

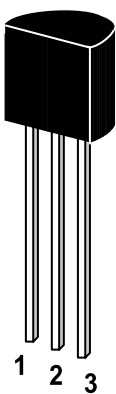
ST 2N2222 / 2N2222A

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.

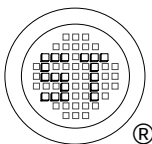


1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

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

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



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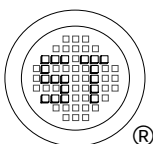


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ST 2N2222 / 2N2222A

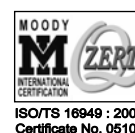
Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

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



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Figure 1. DC Current Gain

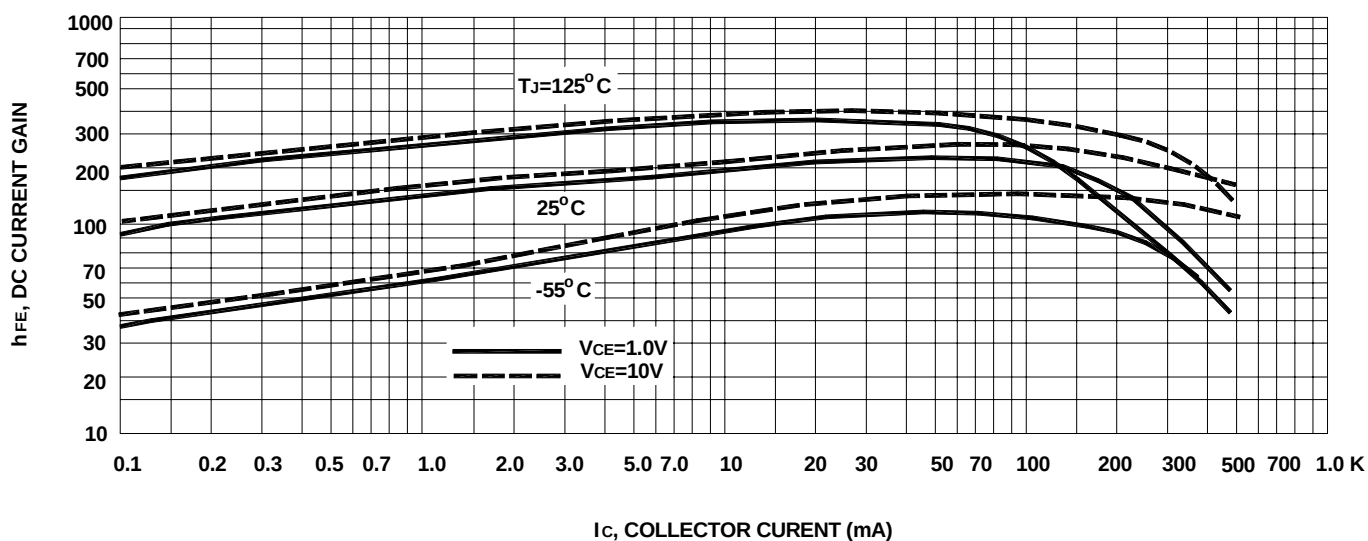
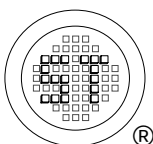
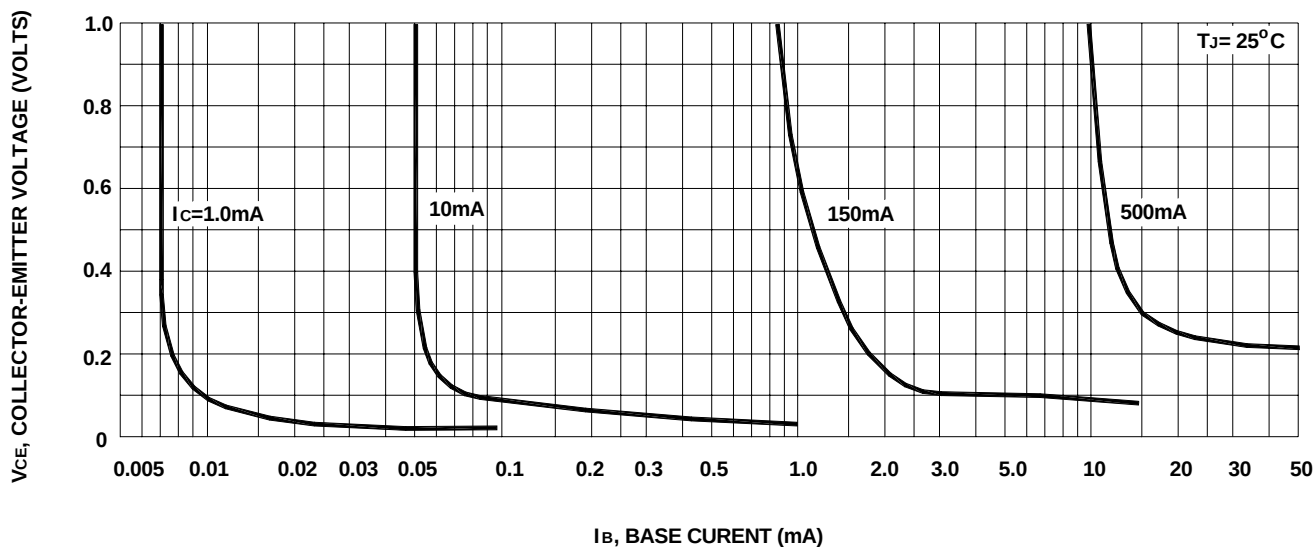
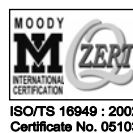


Figure 2. Collector Saturation Region



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Figure 3. Capacitances

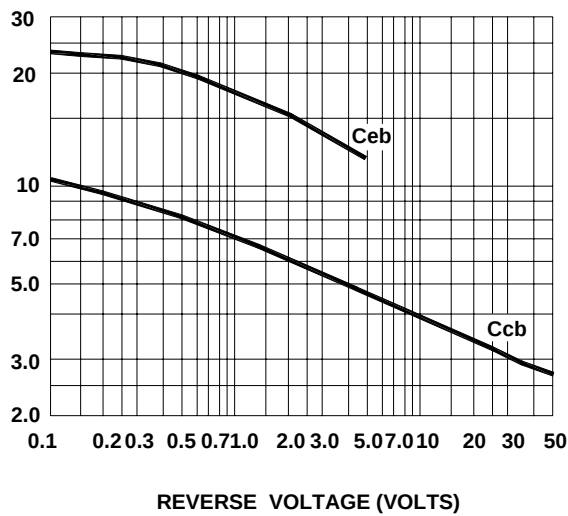
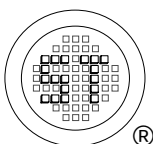
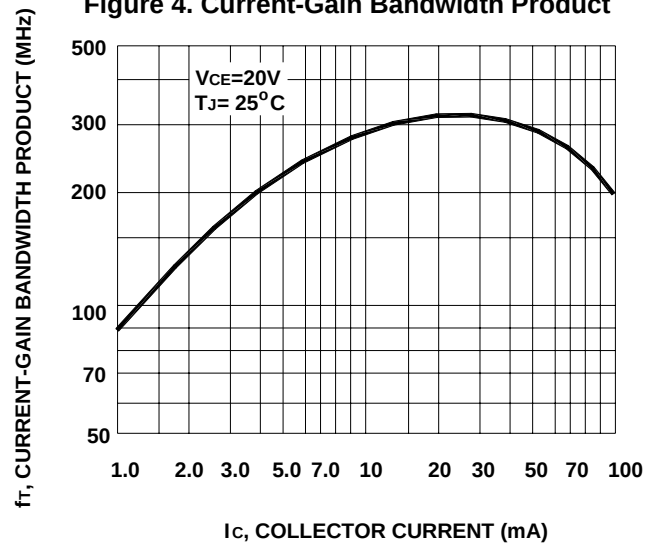
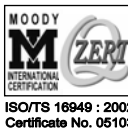


Figure 4. Current-Gain Bandwidth Product



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