

Process BCA

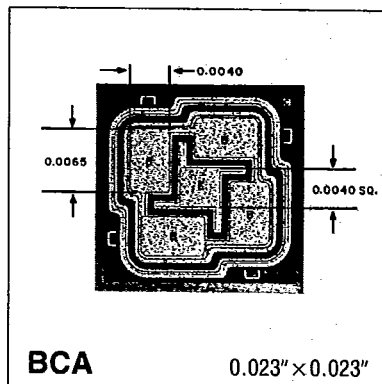
PNP Small-Signal Transistor

Process BCA is a PNP silicon epitaxial planar transistor. It is designed for use in low-noise amplifier circuits. It is the complement to the NPN Process VXA transistor.

ABSOLUTE MAXIMUM RATINGS

Collector Current, I_C 150 mA
 Operating Junction Temperature, T_J +150°C
 Storage Temperature Range, T_S -55°C to +150°C

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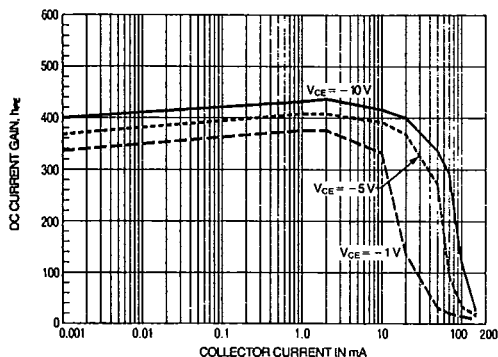


ALTERNATE PROCESS: VHB

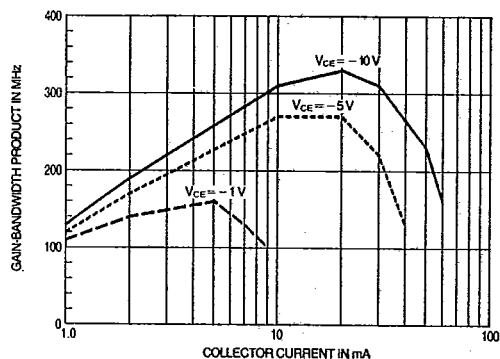
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ELECTRICAL CHARACTERISTICS at $T_A = +25^\circ\text{C}$

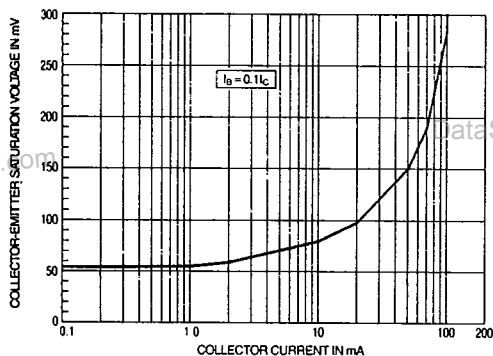
Characteristic	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}$	60	170	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\text{ }\mu\text{A}$	6.0	8.0	—	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\text{ }\mu\text{A}$	80	175	—	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 80\text{ V}$	—	—	100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6.0\text{ V}$	—	—	100	nA
Static Forward Current Transfer Ratio	h_{FE}	$V_{CE} = 5.0\text{ V}, I_C = 0.1\text{ mA}$	—	400	—	—
		$V_{CE} = 5.0\text{ V}, I_C = 1.0\text{ mA}$	300	400	900	—
		$V_{CE} = 5.0\text{ V}, I_C = 10\text{ mA}$	—	390	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.0\text{ mA}, I_B = 0.1\text{ mA}$	—	0.06	0.25	V
		$I_C = 10\text{ mA}, I_B = 1.0\text{ mA}$	—	0.08	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{ mA}, I_B = 1.0\text{ mA}$	—	0.74	1.0	V
Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{ V}, I_C = 1.0\text{ mA}$	100	130	—	MHz
Output Capacitance	C_{cb}	$V_{CB} = 10\text{ V}, f = 1.0\text{ MHz}$	—	4.0	6.0	pF
Input Capacitance	C_{eb}	$V_{EB} = 0.5\text{ V}, f = 1.0\text{ MHz}$	—	13	20	pF

**h_{FE} AS A FUNCTION
OF COLLECTOR CURRENT**

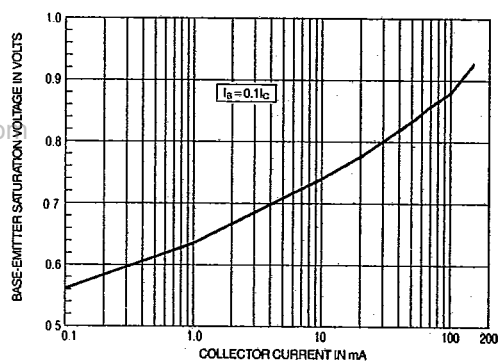
Dwg. No. A-13,716

 **f_T AS A FUNCTION
OF COLLECTOR CURRENT**

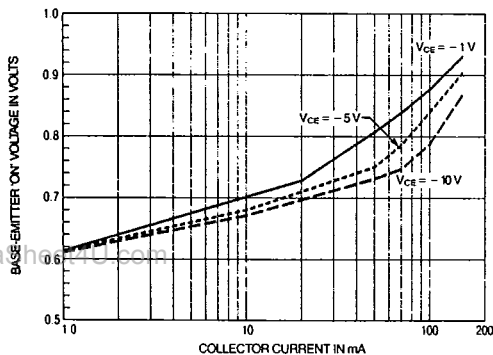
Dwg. No. A-13,712

 **$V_{CE(sat)}$ AS A FUNCTION
OF COLLECTOR CURRENT**

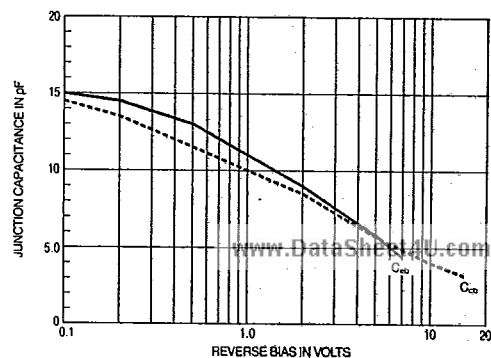
Dwg. No. A-13,713

 **$V_{BE(sat)}$ AS A FUNCTION
OF COLLECTOR CURRENT**

Dwg. No. A-13,714

 **$V_{BE(on)}$ AS A FUNCTION
OF COLLECTOR CURRENT**

Dwg. No. A-13,715

**JUNCTION CAPACITANCE
AS A FUNCTION OF REVERSE BIAS**

Dwg. No. A-13,711