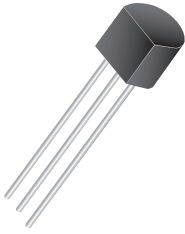
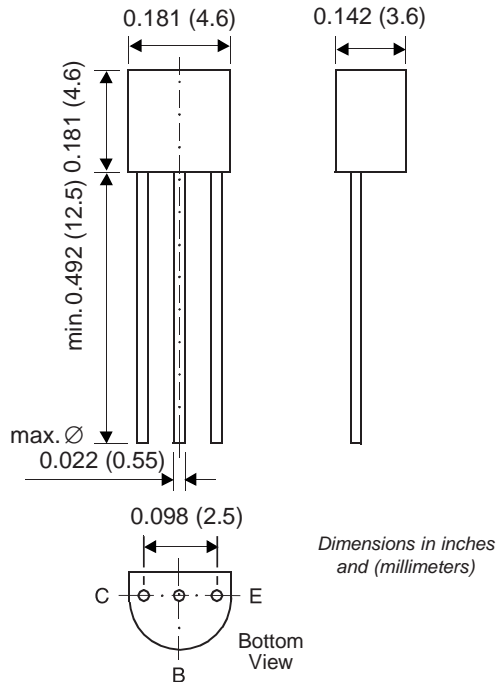


Small Signal Transistors (NPN)


TO-226AA (TO-92)


Features

- NPN Silicon Epitaxial Planar Transistors for switching and amplifier applications. Especially suited 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, this transistor is also manufactured in the pin configuration TO-18.

Mechanical Data

Case: TO-92 Plastic Package

Weight: approx. 0.18g

Packaging Codes/Options:

E6/Bulk – 5K per container, 20K/box

E7/4K per Ammo mag., 20K/box

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter		Symbol	Value	Unit
Collector-Emitter Voltage	BC337	V _{CES}	50	V
	BC338		30	
Collector-Emitter Voltage	BC337	V _{CEO}	45	V
	BC338		25	
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°C		P _{tot}	625 ⁽¹⁾	mW
Thermal Resistance Junction to Ambient Air		R _{θJA}	200 ⁽¹⁾	°C/W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _S	-65 to +150	°C

Note:

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

BC337 and BC338



Vishay Semiconductors
formerly General Semiconductor

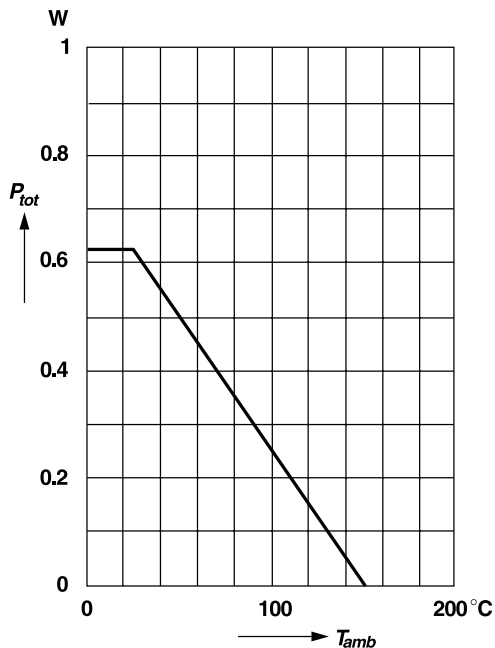
Electrical Characteristics (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
DC Current Gain	h _{FE}	V _{CE} = 1 V, I _C = 100 mA	100	160	250	—
			160	250	400	
			250	400	630	
		V _{CE} = 1 V, I _C = 300 mA	60	130	—	
			100	200	—	
			170	320	—	
Collector-Emitter Cutoff Current	I _{CES}	V _{CE} = 45 V	—	2	100	nA
		V _{CE} = 25 V	—	2	100	nA
		V _{CE} = 45 V, T _{amb} = 125°C	—	—	10	μA
		V _{CE} = 25 V, T _{amb} = 125°C	—	—	10	μA
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 10 mA	45	—	—	V
			20	—	—	
Collector-Emitter Breakdown Voltage	V _{(BR)CES}	I _C = 0.1 mA	50	—	—	V
			30	—	—	
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E = 0.1 mA	5	—	—	V
Collector Saturation Voltage	V _{CEsat}	I _C = 500 mA, I _B = 50 mA	—	—	0.7	V
Base-Emitter Voltage	V _{BE}	V _{CE} = 1 V, I _C = 300 mA	—	—	1.2	V
Gain-Bandwidth Product	f _T	V _{CE} = 5 V, I _C = 10 mA f = 50 MHz	—	100	—	MHz
Collector-Base Capacitance	C _{CB0}	V _{CB} = 10 V, f = 1 MHz	—	12	—	pF

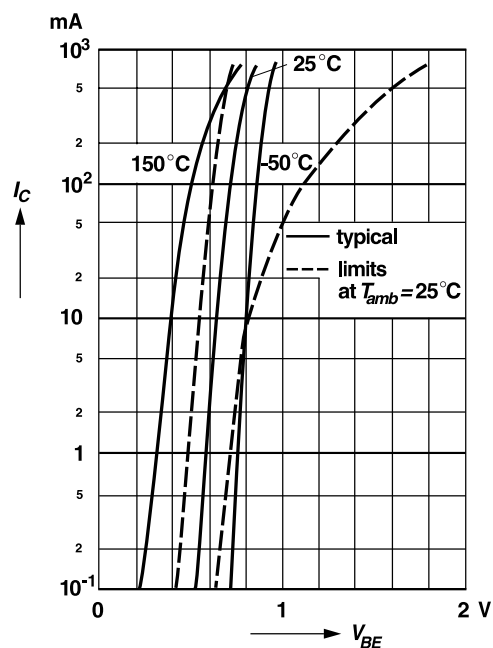
Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Admissible power dissipation versus ambient temperature

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



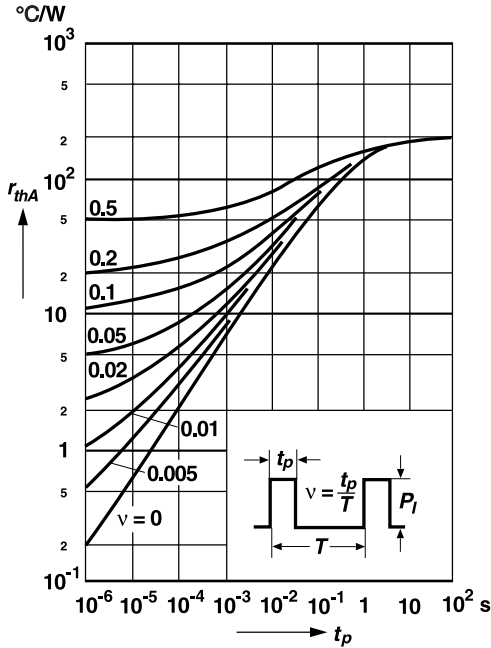
Collector current versus base-emitter voltage



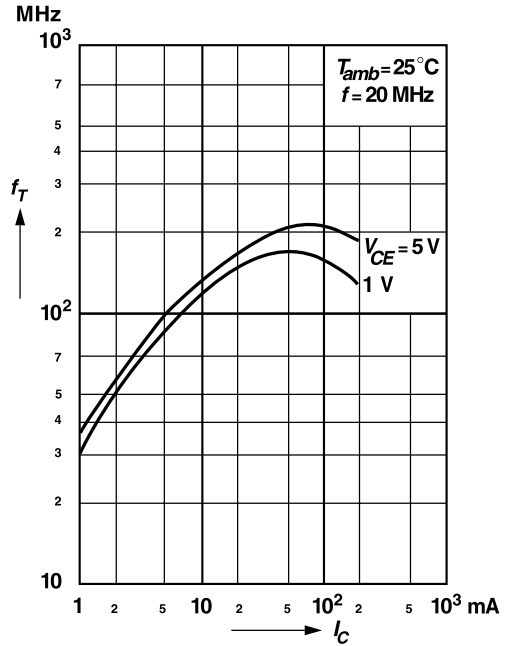
Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Pulse thermal resistance versus pulse duration

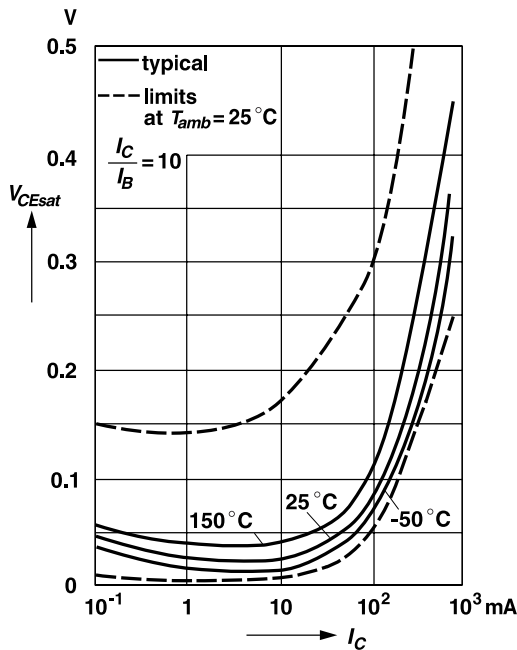
Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



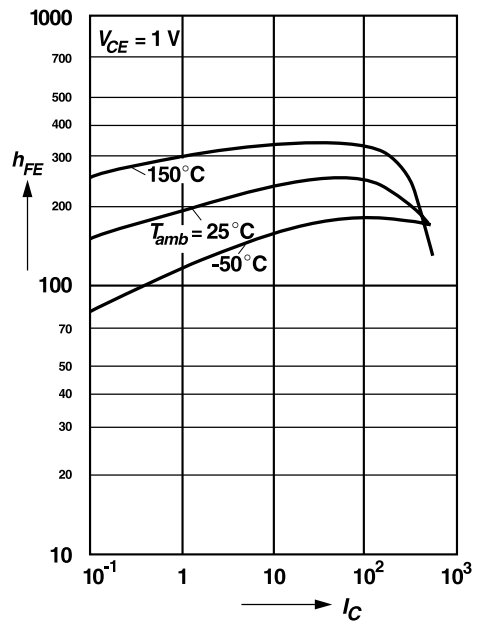
Gain-bandwidth product versus collector current



Collector saturation voltage versus collector current



DC current gain versus collector current



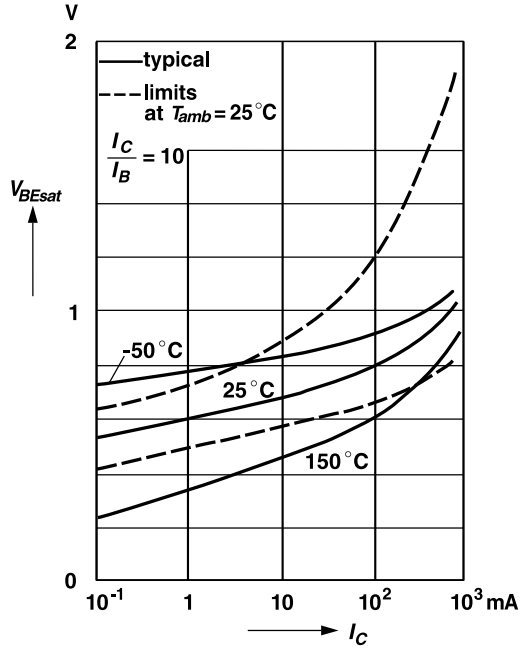
BC337 and BC338

Vishay Semiconductors
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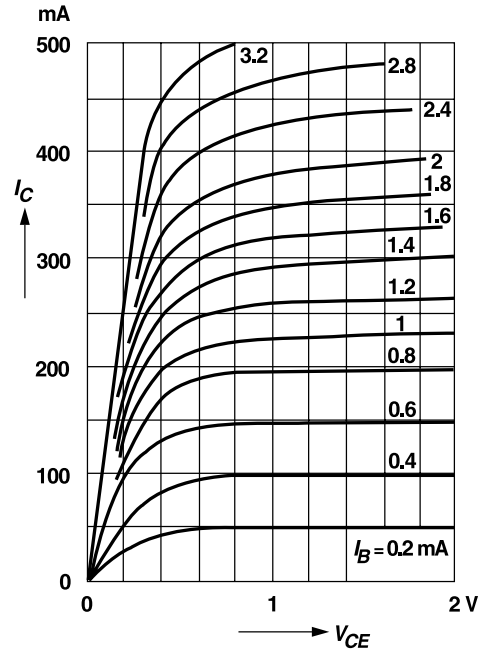


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

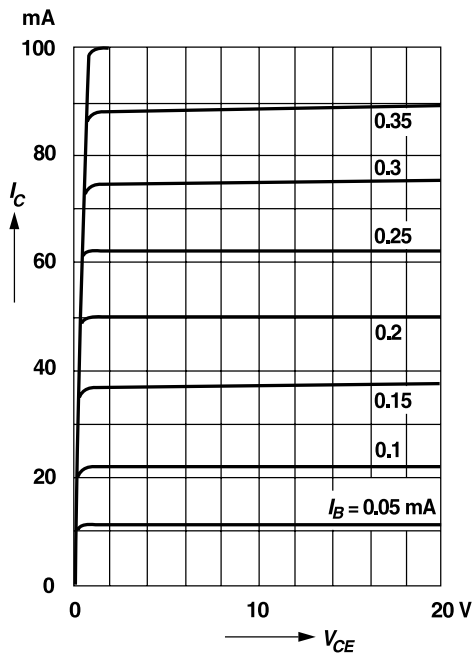
Base saturation voltage versus collector current



Common emitter collector characteristics



Common emitter collector characteristics



Common emitter collector characteristics

