

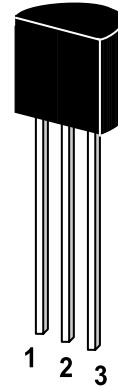
# ST 9012

## PNP 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 NPN transistor ST 9013 is recommended.

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



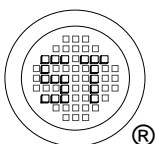
1. Emitter 2. Base 3. Collector

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	$^\circ\text{C}$

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



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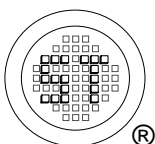


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Certificate No. 0506098

Dated : 07/12/2002

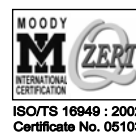
## Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}=1\text{V}$ , $-I_C=50\text{mA}$					
Current Gain Group G	$h_{FE}$	110	-	183	-
H	$h_{FE}$	177	-	250	-
I	$h_{FE}$	250	-	380	-
at $-V_{CE}=1\text{V}$ , $-I_C=500\text{mA}$	$h_{FE}$	40	-	-	-
Collector Cutoff Current at $-V_{CB}=31\text{V}$	$-I_{CBO}$	-	-	100	nA
Collector Emitter Breakdown Voltage at $-I_C=1\text{mA}$	$-V_{(BR)CEO}$	30	-	-	V
Emitter Base Cutoff Current at $-V_{EB}=5.1\text{V}$	$-I_{EBO}$	-	-	100	nA
Collector Saturation Voltage at $-I_C=500\text{mA}$ , $-I_B=20\text{mA}$	$-V_{CE(sat)}$	-	-	0.7	V
Base Saturation Voltage at $-I_C=500\text{mA}$ , $-I_B=20\text{mA}$	$-V_{BE(sat)}$	-	-	1.2	V
Base Emitter Voltage at $-V_{CE}=1\text{V}$ , $-I_C=50\text{mA}$	$-V_{BE}$	0.6	-	0.75	V
Gain Bandwidth Product at $-V_{CE}=5\text{V}$ , $-I_C=10\text{mA}$ , $f=50\text{MHz}$	$f_T$	-	100	-	MHz
Collector Base Capacitance at $-V_{CB}=10\text{V}$ , $f=1\text{MHz}$	$C_{CBO}$	-	12	-	pF
Thermal Resistance Junction to Ambient	$R_{thA}$	-	-	200 <sup>1)</sup>	K/W
1) Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case					

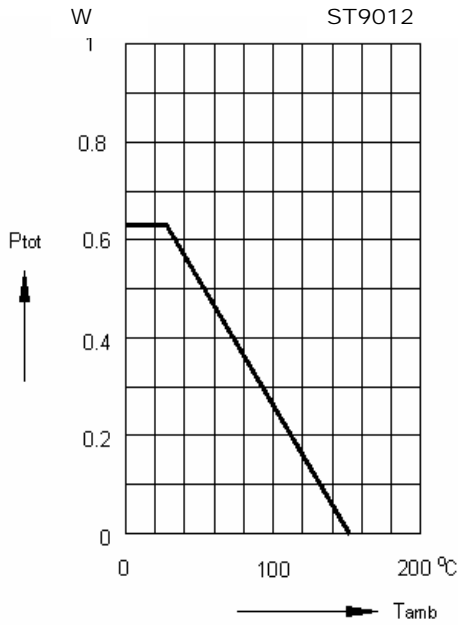


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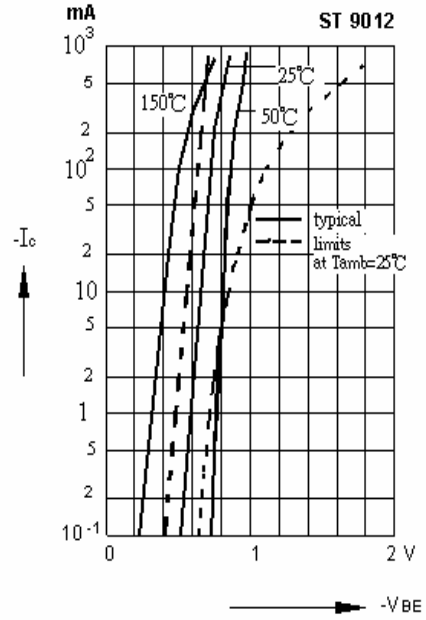
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Admissible power dissipation  
 Versus ambient temperature  
 Valid provided that leads are kept at ambient  
 temperature at a distance of 2 mm from case

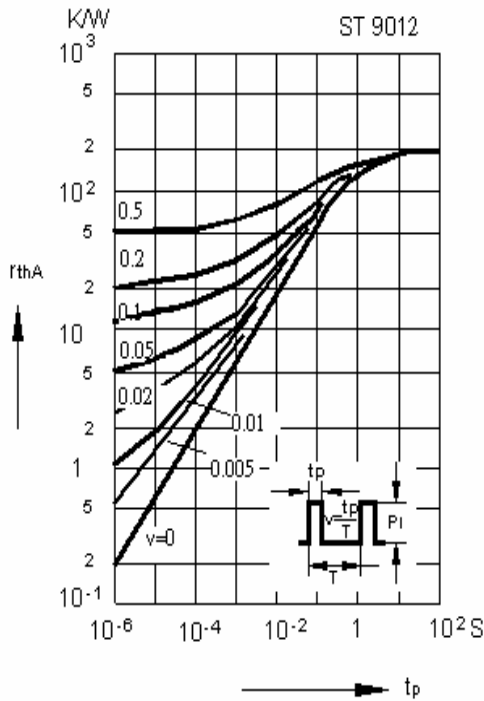


Collector current  
 versus base emitter voltage

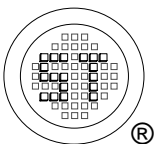
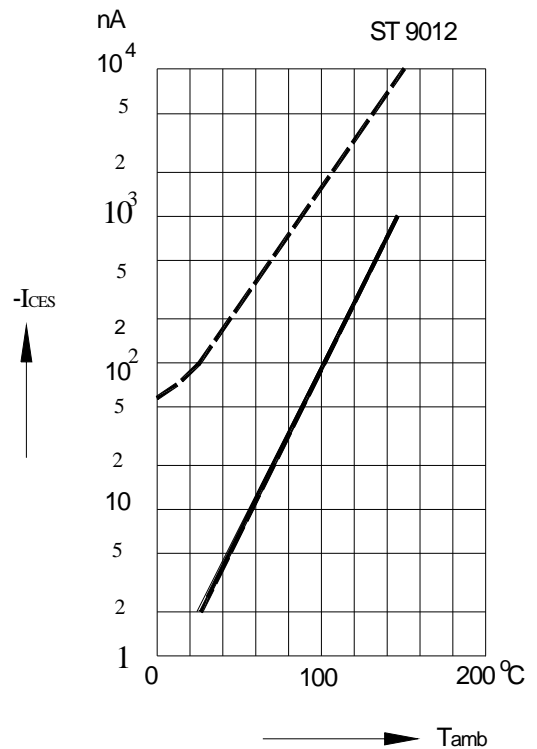


Pulse thermal resistance  
 versus pulse duration

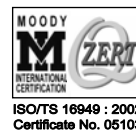
Valid provided that leads are kept  
 at ambient temperature at a distance of 2mm from



Collector cutoff current  
 versus ambient temperature



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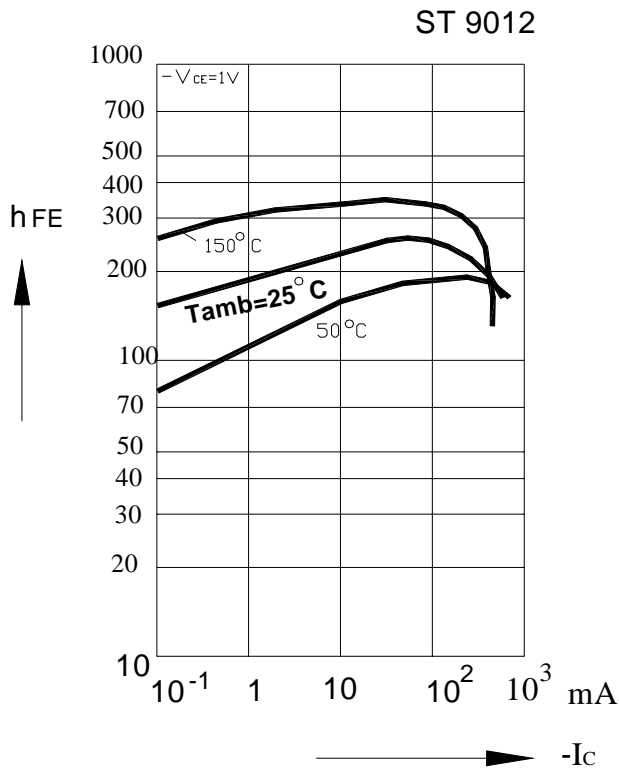


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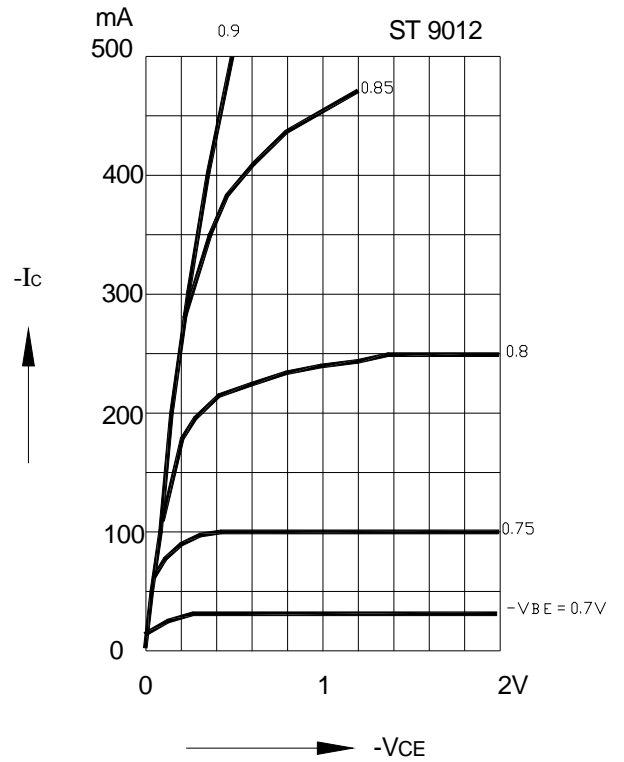
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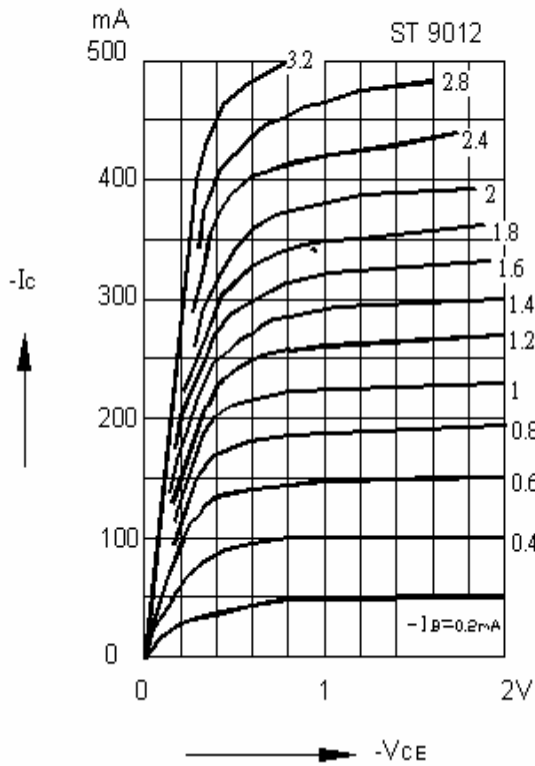
DC current gain versus collector current



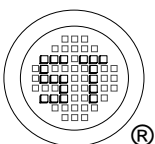
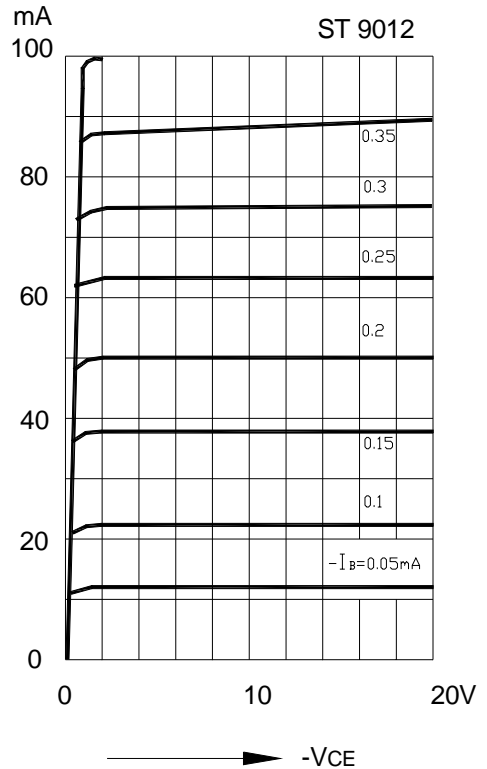
Common emitter collector characteristic



Common emitter collector characteristics



Common emitter collector characteristics



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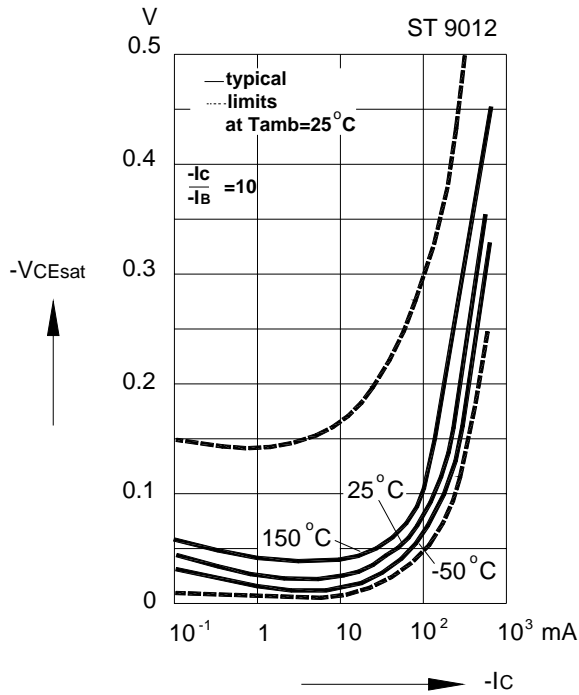


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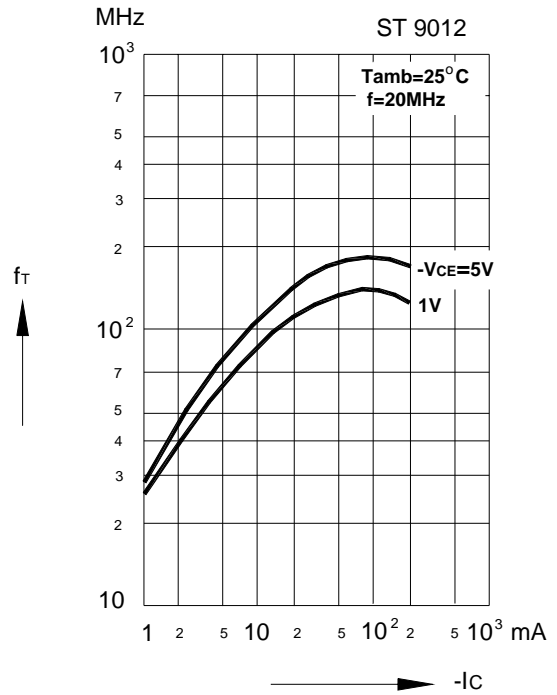


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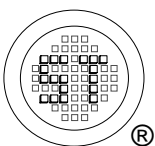
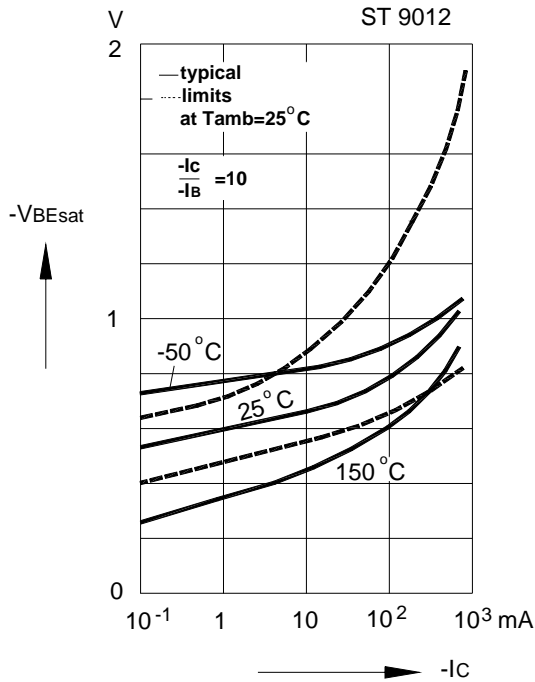
**Collector saturation voltage versus collector current**



**Gain bandwidth product versus collector current**



**Base saturation voltage versus collector current**



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