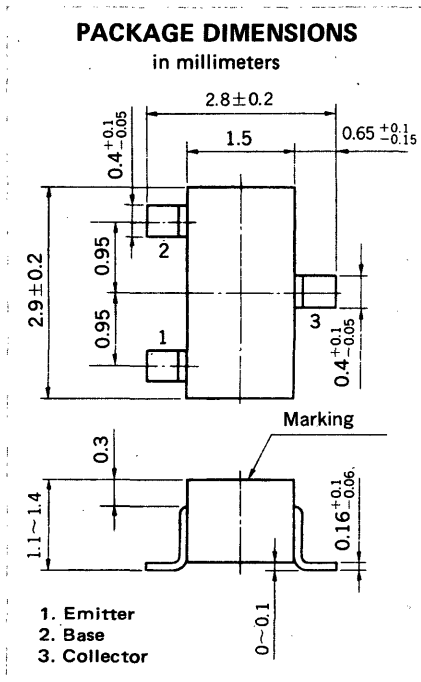


**HIGH FREQUENCY AMPLIFIER**  
**PNP SILICON EPITAXIAL TRANSISTOR**  
**MINI MOLD**



**FEATURES**

- High Gain Bandwidth product  $f_T = 400$  MHz TYP.
- Low Output Capacitance  $C_{ob} = 1.1$  pF TYP.
- Low Noise,  $NF = 3.5$  dB TYP. ( $f = 1.0$  MHz)

**ABSOLUTE MAXIMUM RATINGS**

Maximum Voltages and Current ( $T_a = 25^\circ\text{C}$ )

Collector to Base Voltage ( $R_{BE} = \infty$ )	$V_{CB0}$	-40	V
Collector to Emitter Voltage (Open Base)	$V_{CEO}$	-40	V
Emitter to Base Voltage	$V_{EBO}$	-5.0	V
Collector Current (DC)	$I_C$	-30	mA

Maximum Power Dissipation

Total Power Dissipation at $25^\circ\text{C}$ Ambient Temperature	$P_T$	200	mW
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Maximum Temperatures

Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

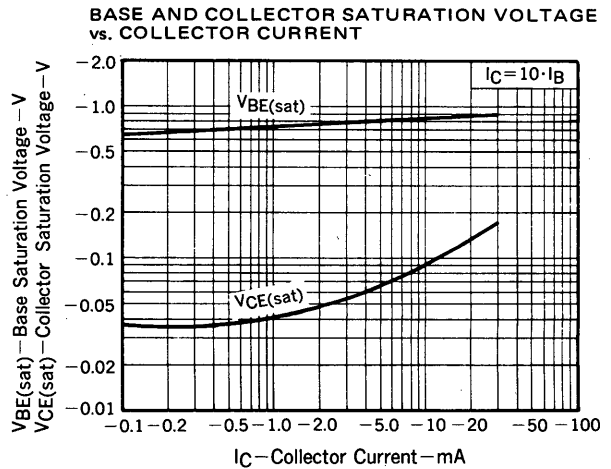
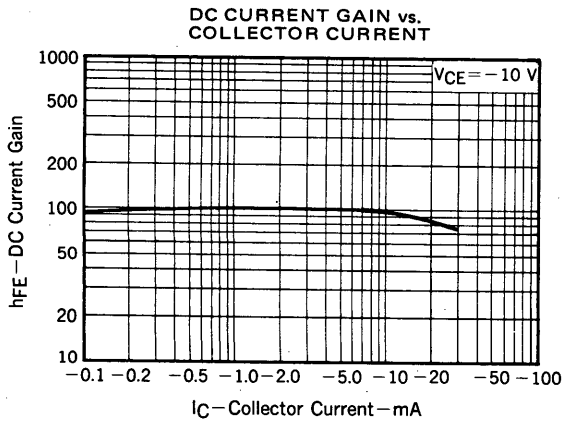
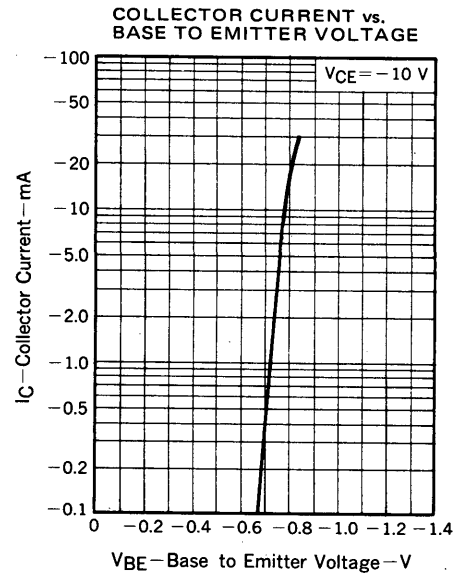
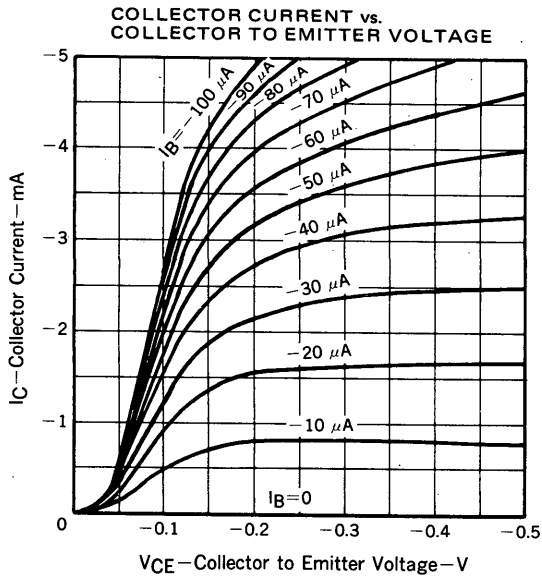
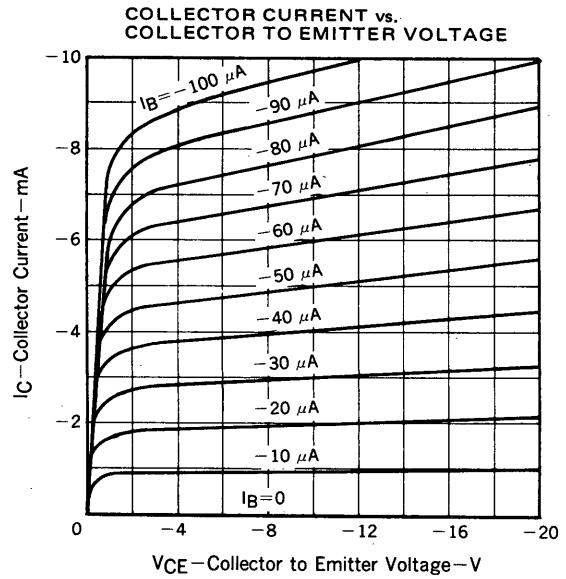
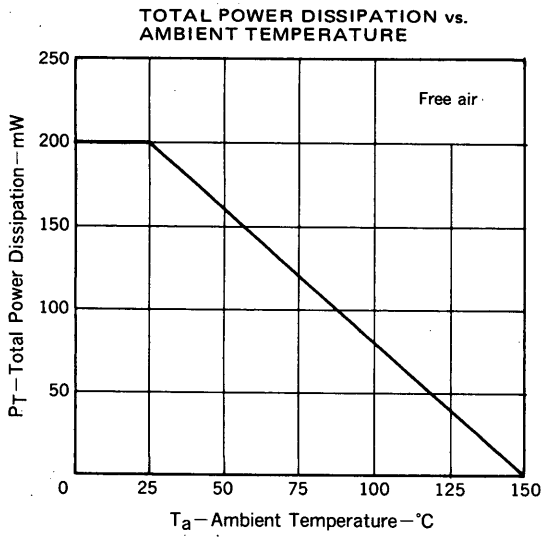
**ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )**

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	$I_{CBO}$			-0.1	$\mu\text{A}$	$V_{CB} = -40$ V, $I_E = 0$
Emitter Cutoff Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB} = -4.0$ V, $I_C = 0$
DC Current Gain	$h_{FE}$	40	90	180		$V_{CE} = -10$ V, $I_C = -1.0$ mA
Collector Saturation Voltage	$V_{CE(sat)}$		-0.09	-0.3	V	$I_C = -10$ mA, $I_B = -1.0$ mA
Base to Emitter Voltage	$V_{BE}$	-0.67	-0.72		V	$V_{CE} = -10$ V, $I_C = -10$ mA
Gain Bandwidth Product	$f_T$	250	400		MHz	$V_{CE} = -10$ V, $I_E = 1.0$ mA
Output Capacitance	$C_{ob}$		1.1	2.0	pF	$V_{CB} = -10$ V, $I_E = 0$ , $f = 1.0$ MHz
Noise Figure	NF		3.5		dB	$V_{CE} = -10$ V, $I_C = -1.0$ mA $R_G = 500 \Omega$ , $f = 1.0$ MHz

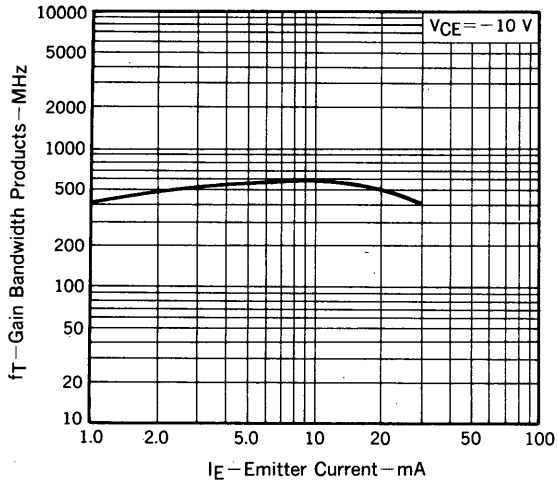
**$h_{FE}$  Classification**

Marking	E2	E3	E4
$h_{FE2}$	40 to 80	60 to 120	90 to 180

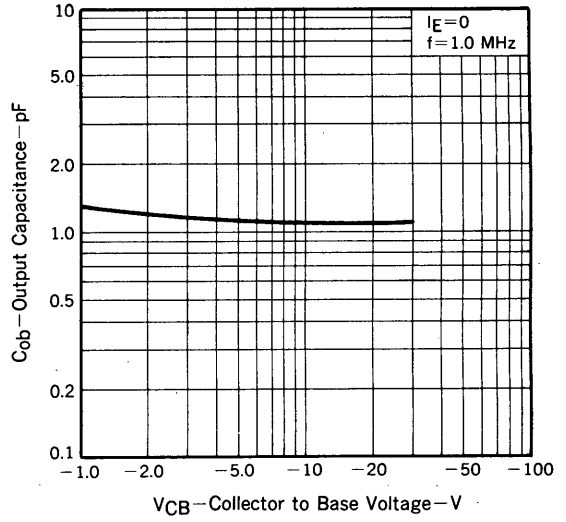
TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )



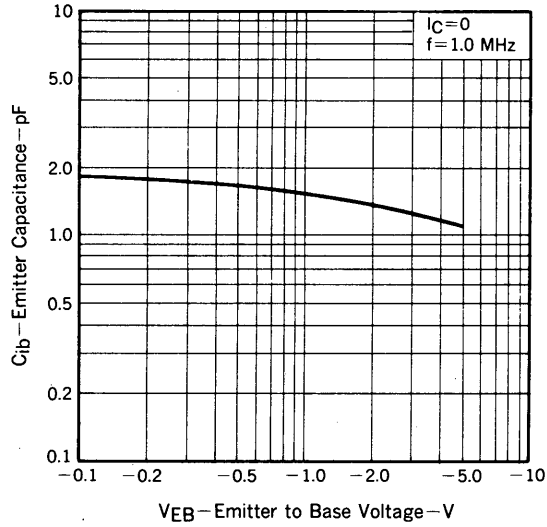
GAIN BANDWIDTH PRODUCTS vs. EMITTER CURRENT



OUTPUT CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE



INPUT CAPACITANCE vs. EMITTER TO BASE VOLTAGE



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