

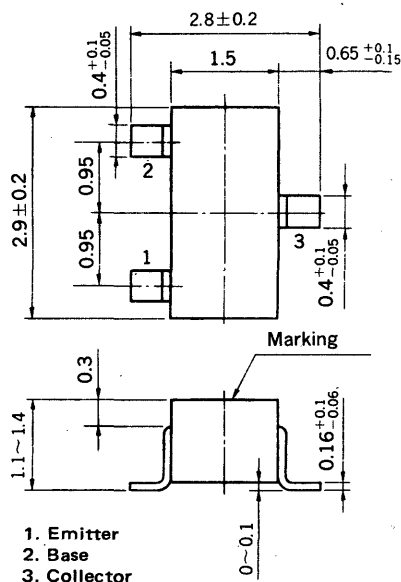
HIGH FREQUENCY AMPLIFIER

PNP SILICON EPITAXIAL TRANSISTOR

MINI MOLD

PACKAGE DIMENSIONS

in millimeters



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_{CBO} -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°C Ambient Temperature

 P_T 200 mW

Maximum Temperatures

Junction Temperature

 T_j 150 $^\circ\text{C}$

Storage Temperature Range

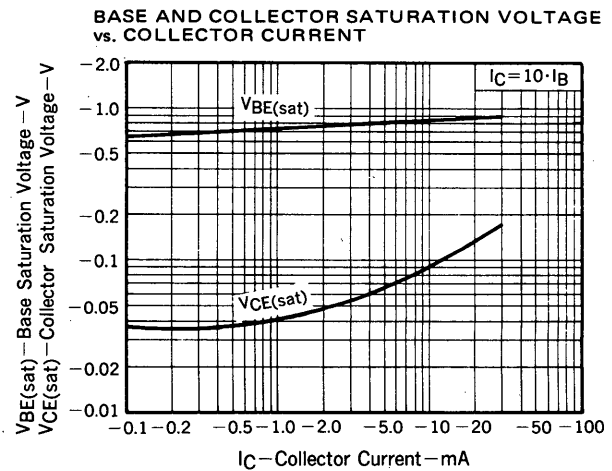
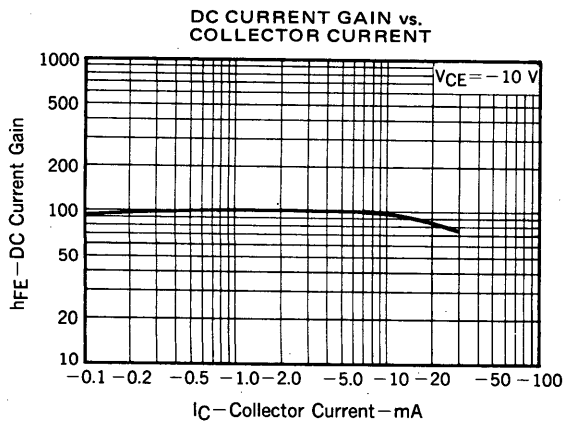
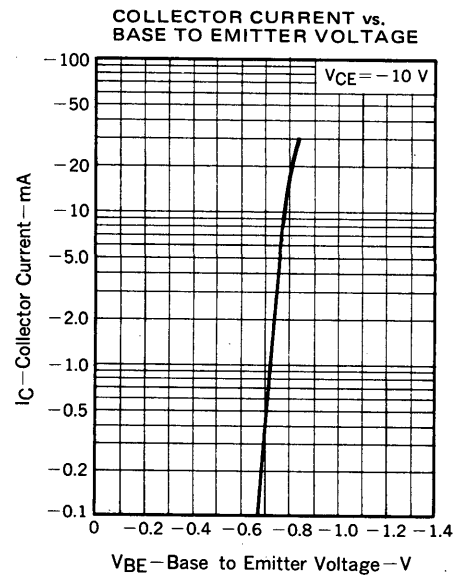
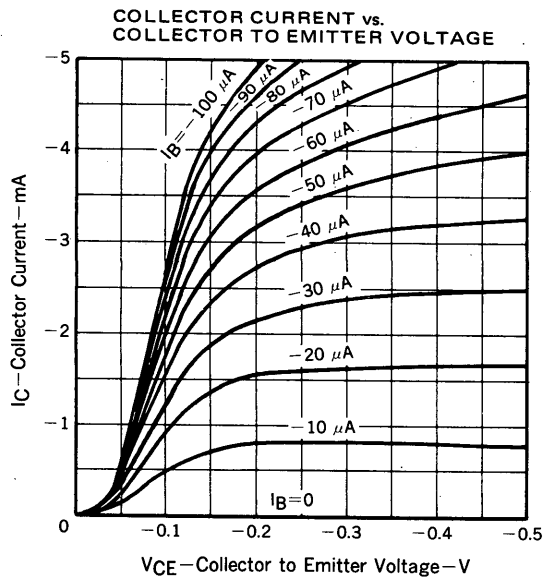
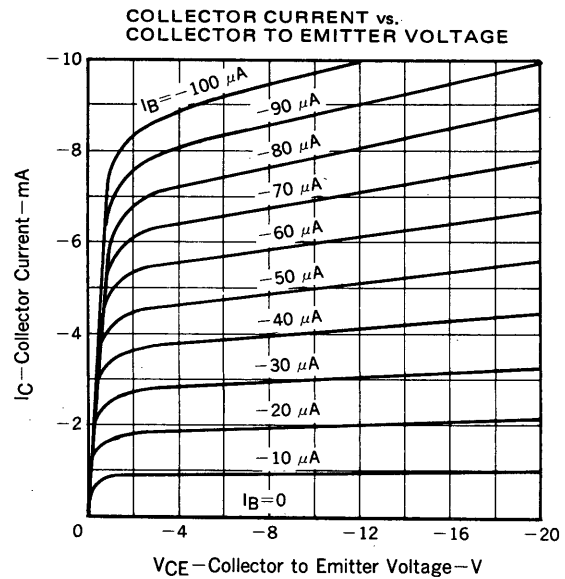
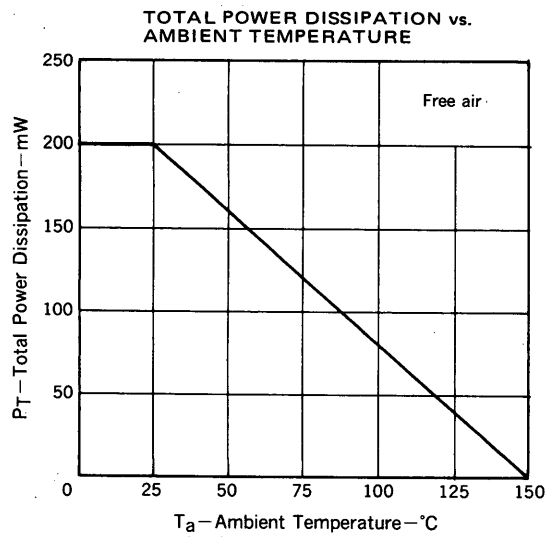
 T_{stg} -55 to +150 $^\circ\text{C}$

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

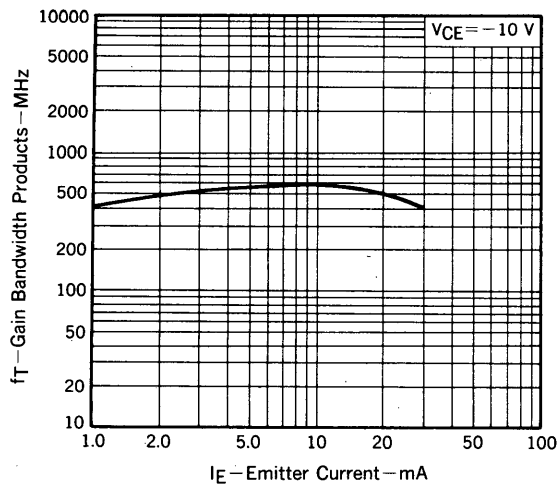
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			-0.1	μA	$V_{CB} = -40$ V, $I_E = 0$
Emitter Cutoff Current	I_{EBO}			-0.1	μA	$V_{EB} = -4.0$ V, $I_C = 0$
DC Current Gain	h_{FE}	40	90	180		$V_{CE} = -10$ V, $I_C = -1.0$ mA
Collector Saturation Voltage	$V_{CE(sat)}$		-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

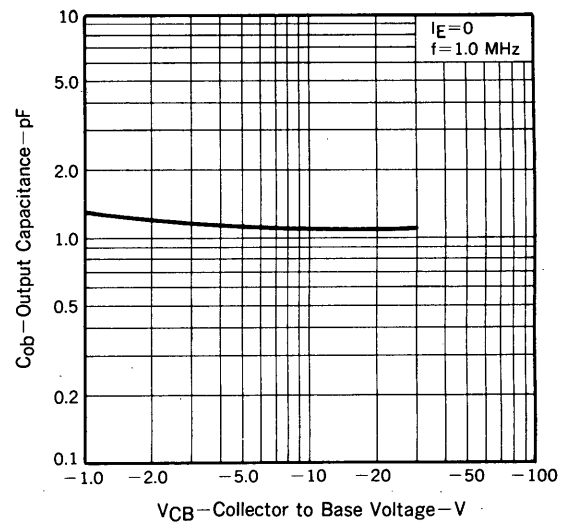
Marking	E2	E3	E4
h_{FE2}	40 to 80	60 to 120	90 to 180

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

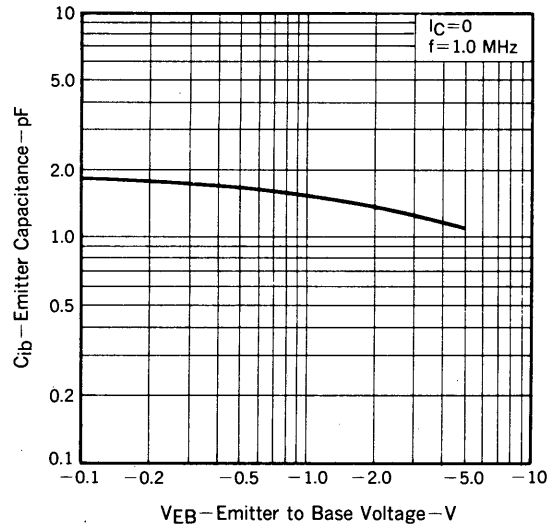
**GAIN BANDWIDTH PRODUCTS vs.
EMITTER CURRENT**



**OUTPUT CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE**



**INPUT CAPACITANCE vs.
EMITTER TO BASE VOLTAGE**



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TC-1480A
AUG.-31-84M
Printed in Japan