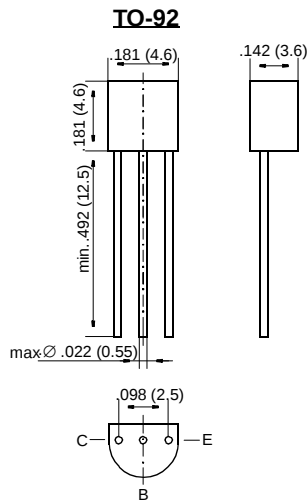


BC337, BC338

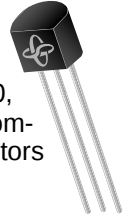
Small Signal Transistors (NPN)



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 BC338 V_{CES}	50	V
	V_{CES}	30	V
Collector-Emitter Voltage	BC337 BC338 V_{CEO}	45	V
	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

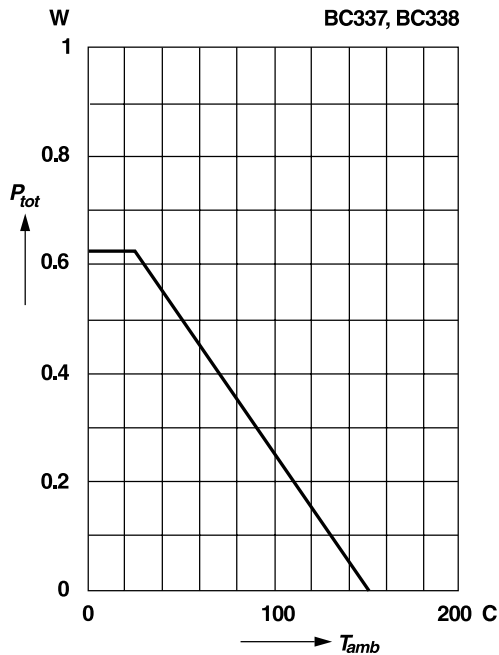
	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 1\text{ V}$, $I_C = 100\text{ mA}$ Current Gain Group -16 -25 -40	h_{FE} h_{FE} h_{FE}	100 160 250	160 250 400	250 400 630	— — —
at $V_{CE} = 1\text{ V}$, $I_C = 300\text{ mA}$ Current Gain Group -16 -25 -40	h_{FE} h_{FE} h_{FE}	60 100 170	130 200 320	— — —	— — —
Collector-Emitter Cutoff Current at $V_{CE} = 45\text{ V}$ at $V_{CE} = 25\text{ V}$ at $V_{CE} = 45\text{ V}$, $T_{amb} = 125\text{ °C}$ at $V_{CE} = 25\text{ V}$, $T_{amb} = 125\text{ °C}$	BC337 BC338 BC337 BC338 I_{CES} I_{CES} I_{CES} I_{CES}	— — — —	2 2 — —	100 100 10 10	nA nA μA μA
Collector-Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	BC338 BC337 $V_{(BR)CEO}$ $V_{(BR)CEO}$	20 45	— —	— —	V V
Collector-Emitter Breakdown Voltage at $I_C = 0.1\text{ mA}$	BC338 BC337 $V_{(BR)CES}$ $V_{(BR)CES}$	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_{thJA}	—	—	200 ¹⁾	K/W

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

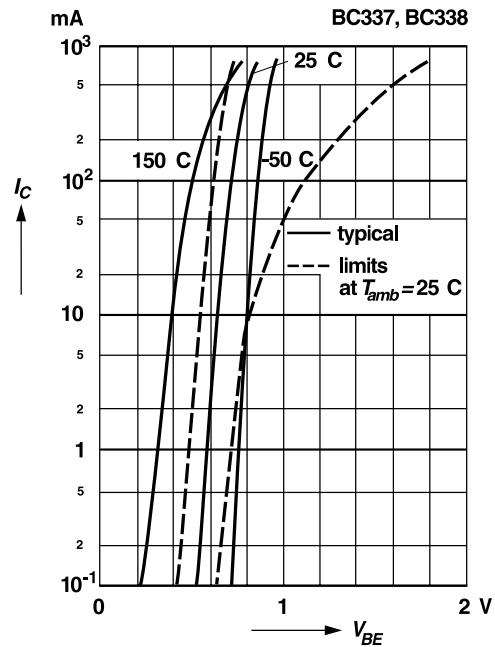
RATINGS AND CHARACTERISTIC CURVES BC337, BC338

Admissible power dissipation versus ambient temperature

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

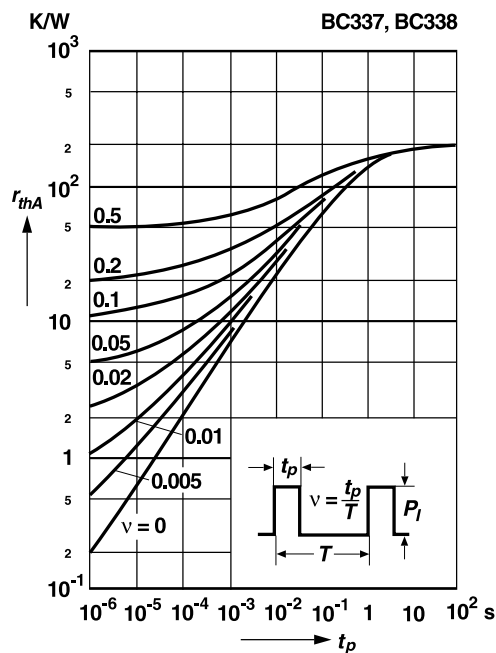


Collector current versus base-emitter voltage

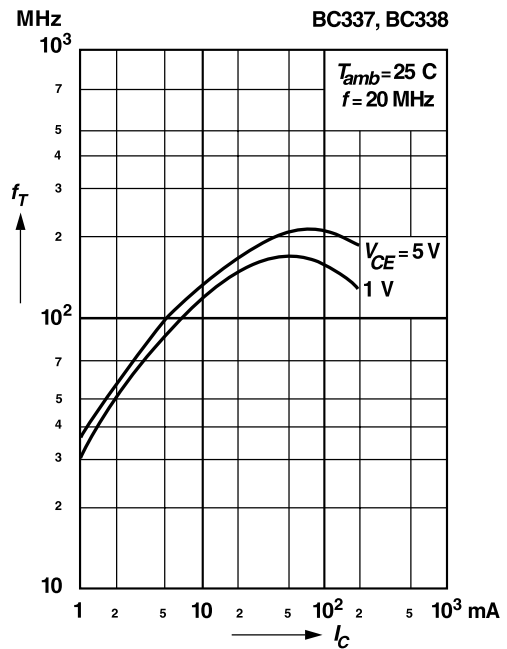


Pulse thermal resistance versus pulse duration

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

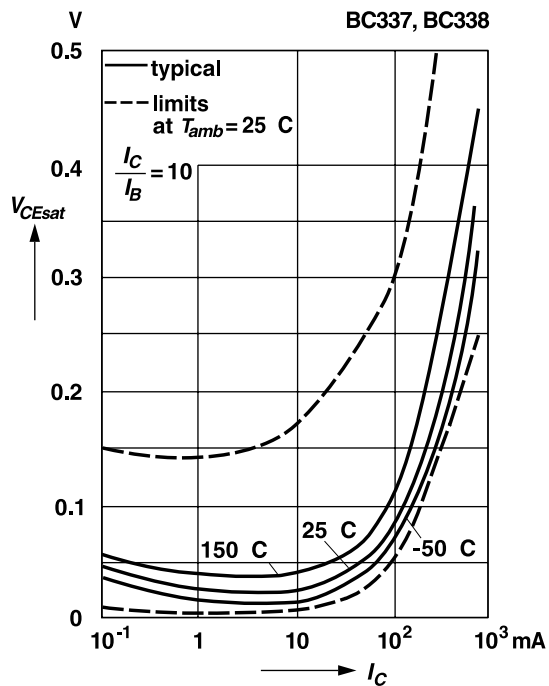


Gain-bandwidth product versus collector current

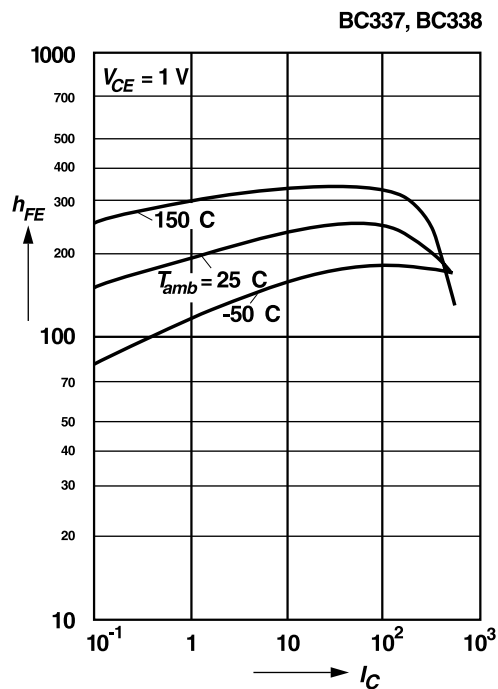


RATINGS AND CHARACTERISTIC CURVES BC337, BC338

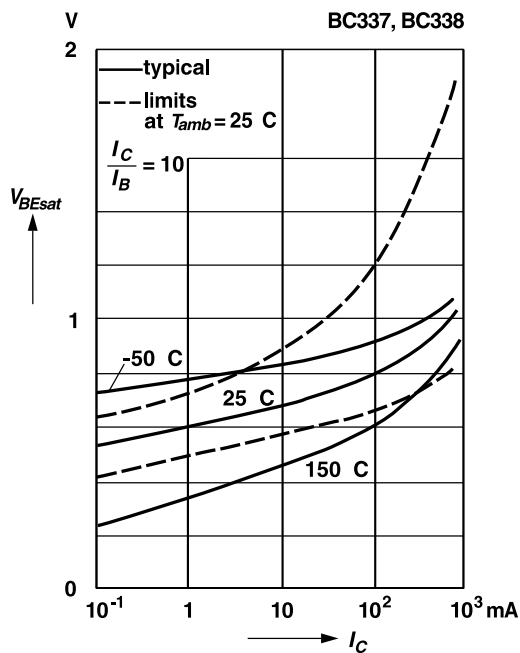
Collector saturation voltage
versus collector current



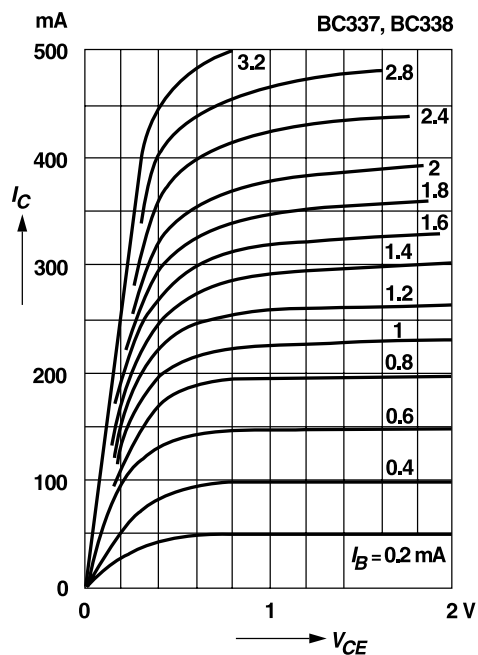
DC current gain
versus collector current



Base saturation voltage
versus collector current

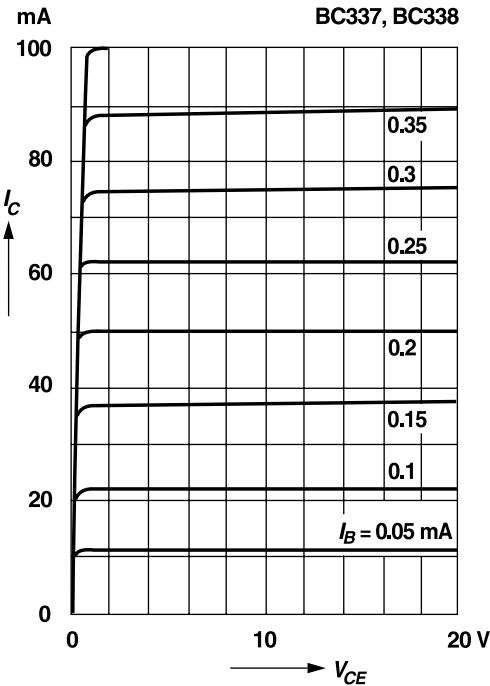


Common emitter
collector characteristics



RATINGS AND CHARACTERISTIC CURVES BC337, BC338

Common emitter
collector characteristics



Common emitter
collector characteristics

