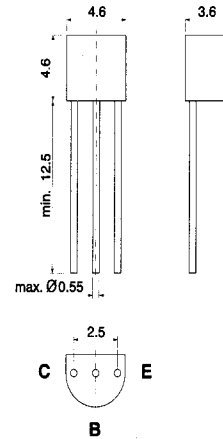


## NPN Silicon Expitaxial Planar Transistor

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

These types are also available subdivided into three groups -16, -25 and -40, according to their DC current gain. As complementary types, the PNP transistors BC327 and BC328 are recommended.

On special request, these transistors can be manufactured in different pin configurations. Please refer to the "TO-92 TRANSISTOR PACKAGE OUTLINE" on page 80 for the available pin options.



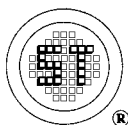
TO-92 Plastic Package  
Weight approx. 0.18 g  
Dimensions in mm

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

		Symbol	Value	Unit
Collector Emitter Voltage	HN / BC 337	$V_{CES}$	50	V
	HN / BC 338	$V_{CES}$	30	V
Collector Emitter Voltage	HN / BC 337	$V_{CEO}$	45	V
	HN / BC 338	$V_{CEO}$	25	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 at $T_{amb} = 25^\circ\text{C}$		$P_{tot}$	625 <sup>1)</sup>	mW
Junction Temperature		$T_J$	150	$^\circ\text{C}$
Storage Temperature Range		$T_S$	-65 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

G S P FORM A AVAILABLE

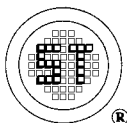


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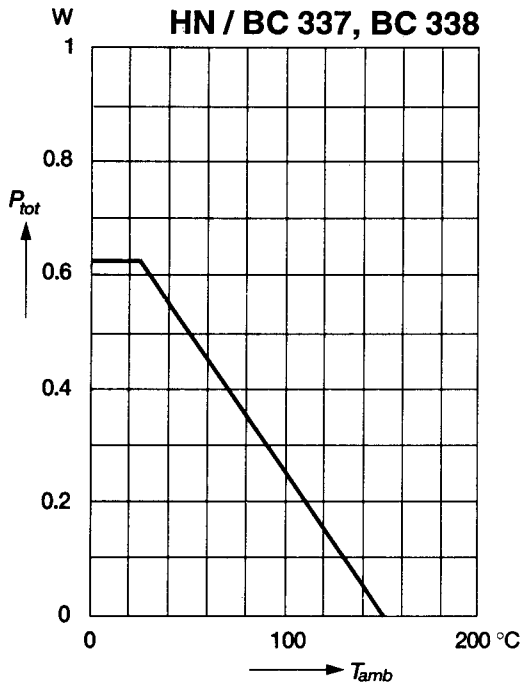
**Characteristics at  $T_{amb} = 25\text{ }^\circ\text{C}$**

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain. at $V_{CE} = 1\text{V}, I_C = 100\text{ mA}$					
Current Gain Group-16	$h_{FE}$	100	160	250	-
-25	$h_{FE}$	160	250	400	-
-40	$h_{FE}$	250	400	630	-
at $V_{CE} = 1\text{V}, I_C = 300\text{ mA}$					
Current Gain Group-16	$h_{FE}$	60	130	-	-
-25	$h_{FE}$	100	200	-	-
-40	$h_{FE}$	170	320	-	-
Collector Emitter Cutoff Current					
at $V_{CE} = 45\text{ V}$	$I_{CES}$	-	2	100	nA
at $V_{CE} = 25\text{ V}$	$I_{CES}$	-	2	100	nA
at $V_{CE} = 45\text{ V}, T_{amb} = 125\text{ }^\circ\text{C}$	$I_{CES}$	-	-	10	$\mu\text{A}$
at $V_{CE} = 25\text{ V}, T_{amb} = 125\text{ }^\circ\text{C}$	$I_{CES}$	-	-	10	$\mu\text{A}$
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	20	-	-	V
	$V_{(BR)CEO}$	45	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 0.1\text{ mA}$	$V_{(BR)CES}$	30	-	-	V
	$V_{(BR)CES}$	50	-	-	V
Emitter Base Breakdown Voltage at $I_E = 0.1\text{ mA}$	$V_{(BR)EBO}$	5	-	-	V
Collector Saturation Voltage at $I_C = 500\text{ mA}, I_B = 50\text{ mA}$	$V_{CEsat}$	-	-	0.7	V
Base Emitter Voltage at $V_{CE} = 1\text{ V}, I_C = 300\text{ mA}$	$V_{BE}$	-	-	1.2	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 Air	$R_{thA}$	-	-	200 <sup>1)</sup>	K/W
1) Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.					

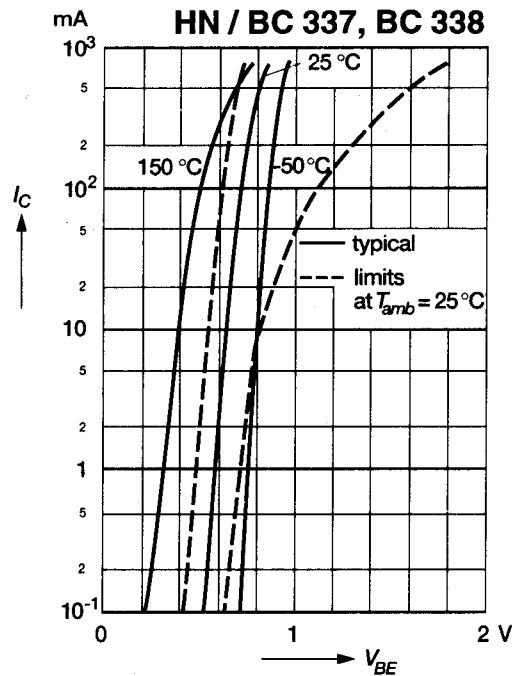


**Admissible power dissipation versus ambient temperature**

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

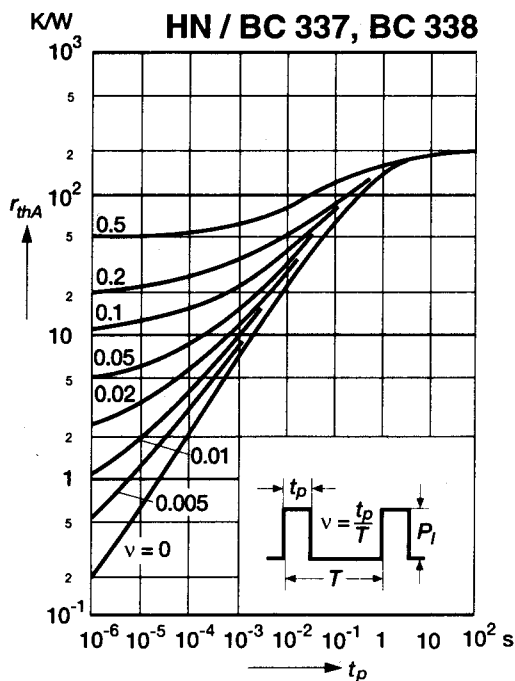


**Collector current versus base-emitter voltage**

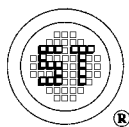
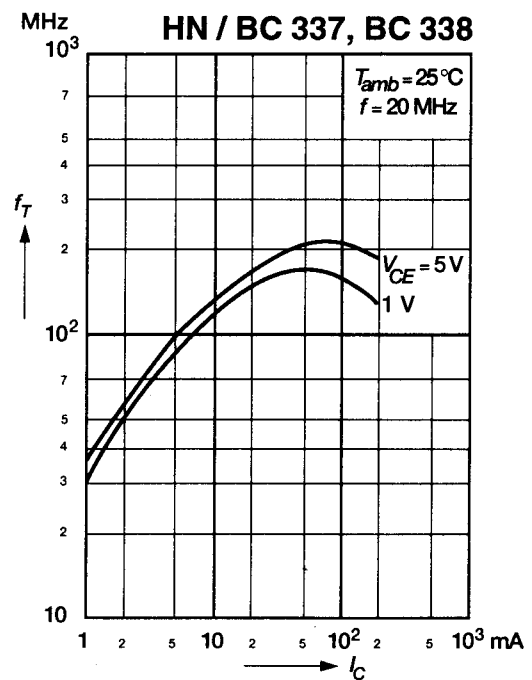


**Pulse thermal resistance versus pulse duration**

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



**Gain-bandwidth product versus collector current**

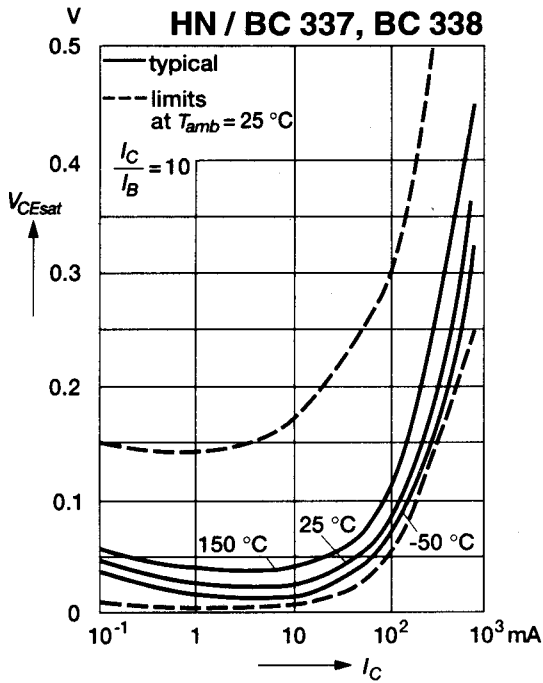


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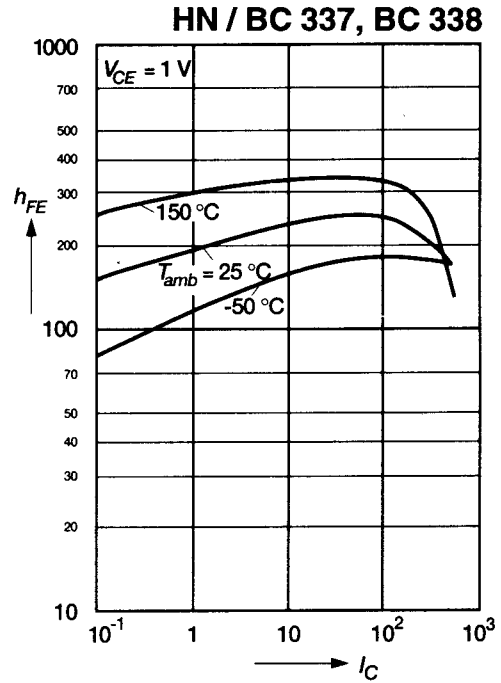
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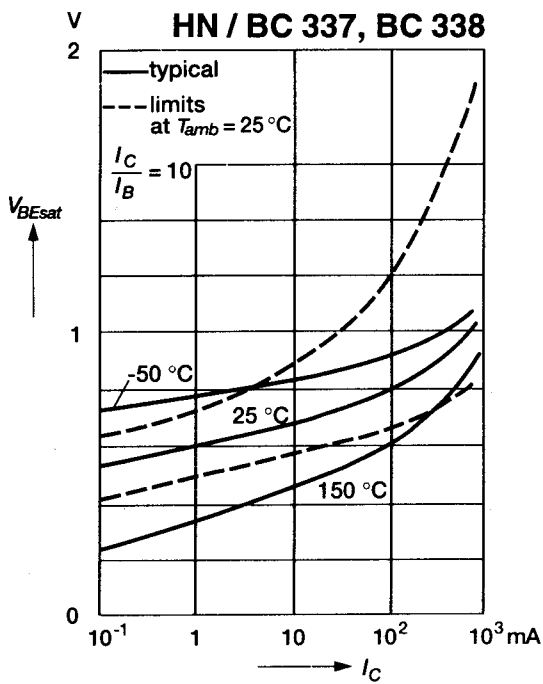
Collector saturation voltage versus collector current



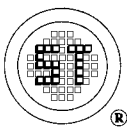
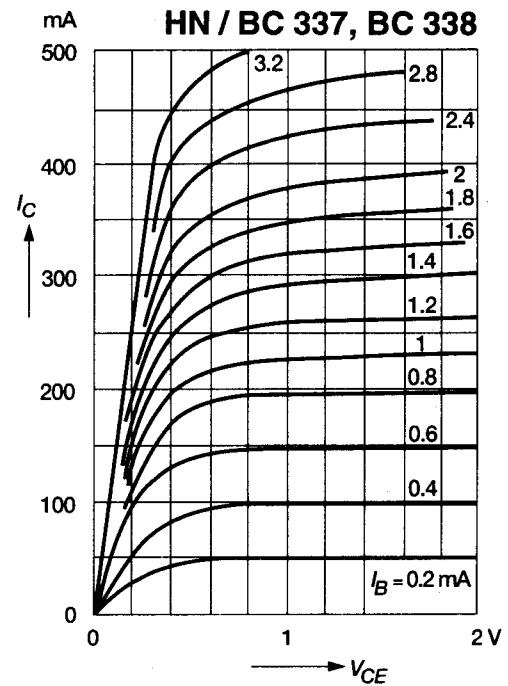
DC current gain versus collector current



Base saturation voltage versus collector current



Common emitter collector characteristics

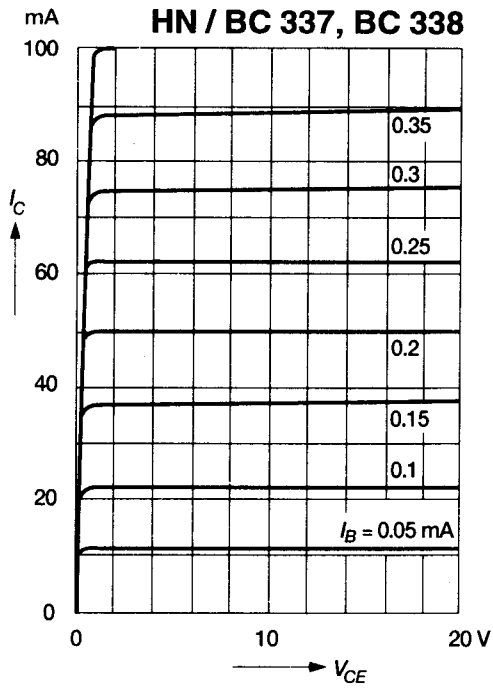


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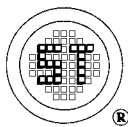
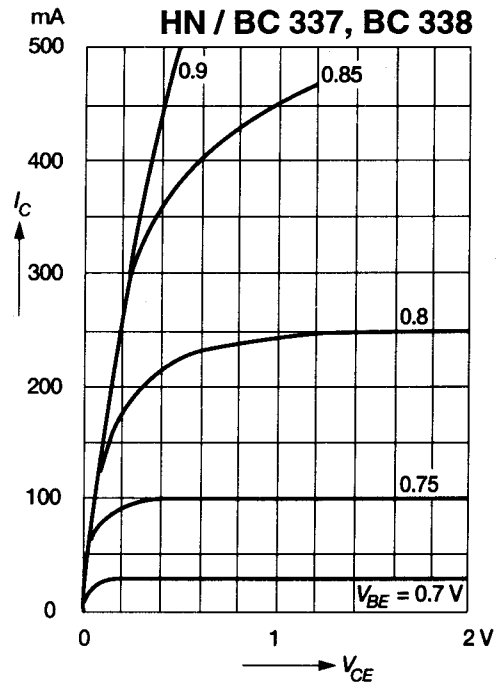
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Common emitter collector characteristics



Common emitter collector characteristics



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