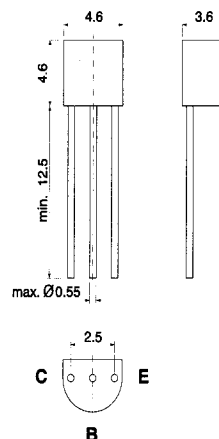


NPN Silicon Expitaxial Planar Transistor

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.

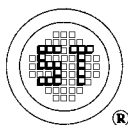


TO-92 Plastic Package
Weight approx. 0.18 g
Dimensions in mm

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 ¹⁾	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_s	-65 to + 150	$^\circ\text{C}$
¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case			

G S P FORM A AVAILABLE



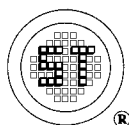
SEMTECH ELECTRONICS LTD.
(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)



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

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain. at $V_{CE} = 1\text{V}$, $I_C = 100\text{mA}$ Current Gain Group-16 -25 -40 at $V_{CE} = 1\text{V}$, $I_C = 300\text{mA}$ Current Gain Group-16 -25 -40	h_{FE} h_{FE} h_{FE} h_{FE} h_{FE} h_{FE}	100 160 250 60 100 170	160 250 400 130 200 320	250 400 630 - - -	- - - - - -
Collector Emitter Cutoff Current at $V_{CE} = 45\text{V}$ at $V_{CE} = 25\text{V}$ at $V_{CE} = 45\text{V}$, $T_{amb} = 125^{\circ}\text{C}$ at $V_{CE} = 25\text{V}$, $T_{amb} = 125^{\circ}\text{C}$	I_{CES} I_{CES} I_{CES} I_{CES}	- - - -	2 2 - -	100 100 10 10	nA nA μA μA
Collector Emitter Breakdown Voltage at $I_C = 10\text{mA}$	$V_{(BR)CEO}$ $V_{(BR)CEO}$	20 45	- -	- -	V V
Collector Emitter Breakdown Voltage at $I_C = 0.1\text{mA}$	$V_{(BR)CES}$ $V_{(BR)CES}$	30 50	- -	- -	V 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 ¹⁾	K/W

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

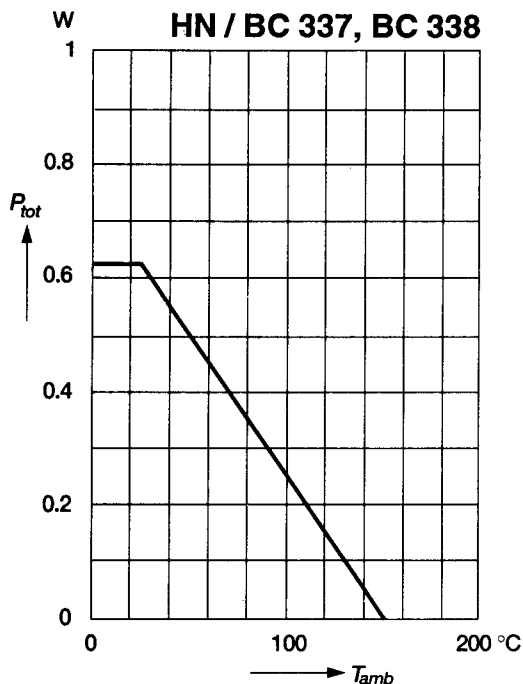


SEMTECH ELECTRONICS LTD.
(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)

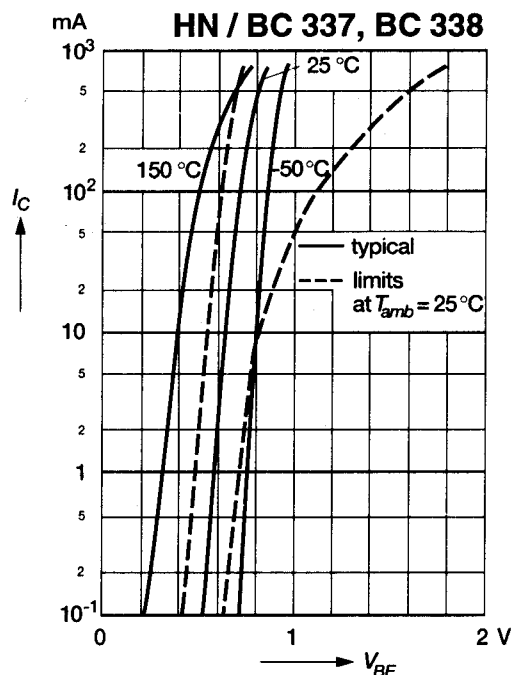


Admissible power dissipation versus ambient temperature

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

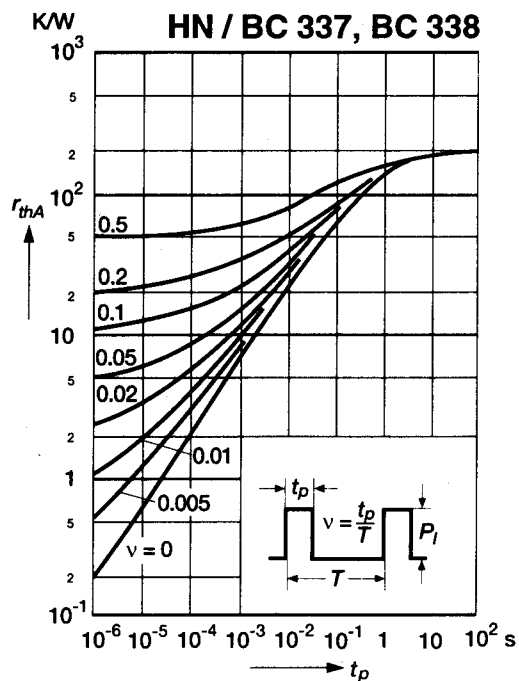


Collector current versus base-emitter voltage

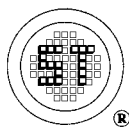
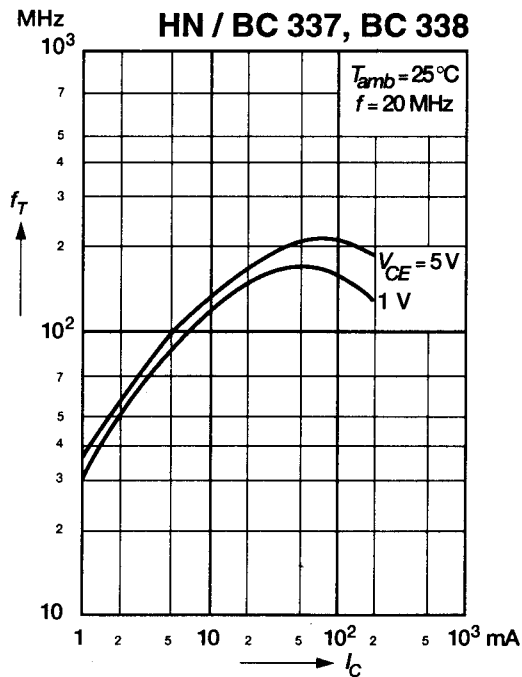


Pulse thermal resistance versus pulse duration

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



Gain-bandwidth product versus collector current

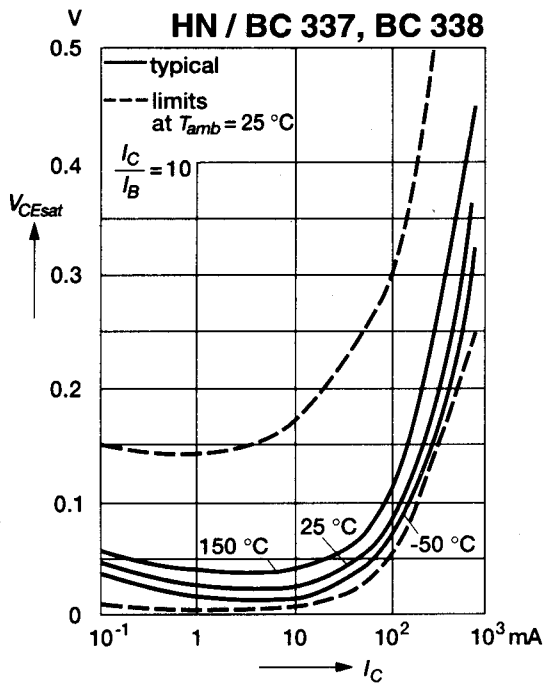


SEMTECH ELECTRONICS LTD.

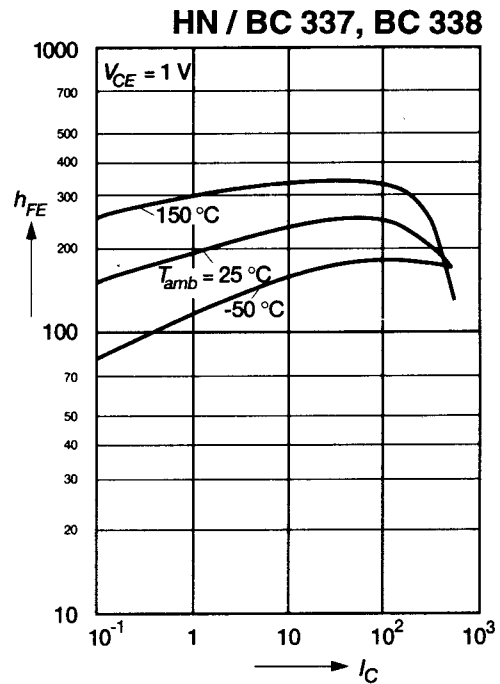
(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)



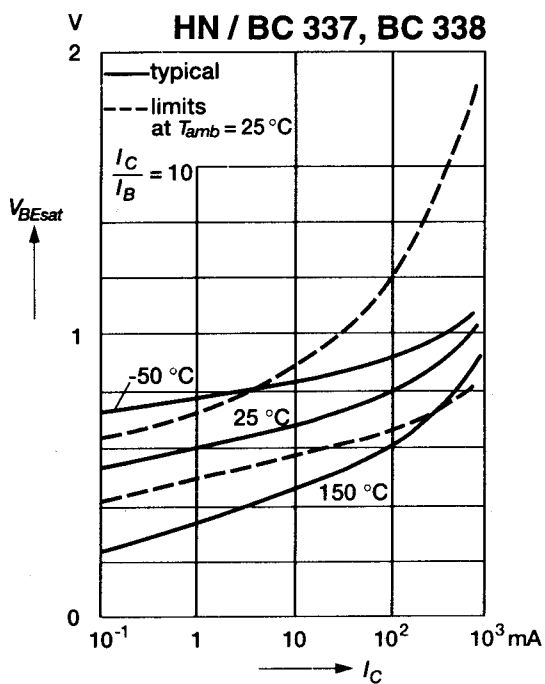
**Collector saturation voltage
versus collector current**



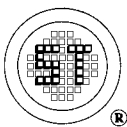
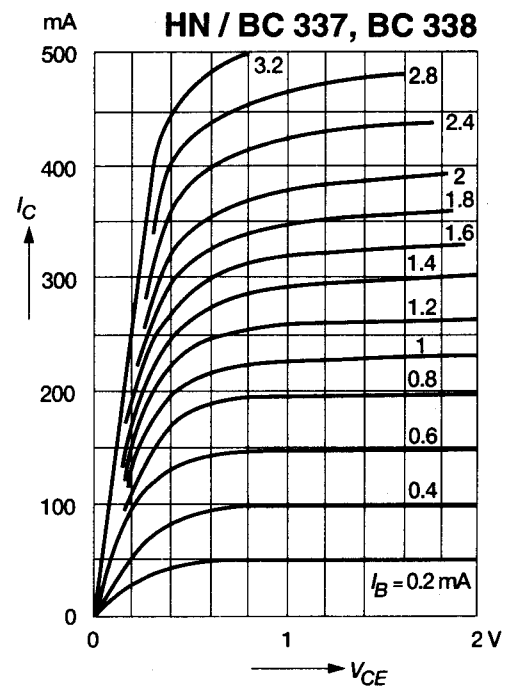
**DC current gain
versus collector current**



**Base saturation voltage
versus collector current**



**Common emitter
collector characteristics**

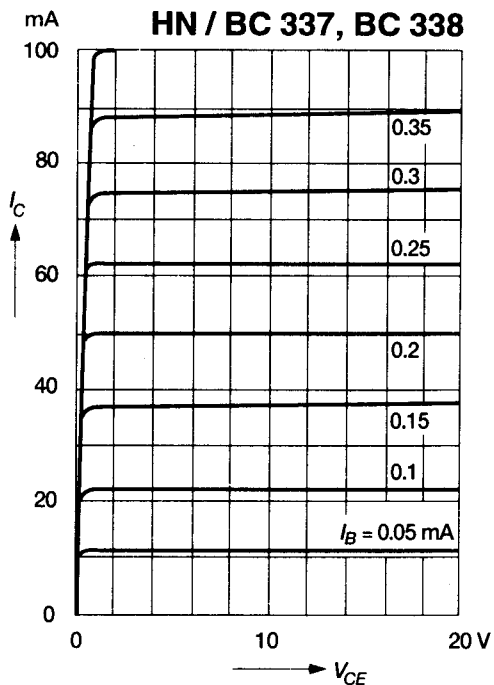


SEMTECH ELECTRONICS LTD.

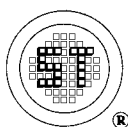
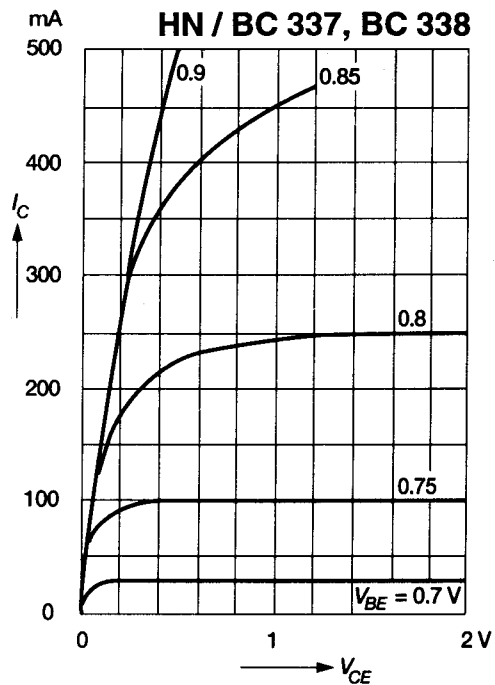
(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)



Common emitter collector characteristics



Common emitter collector characteristics



SEMTECH ELECTRONICS LTD.

(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)

