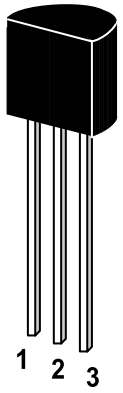
ST 9013

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications. Especially suitable for AF-driver stages and low power output stages.

The transistor is subdivided into three groups, G, H and I, according to its DC current gain. As complementary type the PNP transistor ST 9012 is 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℃)

	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	800	mA
Peak Collector Current	I_{CM}	1	A
Base Current	I_B	100	mA
Power Dissipation	P_{tot}	625[1)]	mW
Junction Temperature	T_j	150	^OC
Storage Temperature Range	T_S	-55 to +150	^OC
[1)] Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case			

Characteristics at T_{amb}=25 °C

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at V_{CE}=1V, I_C=50mA					
Current Gain Group G	h_{FE}	110	-	183	-
H	h_{FE}	177	-	250	-
I	h_{FE}	250	-	380	-
at V_{CE}=1V, I_C=500mA	h_{FE}	40	-	-	-
Collector Cutoff Current					
at V_{CB}=31V	I_{CBO}	-	-	100	nA
Collector Emitter Breakdown Voltage					
at I_C=1mA	$V_{(BR)CEO}$	30	-	-	V
Emitter Base Cutoff Current					
at V_{EB}=5.1V	I_{EBO}	-	-	100	nA
Collector Saturation Voltage					
at I_C=500mA, I_B=20mA	$V_{CE(sat)}$	-	-	0.5	V
Base Saturation Voltage					
at I_C=500mA, I_B=20mA	$V_{BE(sat)}$	-	-	1.2	V
Base Emitter Voltage					
at V_{CE}=1V, I_C=50mA	V_{BE}	0.6	-	0.75	V
Gain Bandwidth Product					
at V_{CE}=5V, I_C=10mA, f=50MHz	f_T	-	100	-	MHz
Collector Base Capacitance					
at V_{CB}=10V, f=1MHz	C_{CBO}	-	12	-	pF
Thermal Resistance Junction to Ambient	R_{thA}	-	-	200[1)]	K/W

[1)] Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

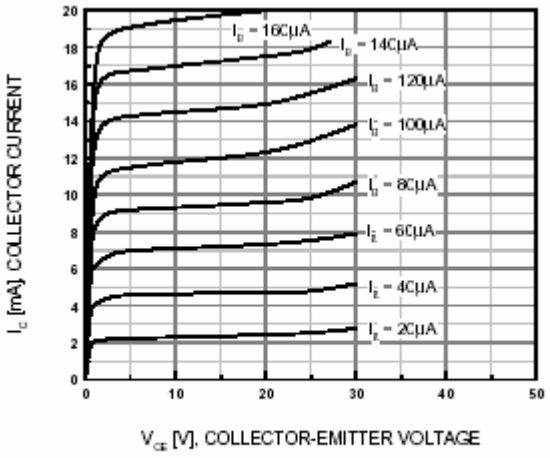


Figure 1. Static Characteristic

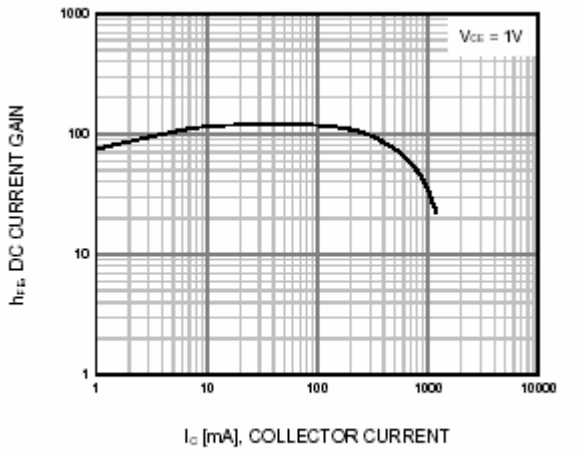


Figure 2. DC current Gain

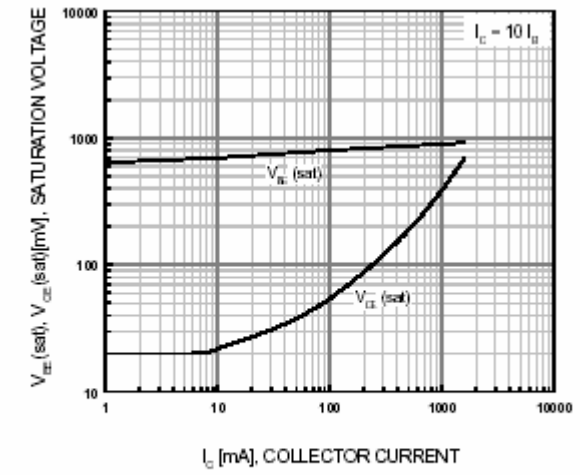


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

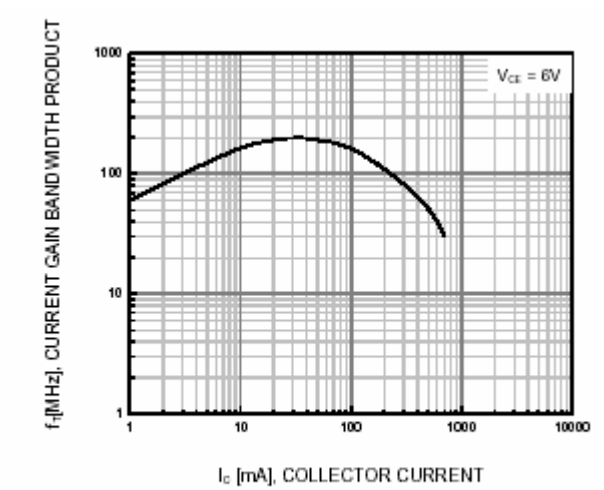


Figure 4. Current Gain Bandwidth Product