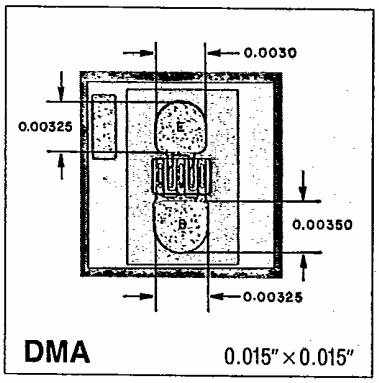
Process DMA
NPN Small-Signal Transistor

Process DMA is a double-diffused NPN silicon epitaxial planar device designed for use in VHF and UHF amplifiers, mixers, and oscillators.



ABSOLUTE MAXIMUM RATINGS

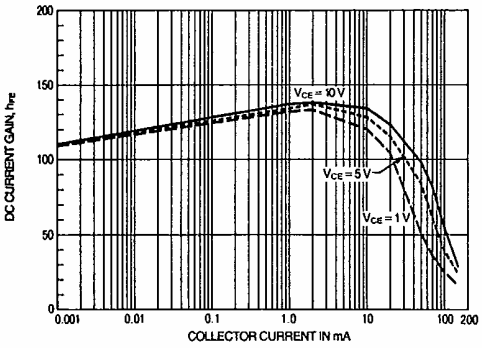
Collector Current, I_C 50mA
Operating Junction Temperature, T_J ..... +150°C
Storage Temperature Range, T_S ..... −55°C to +150°C

ELECTRICAL CHARACTERISTICS at T_A = +25°C

Characteristic	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA	15	27	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA	5.0	5.7	—	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA	30	45	—	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 30V	—	—	100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4.0V	—	—	100	nA
Static Forward Current Transfer Ratio	h_{FE}	V_{CE} = 1.0V, I_C = 0.1mA	—	120	—	—
		V_{CE} = 1.0V, I_C = 10mA	30	120	300	—
		V_{CE} = 1.0V, I_C = 50mA	20	50	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 1.0mA	—	0.09	0.4	V
		I_C = 50mA, I_B = 5.0mA	—	0.28	1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 10mA, I_B = 1.0mA	—	0.85	1.0	V
Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_C = 10mA	600	900	—	MHz
Output Capacitance	C_{cb}	V_{CB} = 10V, f = 1.0MHz	—	0.7	1.7	pF
Input Capacitance	C_{eb}	V_{EB} = 0.5V, f = 1.0MHz	—	0.9	2.0	pF

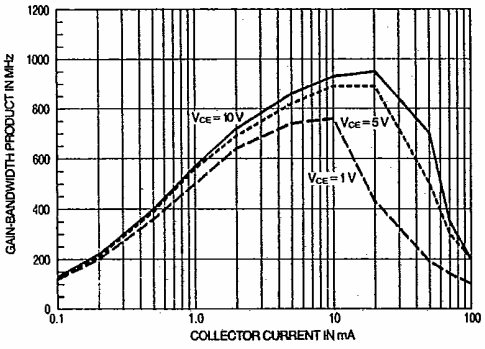
Typical Characteristics
at T_A = +25°C

h_{FE} AS A FUNCTION OF COLLECTOR CURRENT



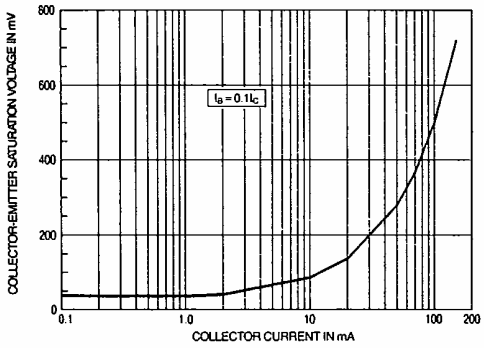
Dwg. No. A-13, 811

f_T AS A FUNCTION OF COLLECTOR CURRENT



Dwg. No. A-13, 808

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



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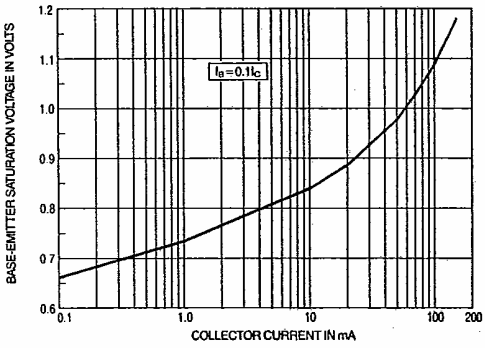
$V_{BE(sat)}$ AS A FUNCTION OF COLLECTOR CURRENT



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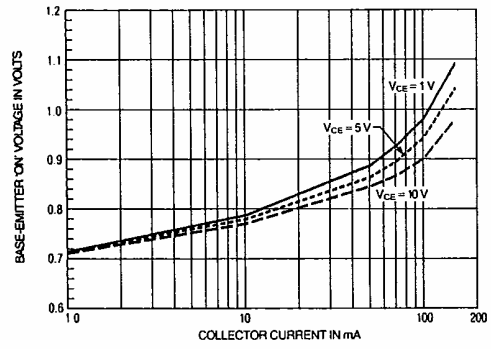
$V_{BE(ON)}$ AS A FUNCTION OF COLLECTOR CURRENT



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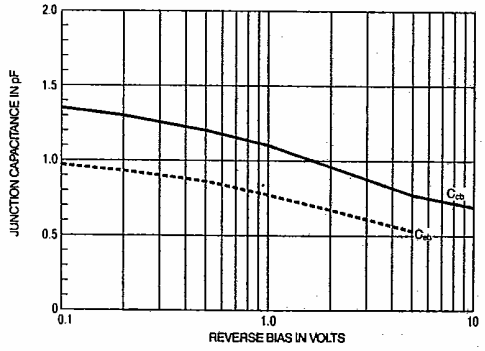
JUNCTION CAPACITANCE AS A FUNCTION OF REVERSE BIAS



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