

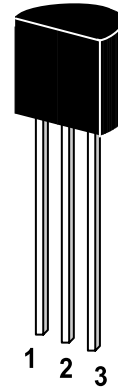
# ST 8050

## 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 four groups, B, C, D and E, according to its DC current gain. As complementary type the PNP transistor ST 8550 is recommended.

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

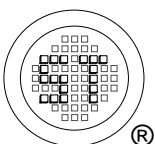


1. Emitter 2. Base 3. Collector

TO-92 Plastic Package  
Weight approx. 0.19g

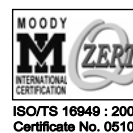
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

	Symbol	Value	Unit
Collector Emitter Voltage	$V_{CEO}$	25	V
Collector Base Voltage	$V_{CBO}$	40	V
Emitter Base Voltage	$V_{EBO}$	6	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 <sup>1)</sup>	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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Certificate No. 7116

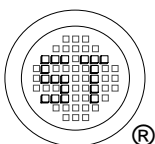
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Dated : 01/09/2003

# ST 8050

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

	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE}=1\text{V}$ , $I_C=100\text{mA}$	ST 8050B	$h_{FE}$	70	-	120	-
	ST 8050C	$h_{FE}$	120	-	200	-
	ST 8050D	$h_{FE}$	160	-	300	-
	ST 8050E	$h_{FE}$	300	-	380	-
	at $V_{CE}=1\text{V}$ , $I_C=350\text{mA}$	$h_{FE}$	60	-	-	-
Collector Cutoff Current at $V_{CB}=35\text{V}$	$I_{CBO}$	-	-	100	nA	
Collector Saturation Voltage at $I_C=500\text{mA}$ , $I_B=50\text{mA}$	$V_{CE(sat)}$	-	-	0.5	V	
Base Saturation Voltage at $I_C=500\text{mA}$ , $I_B=50\text{mA}$	$V_{BE(sat)}$	-	-	1.2	V	
Collector Emitter Breakdown Voltage at $I_C=2\text{mA}$	$V_{(BR)CEO}$	25	-	-	V	
Collector Base Breakdown Voltage at $I_C=10\mu\text{A}$	$V_{(BR)CBO}$	40	-	-	V	
Emitter Base Breakdown Voltage at $I_E=100\mu\text{A}$	$V_{(BR)EBO}$	6	-	-	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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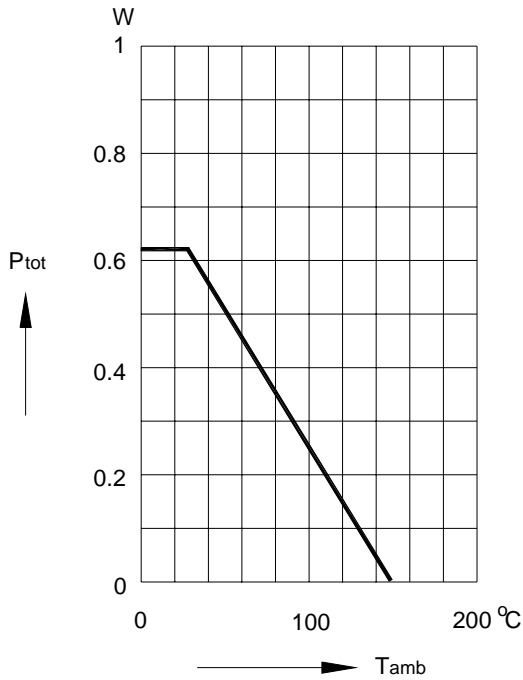


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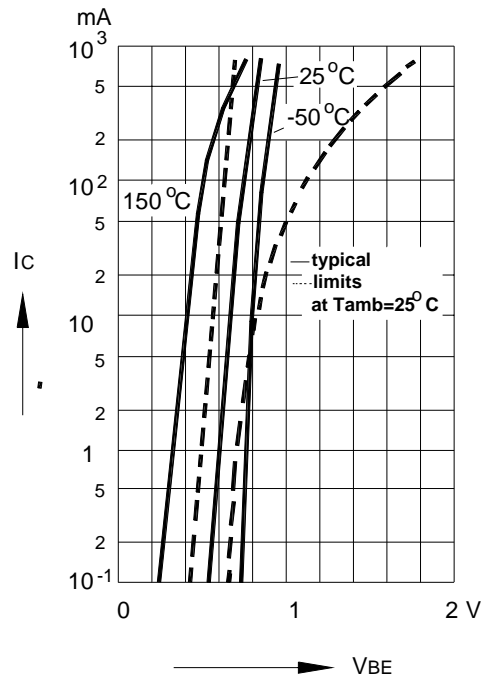
Dated : 01/09/2003

**Admissible power dissipation versus ambient temperature**

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

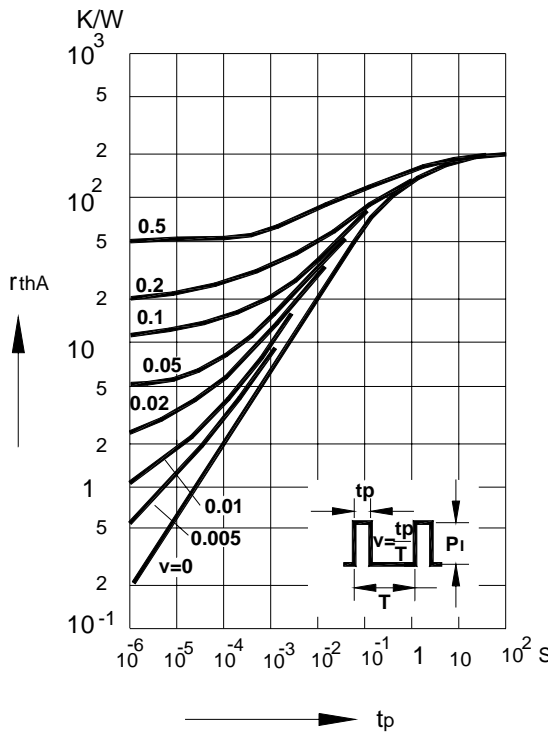


**Collector current versus base emitter voltage**

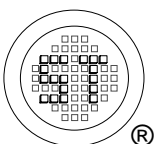
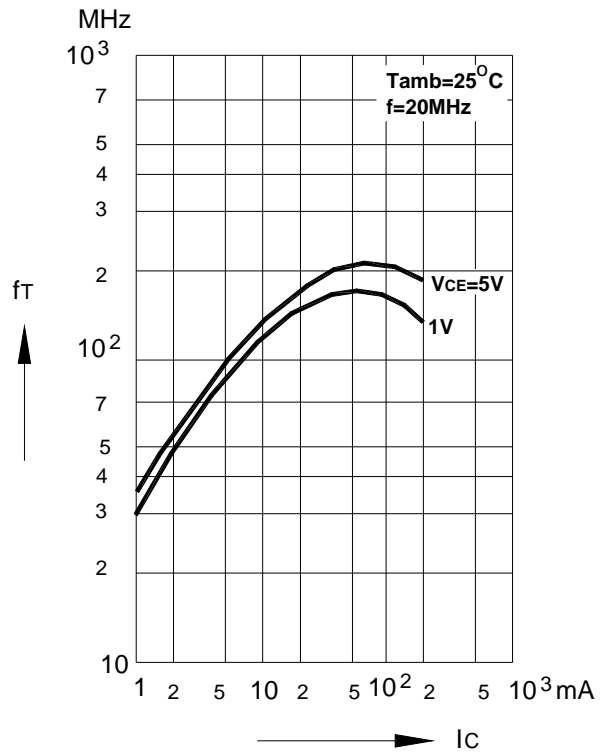


**Pulse thermal resistance versus pulse duration**

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**Gain bandwidth product versus collector current**



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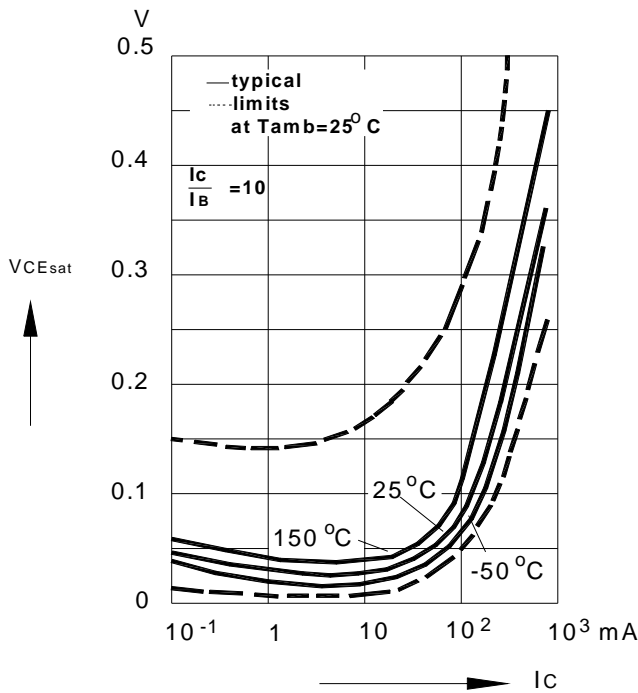


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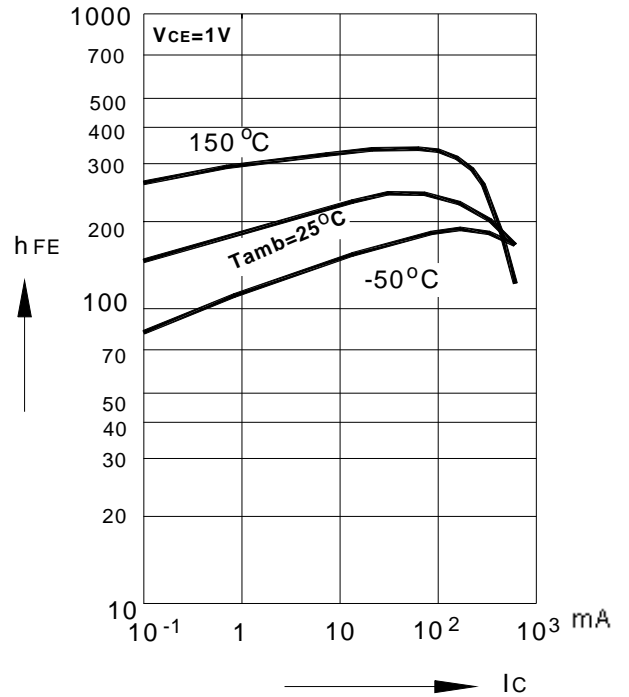


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Certificate No. 0506098

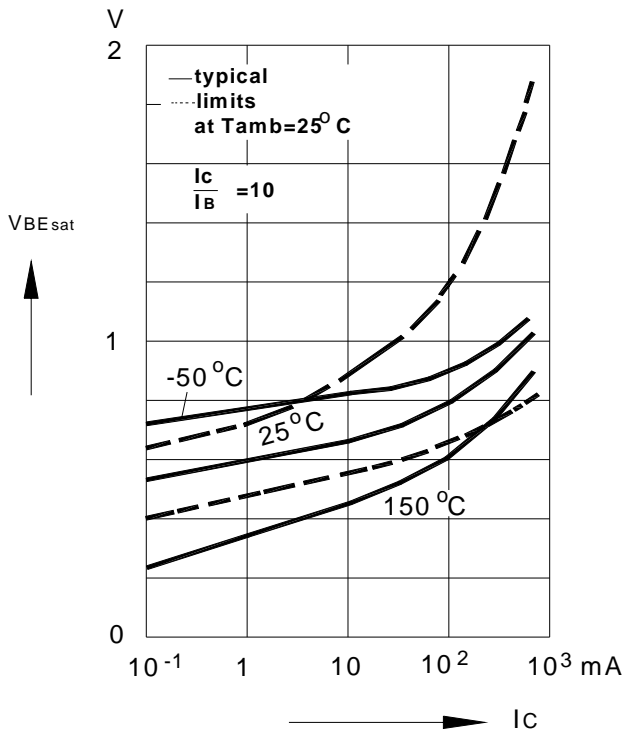
Collector saturation voltage versus collector current



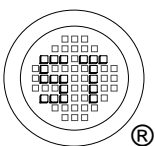
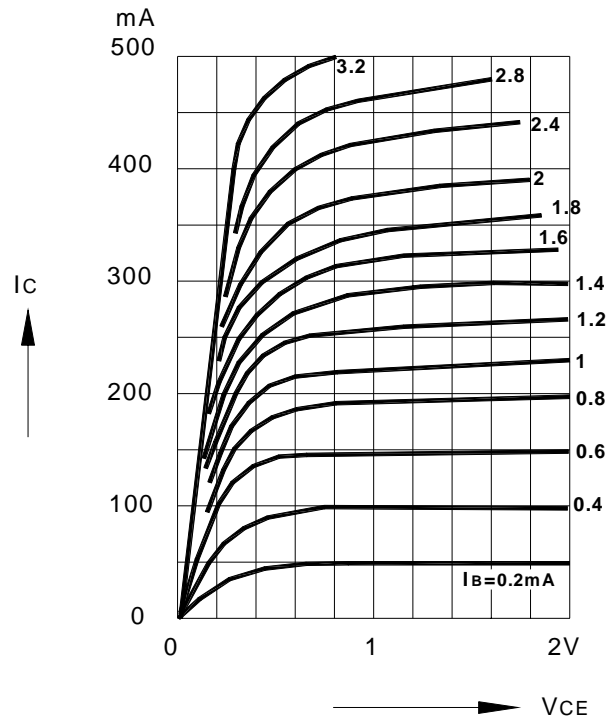
DC current gain versus collector current



Base saturation voltage versus collector current



Common emitter collector characteristics



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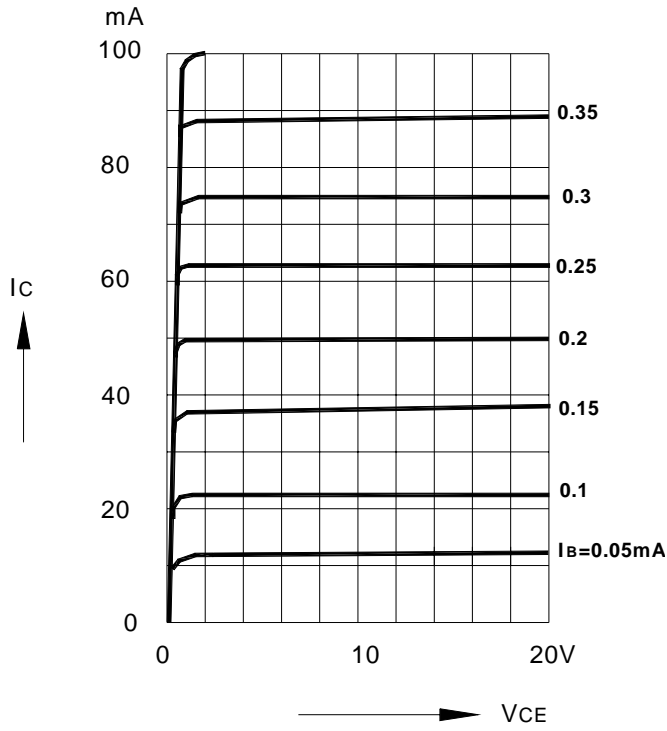


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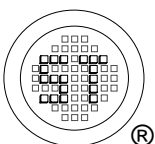
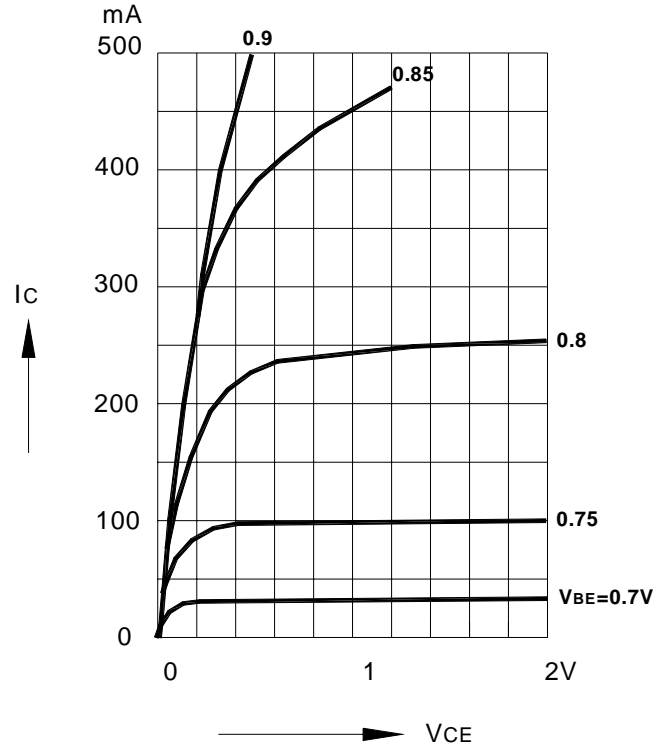


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Common emitter collector characteristics



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