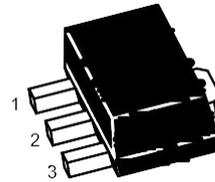


PNP Silicon Epitaxial Planar Transistor

Medium power transistor

Marking ; P BCP
 Q BCQ
 R BCR



1.Base 2.Collector 3.Emitter
 SOT-89 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-32	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_c	Collector Current -Continuous	-2	A
P_c	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	$^\circ\text{C/W}$
$R_{\theta JC}$	Thermal Resistance From Junction To Case	45	$^\circ\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $-V_{CE} = 3\text{ V}$, $-I_c = 500\text{ mA}$	Current Gain Group P	h_{FE}	82	-	180	-
	Q	h_{FE}	120	-	270	-
	R	h_{FE}	180	-	390	-
Collector Cutoff Current at $-V_{CB} = 20\text{ V}$	$-I_{CBO}$	-	-	1	μA	
Emitter Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	-	1	μA	
Collector Base Breakdown Voltage at $-I_c = 50\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	40	-	-	V	
Collector Emitter Breakdown Voltage at $-I_c = 1\text{ mA}$	$-V_{(BR)CEO}$	32	-	-	V	
Emitter Base Breakdown Voltage at $-I_E = 50\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V	
Collector Emitter Saturation Voltage at $-I_c = 2\text{ A}$, $-I_B = 200\text{ mA}$	$-V_{CE(sat)}$	-	-	0.8	V	
Transition Frequency at $-V_{CE} = 5\text{ V}$, $I_E = 0.5\text{ A}$, $f = 100\text{ MHz}$	f_T	-	100	-	MHz	
Output Capacitance at $-V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	C_{ob}	-	50	-	pF	

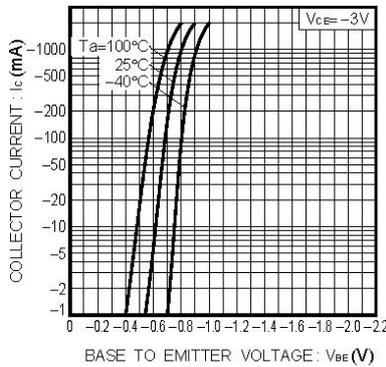


Fig.1 Grounded emitter propagation characteristics

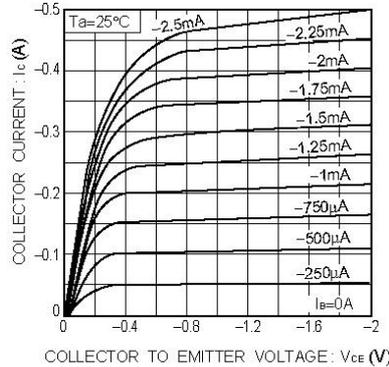


Fig.2 Grounded emitter output characteristics

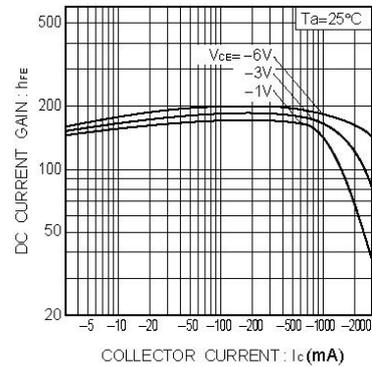


Fig.3 DC current gain vs. collector current (I)

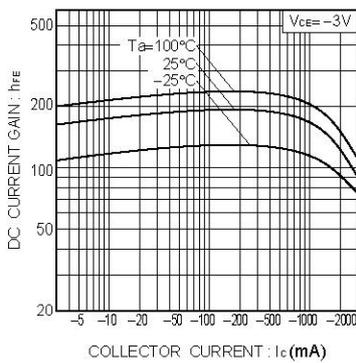


Fig.4 DC current gain vs. collector current (II)

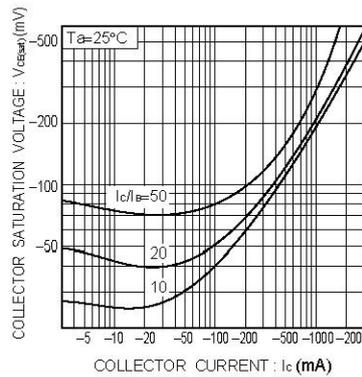


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

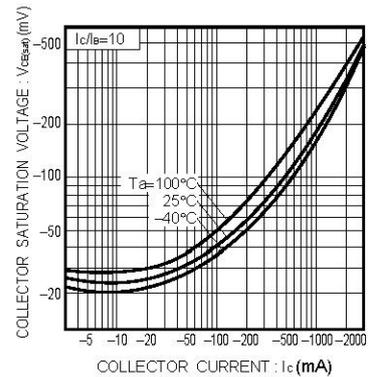


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

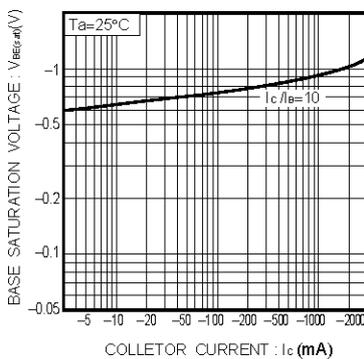


Fig.7 Base-emitter saturation voltage vs. collector current

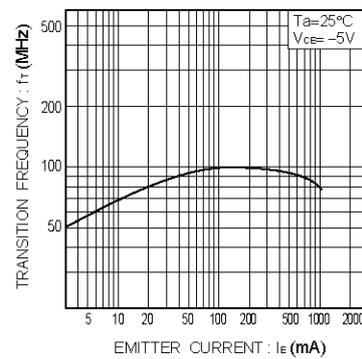


Fig.8 Gain bandwidth product vs. emitter current

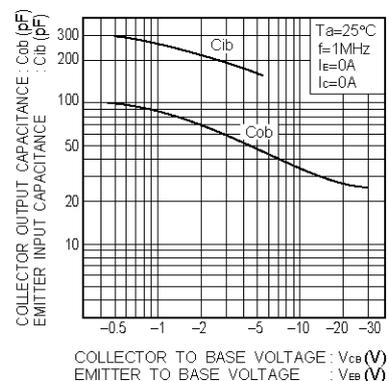


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage