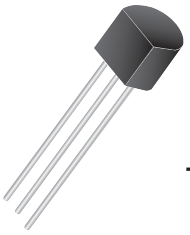
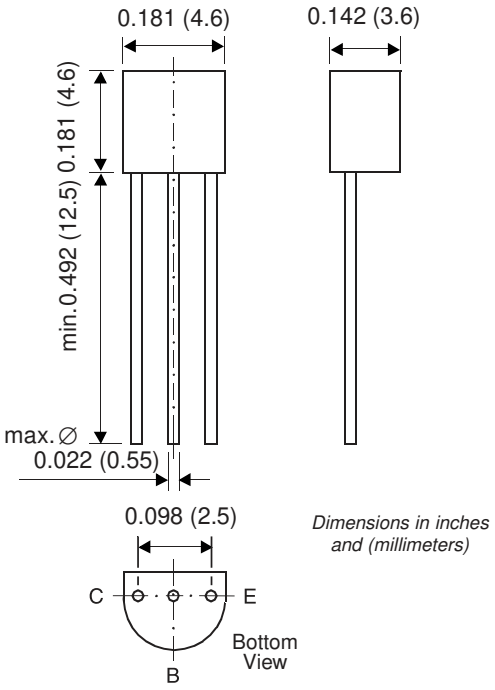
Small Signal Transistors (PNP)



TO-226AA (TO-92)



Dimensions in inches and (millimeters)

Features

- PNP 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 NPN transistors BC327 and BC338 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. 0.18g

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	BC327 BC328	$-V_{CES}$	50 30	V
Collector-Emitter Voltage	BC327 BC328	$-V_{CEO}$	45 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 Tamb = 25°C		P_{tot}	625(1)	mW
Thermal Resistance Junction to Ambient Air		$R_{\Theta JA}$	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 2mm from case.

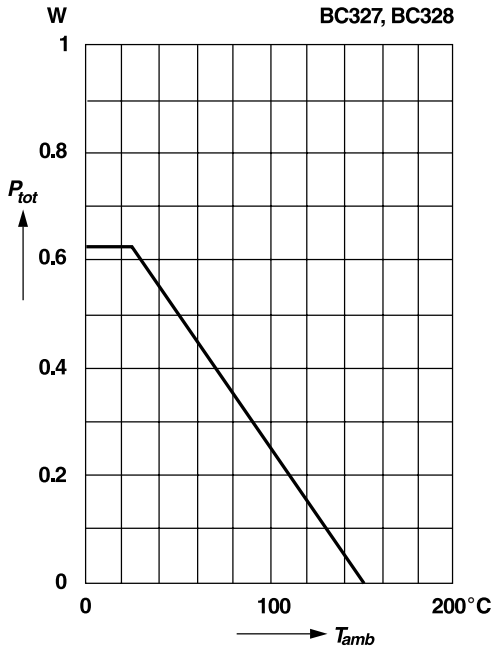
Electrical Characteristics (T_J = 25°C unless otherwise noted)

Parameter		Symbol	Test Condition	Min	Typ	Max	Unit
DC Current Gain	Current Gain Group -16	h_{FE}	$-V_{CE}$ = 1 V, $-I_C$ = 100 mA	100	160	250	—
	-25			160	250	400	
	-40			250	400	630	
	Current Gain Group -16		$-V_{CE}$ = 1 V, $-I_C$ = 300 mA	60	130	—	
	-25			100	200	—	
	-40			170	320	—	
Collector-Emitter Cutoff Current	BC327	$-I_{CES}$	$-V_{CE}$ = 45 V	—	2	100	nA
	BC328		$-V_{CE}$ = 25 V	—	2	100	nA
	BC327		$-V_{CE}$ = 45 V, T_{amb} = 125°C	—	—	10	µA
	BC328		$-V_{CE}$ = 25 V, T_{amb} = 125°C	—	—	10	µA
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
Collector-Emitter Breakdown Voltage	BC327	$-V_{(BR)CEO}$	$-I_C$ = 10 mA	45	—	—	V
	BC328			25	—	—	
Collector-Emitter Breakdown Voltage	BC327	$-V_{(BR)CES}$	$-I_C$ = 0.1 mA	50	—	—	V
	BC328			30	—	—	
Emitter-Base Breakdown Voltage		$-V_{(BR)EBO}$	$-I_E$ = 0.1 mA	5	—	—	V
Gain-Bandwidth Product		f_T	$-V_{CE}$ = 5 V, $-I_C$ = 10 mA f = 50 MHz	—	100	—	MHz
Collector-Base Capacitance		C_{CBO}	$-V_{CB}$ = 10 V, f = 1 MHz	—	12	—	pF

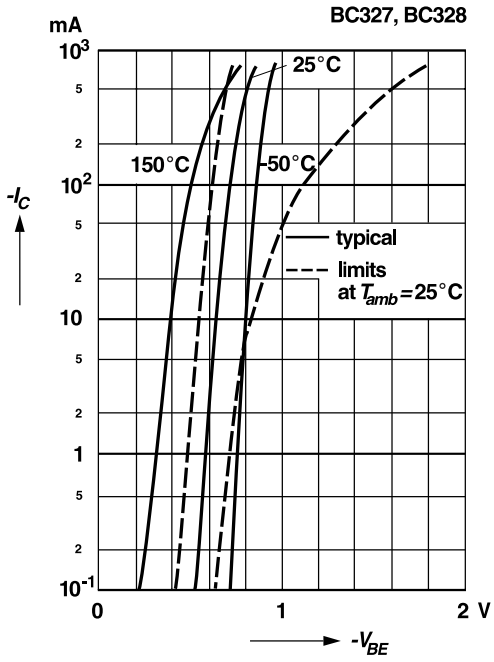
Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Admissible power dissipation versus ambient temperature

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

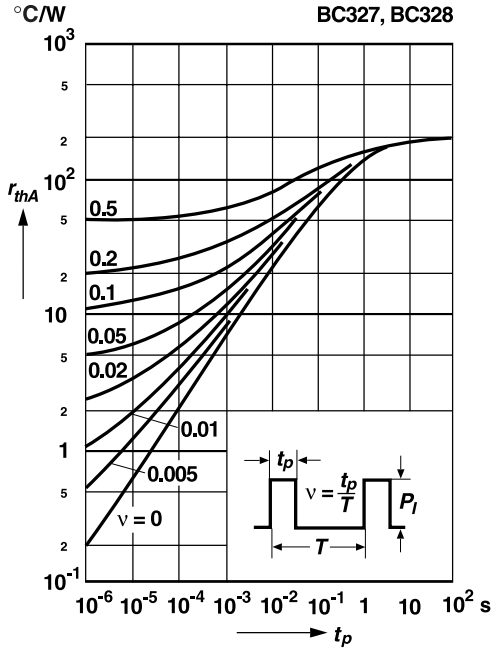


Collector current versus base-emitter voltage

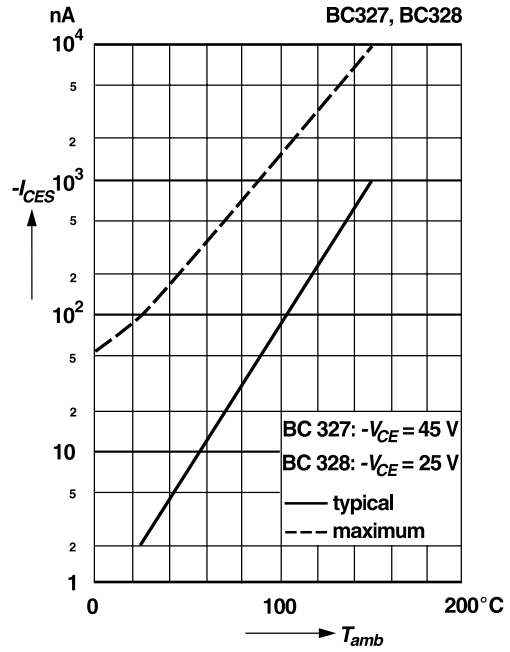


Pulse thermal resistance versus pulse duration

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

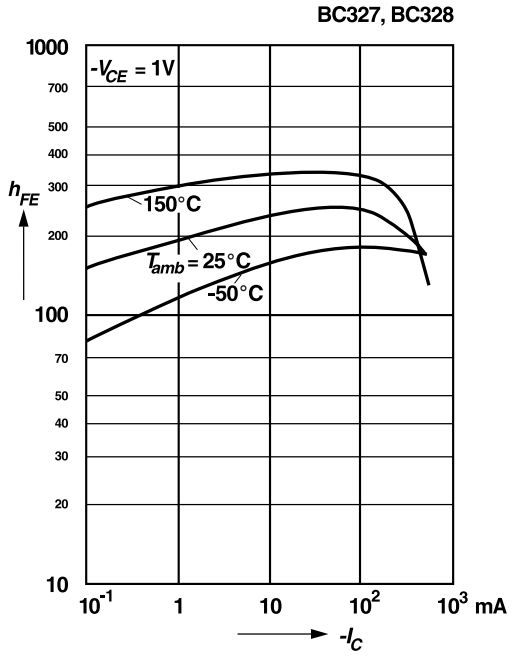


Collector-emitter cutoff current versus ambient temperature

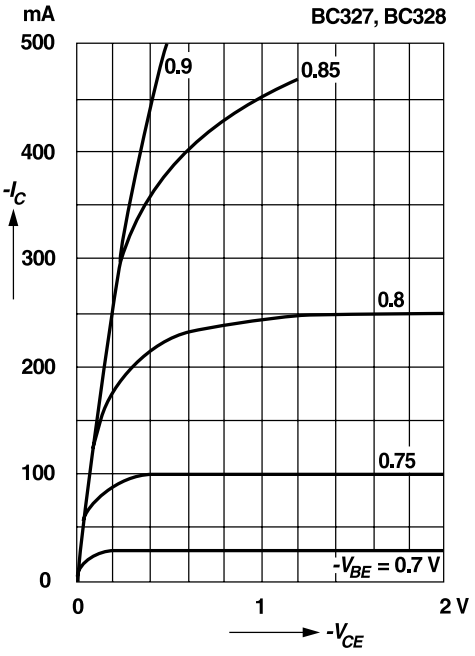


Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

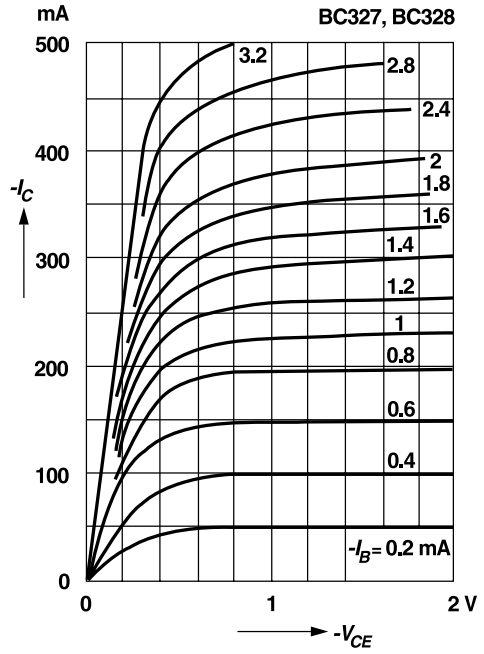
DC current gain versus collector current



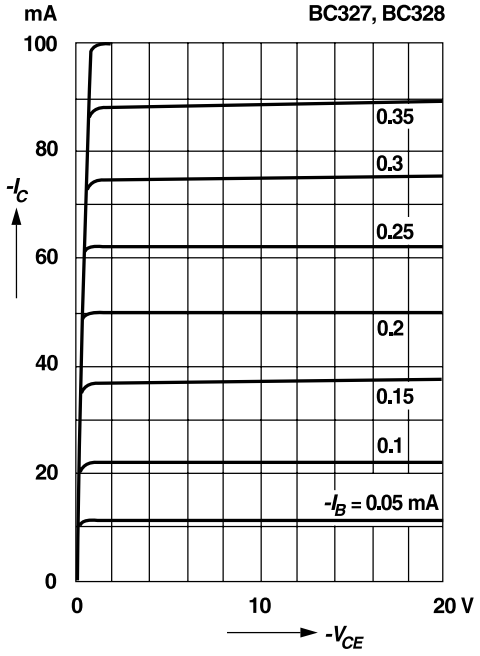
Common emitter collector characteristics



Common emitter collector characteristics

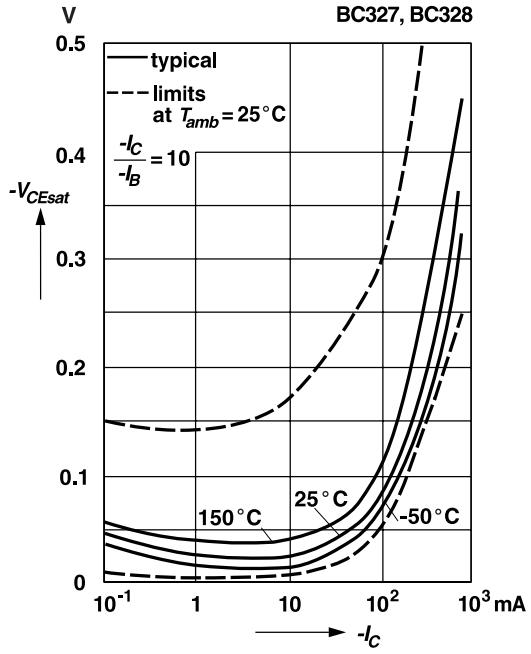


Common emitter collector characteristics

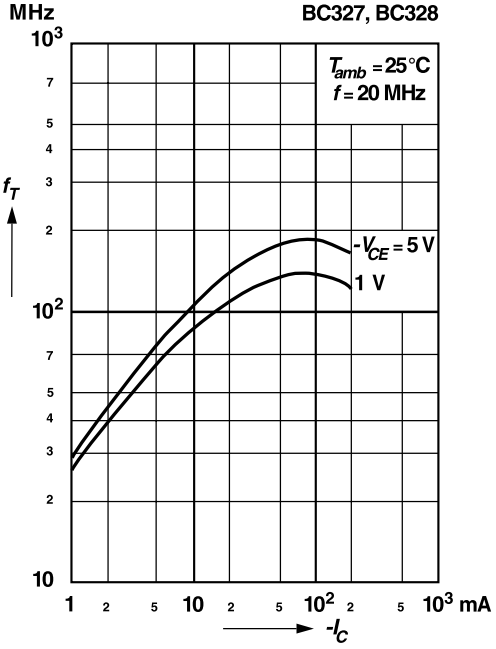


Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Collector saturation voltage versus collector current



Gain-bandwidth product versus collector current



Base saturation voltage versus collector current