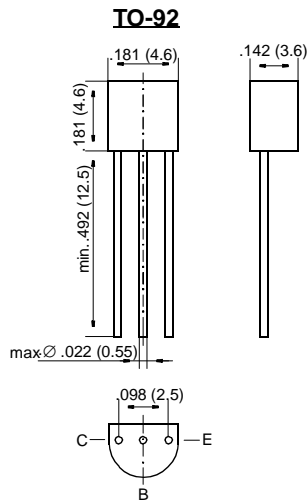


BC337, BC338

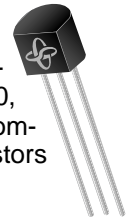
Small Signal Transistors (NPN)



Dimensions in inches and (millimeters)

FEATURES

- ◆ NPN Silicon Epitaxial Planar Transistors 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 are also manufactured in the pin configuration TO-18.



MECHANICAL DATA

Case: TO-92 Plastic Package

Weight: approx. 0.18 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

		Symbol	Value	Unit
Collector-Emitter Voltage	BC337	V_{CES}	50	V
	BC338	V_{CES}	30	V
Collector-Emitter Voltage	BC337	V_{CEO}	45	V
	BC338	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 $T_{amb} = 25\text{ °C}$		P_{tot}	625 ¹⁾	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_S	-65 to +150	°C

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

BC337, BC338

ELECTRICAL CHARACTERISTICS

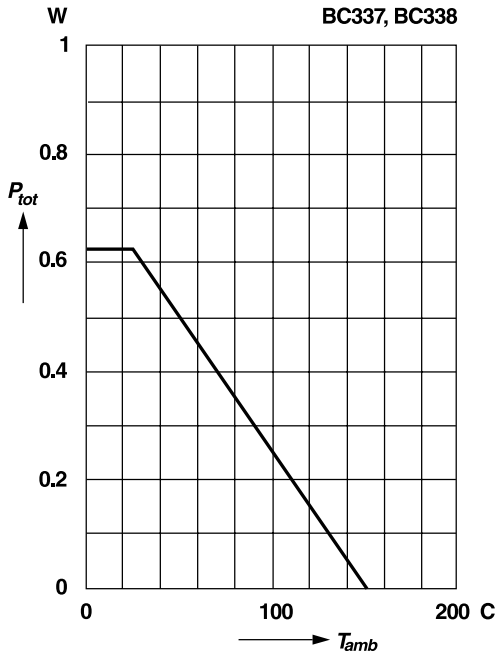
Ratings at 25 °C ambient temperature unless otherwise specified

	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 $V_{CE} = 45\text{ V}$, $T_{amb} = 125\text{ °C}$	I_{CES}	–	–	10	μA
at $V_{CE} = 25\text{ V}$, $T_{amb} = 125\text{ °C}$	I_{CES}	–	–	10	μA
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_{thJA}	–	–	200 ¹⁾	K/W
1) Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case					

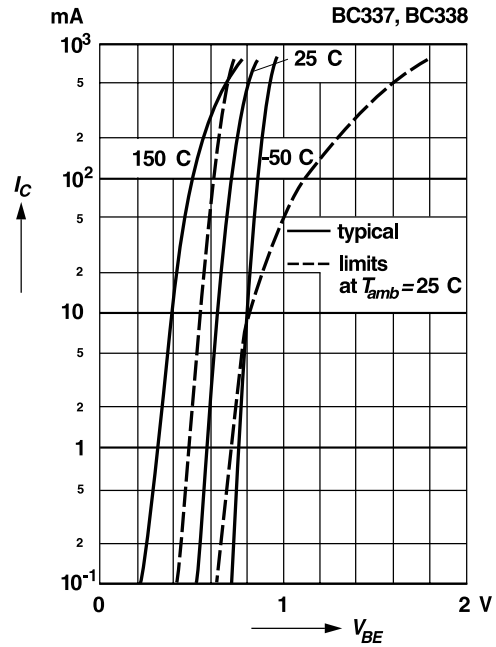
RATINGS AND CHARACTERISTIC CURVES BC337, BC338

Admissible power dissipation versus ambient temperature

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

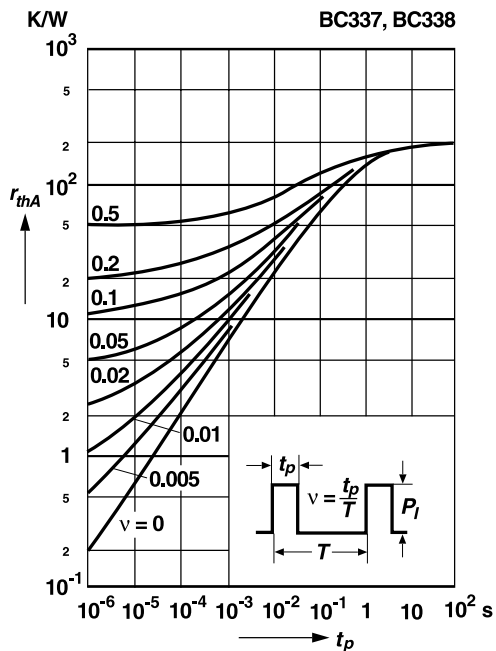


Collector current versus base-emitter voltage

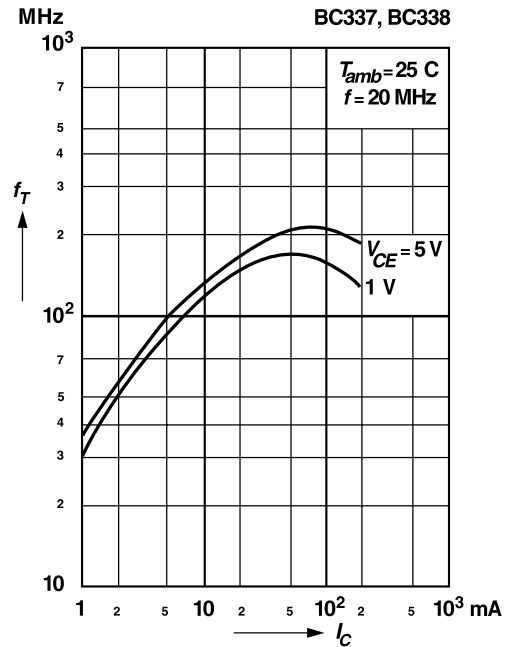


Pulse thermal resistance versus pulse duration

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

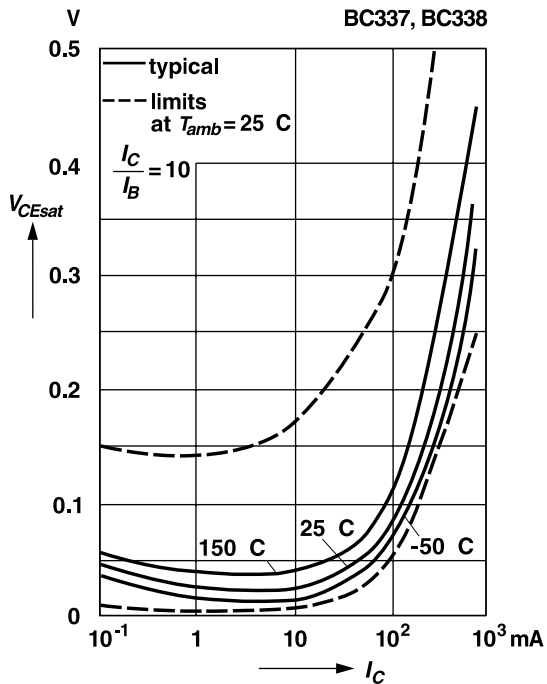


Gain-bandwidth product versus collector current

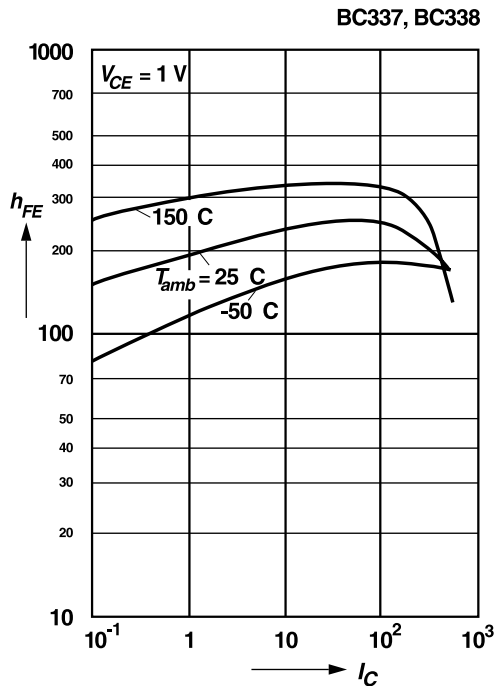


RATINGS AND CHARACTERISTIC CURVES BC337, BC338

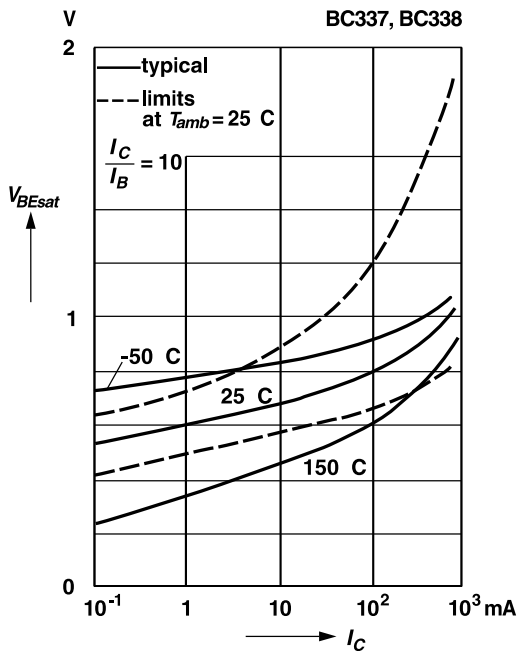
Collector saturation voltage versus collector current



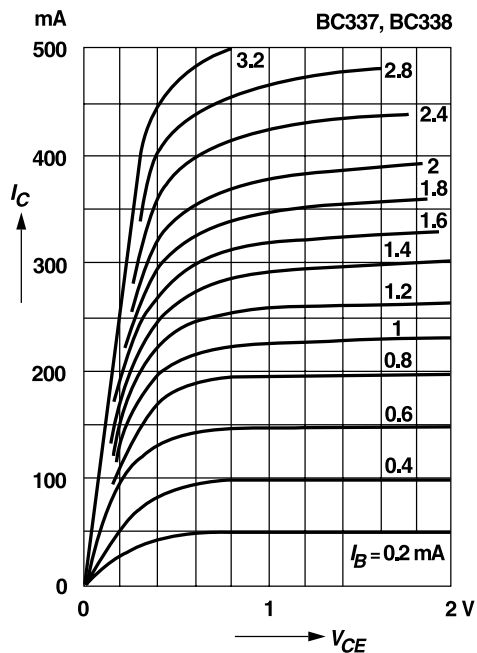
DC current gain versus collector current



Base saturation voltage versus collector current

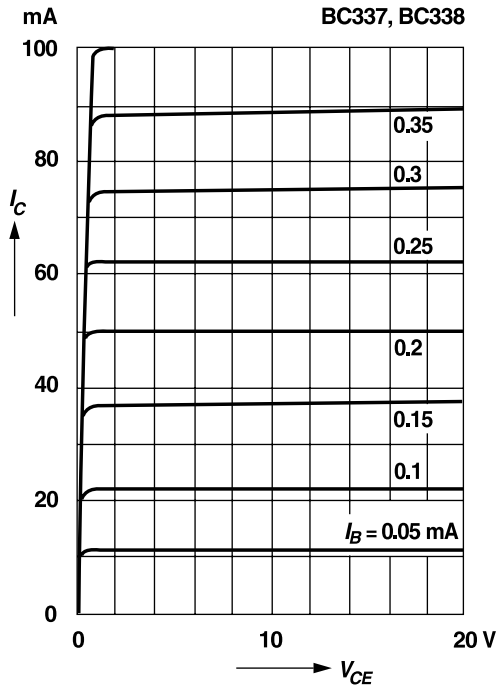


Common emitter collector characteristics

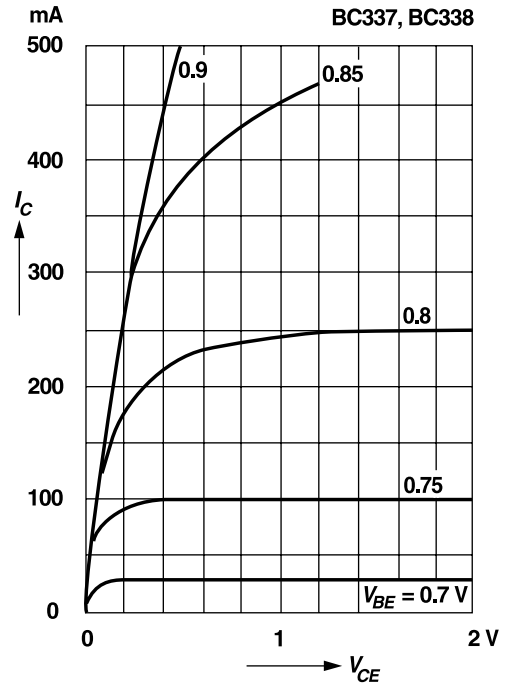


RATINGS AND CHARACTERISTIC CURVES BC337, BC338

Common emitter
collector characteristics



Common emitter
collector characteristics



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