



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

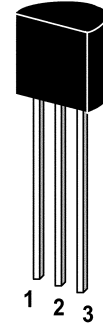
ST 9013

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.



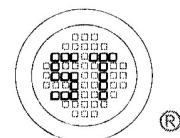
1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

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

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

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



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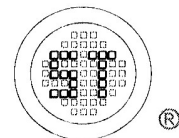
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ST 9013**Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$**

	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_{CB0}	-	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

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ST 9013

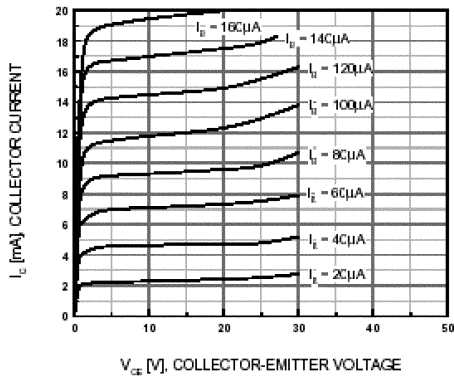


Figure 1. Static Characteristic

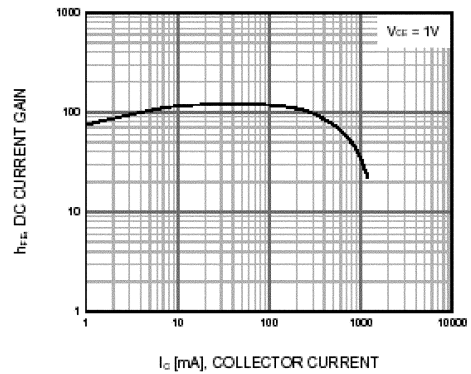


Figure 2. DC current Gain

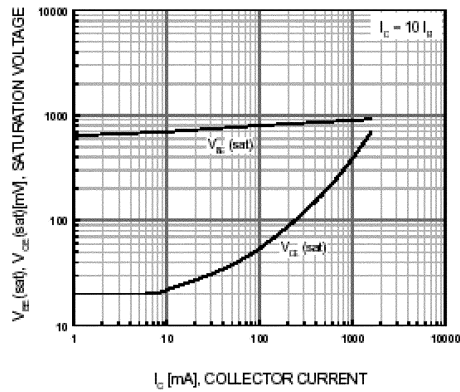


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

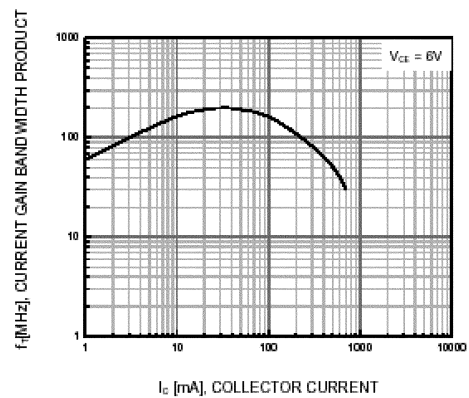
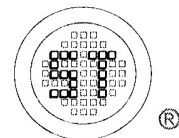


Figure 4. Current Gain Bandwidth Product



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