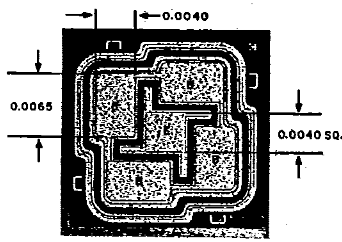
Process BCA
PNP Small-Signal Transistor

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.



BCA 0.023"×0.023"

ALTERNATE PROCESS: VHB

ABSOLUTE MAXIMUM RATINGS

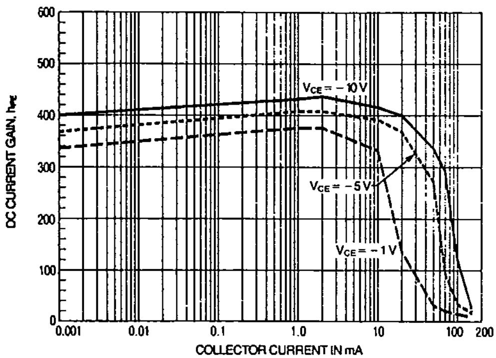
Collector Current, I_C .... 150 mA
Operating Junction Temperature, T_J .... +150°C
Storage Temperature Range, T_S ..... −55°C to +150°C

ELECTRICAL CHARACTERISTICS at $T_A = +25°C$

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

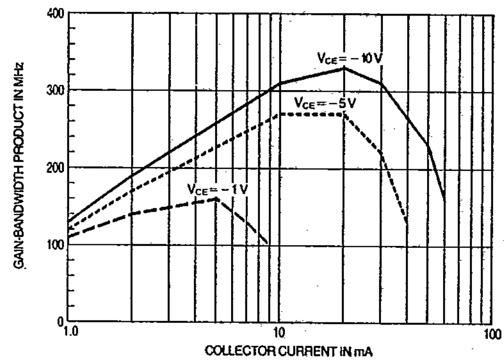
Typical Characteristics at $T_A = +25°C$

h_{FE} AS A FUNCTION OF COLLECTOR CURRENT



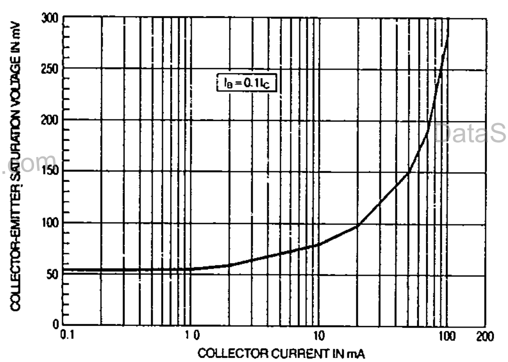
Dwg. No. A-13,716

f_T AS A FUNCTION OF COLLECTOR CURRENT



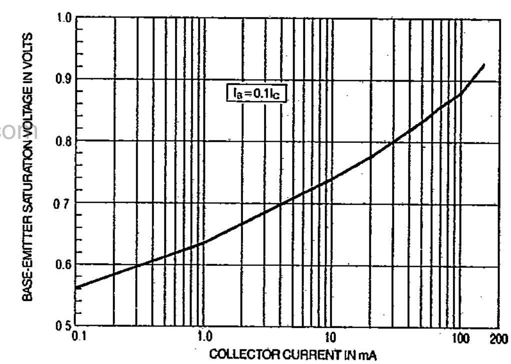
Dwg. No A-13,712

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



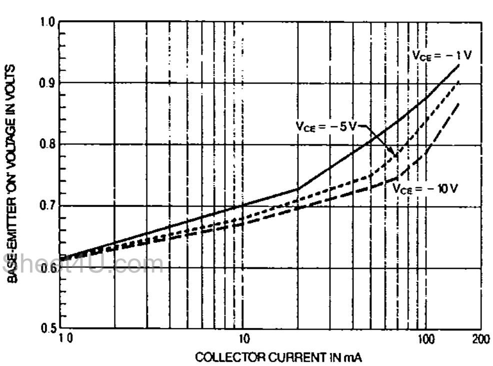
Dwg. No. A-13,713

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



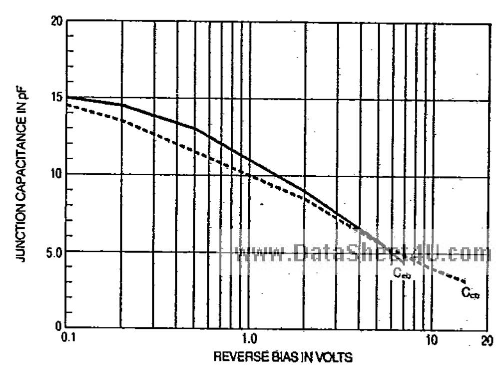
Dwg. No. A-13,714

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



Dwg. No. A-13,715

JUNCTION CAPACITANCE AS A FUNCTION OF REVERSE BIAS



Dwg. No. A-13,711