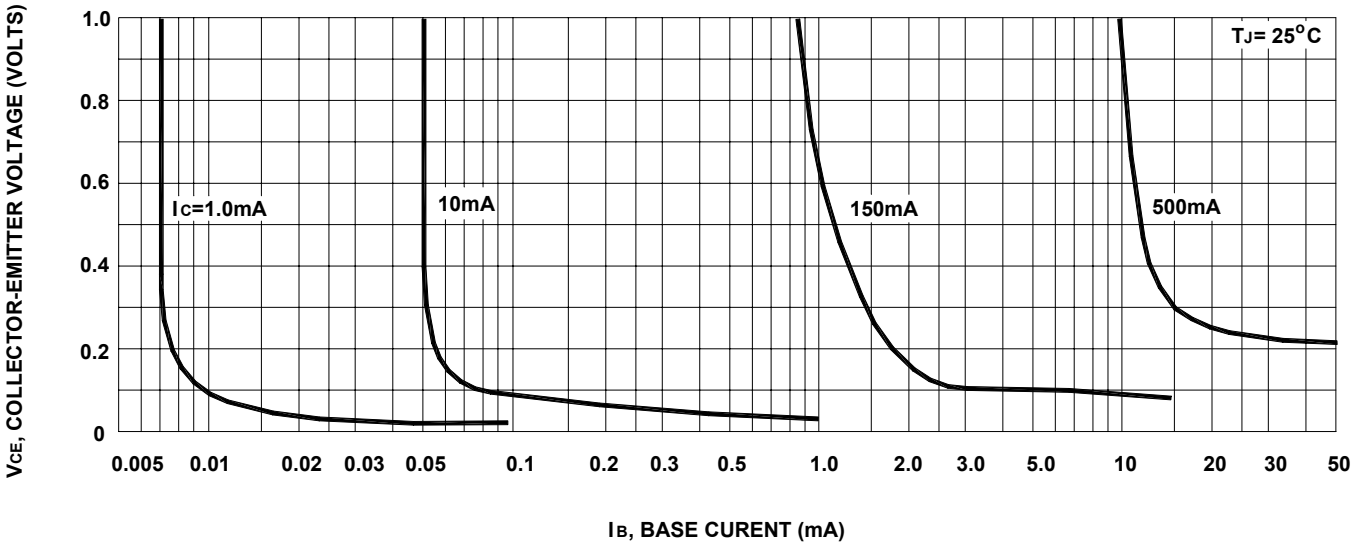

Figure 3. Capacitances

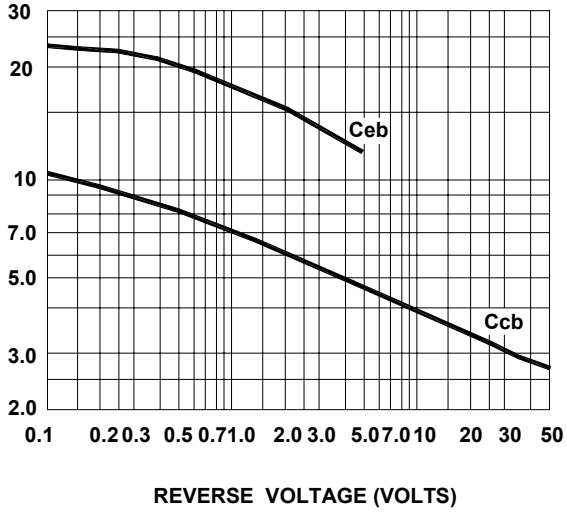

Figure 4. Current-Gain Bandwidth Product