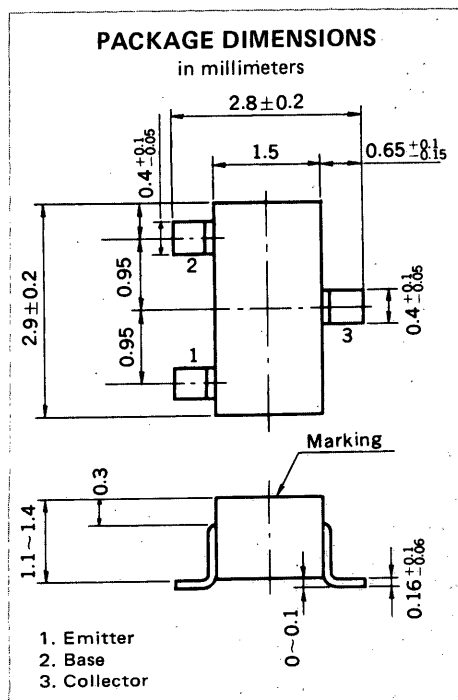


SILICON TRANSISTOR
2SA1464
HIGH FREQUENCY AMPLIFIER AND SWITCHING
PNP SILICON EPITAXIAL TRANSISTOR
MINI MOLD
**FEATURES**

- High f_T : $f_T = 400$ MHz
- Complementary to 2SC3739

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

Collector to Base Voltage

 V_{CBO} -60 V

Collector to Emitter Voltage

 V_{CEO} -40 V

Emitter to Base Voltage

 V_{EBO} -5.0 V

Collector Current (DC)

 I_C -500 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

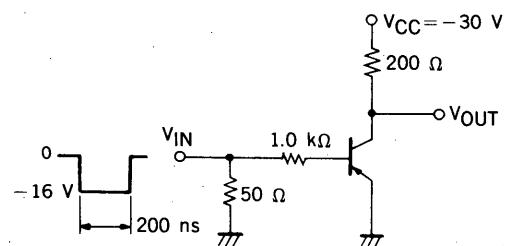
 T_{stg} -55 to +150 $^\circ\text{C}$ **ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)**

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			-100	nA	$V_{CB} = -40\text{ V}, I_E = 0$
Emitter Cutoff Current	I_{EBO}			-100	nA	$V_{EB} = -4.0\text{ V}, I_C = 0$
DC Current Gain	h_{FE1}^*	75	140	300		$V_{CE} = -2.0\text{ V}, I_C = -150\text{ mA}$
DC Current Gain	h_{FE2}^*	20	50			$V_{CE} = -2.0\text{ V}, I_C = -500\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)}^*$		-0.45	-0.75	V	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$
Base Saturation Voltage	$V_{BE(sat)}^*$		-1.0	-1.30	V	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$
Gain Bandwidth Product	f_T	150	400		MHz	$V_{CE} = -10\text{ V}, I_E = 20\text{ mA}$
Output Capacitance	C_{ob}		5.0	8.0	pF	$V_{CB} = -10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$
Turn-on Time	t_{on}			35	ns	$V_{CC} = -30\text{ V}$
Storage Time	t_{stg}			225	ns	$I_C = 150\text{ mA}$
Turn-off Time	t_{off}			255	ns	$I_{B1} = -I_{B2} = 15\text{ mA}$

* Pulsed: $PW \leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$ **h_{FE} Classification**

Making	Y12	Y13	Y14
h_{FE1}	75 to 150	100 to 200	150 to 300

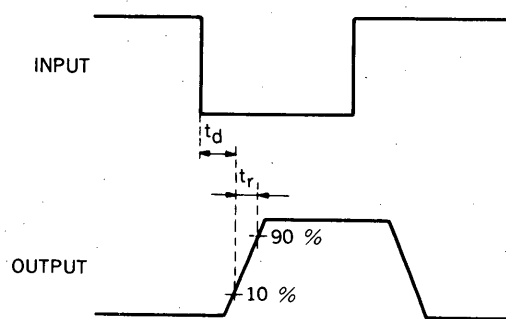
SWITCHING TIME TEST CIRCUIT



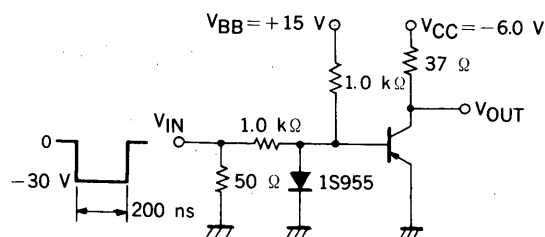
$Z_0 = 50 \Omega$
PRF = 150 pps
 $t_r \leq 2.0$ ns

TO OSCILLOSCOPE
 $t_r \leq 5.0$ ns
 $Z_{IN} = 10 M\Omega$

t_{on} SWITCHING



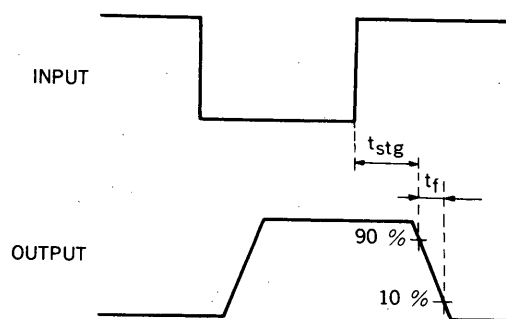
VOLTAGE WAVEFORMS



$Z_0 = 50 \Omega$
PRF = 150 pps
 $t_r \leq 2.0$ ns

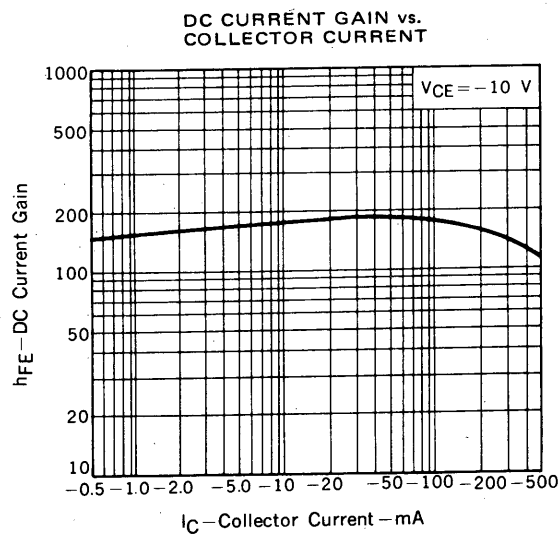
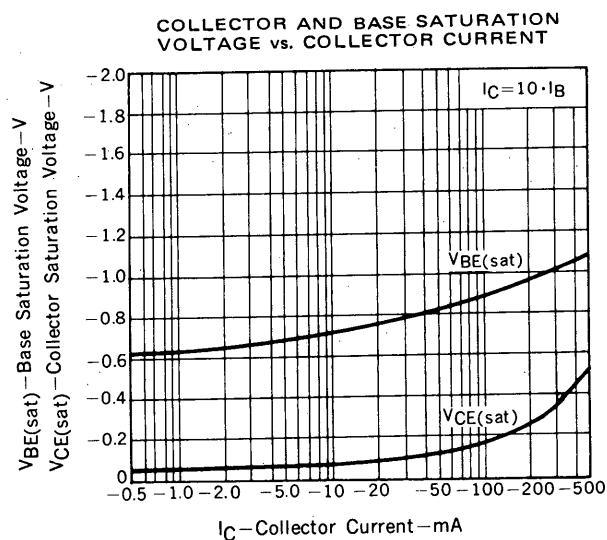
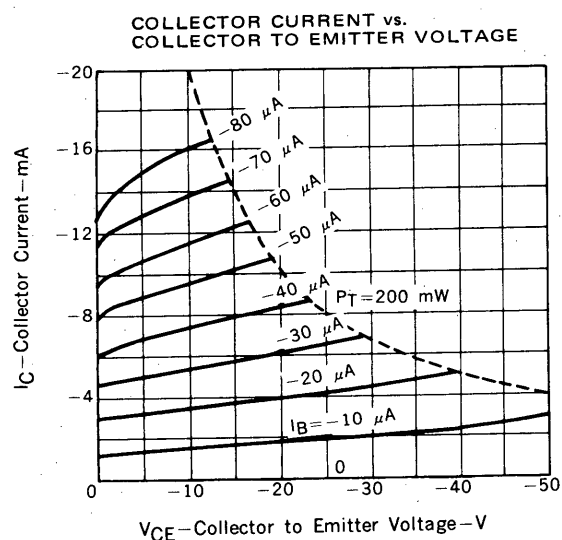
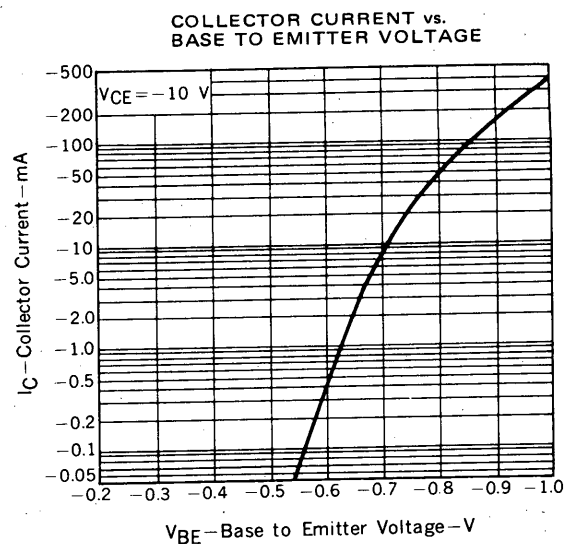
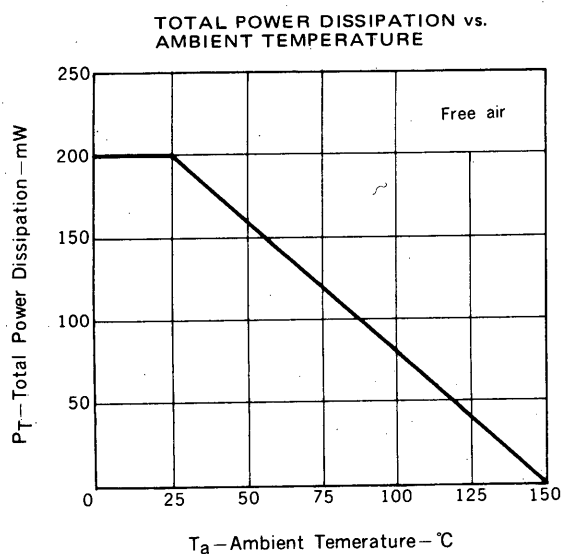
TO OSCILLOSCOPE
 $t_r \leq 5.0$ ns
 $Z_{IN} = 10 M\Omega$

t_{off} SWITCHING

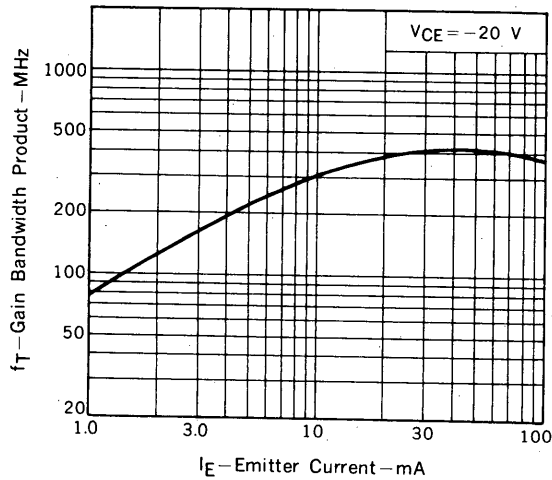


VOLTAGE WAVEFORMS

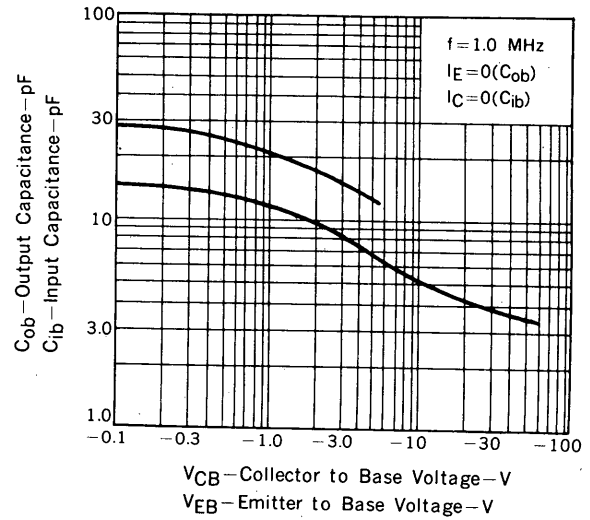
TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



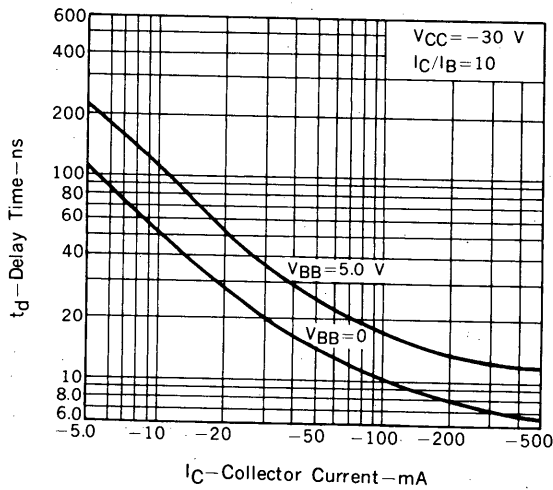
GAIN BANDWIDTH PRODUCT vs.
EMITTER CURRENT



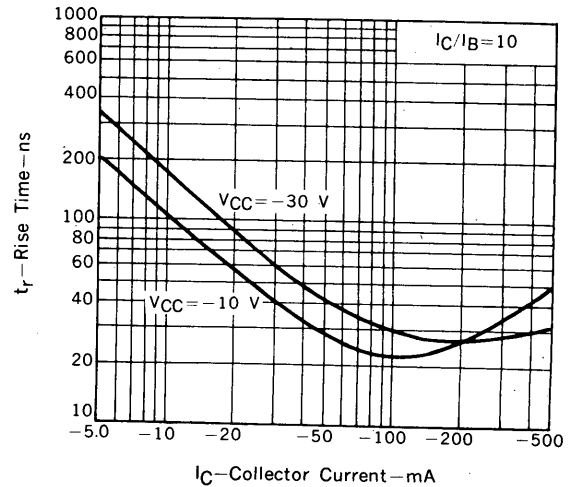
INPUT AND OUTPUT CAPACITANCE vs.
REVERSE VOLTAGE



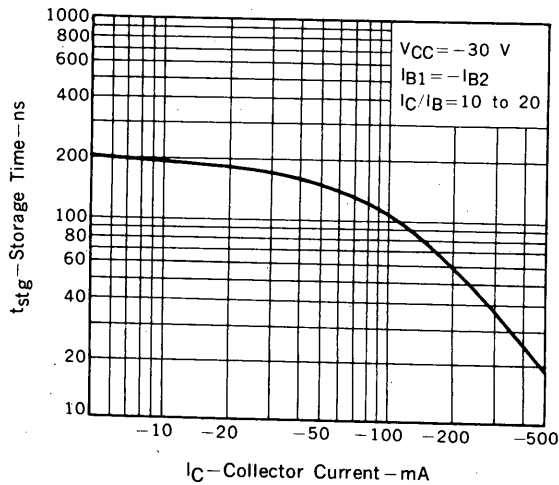
DELAY TIME vs.
COLLECTOR CURRENT



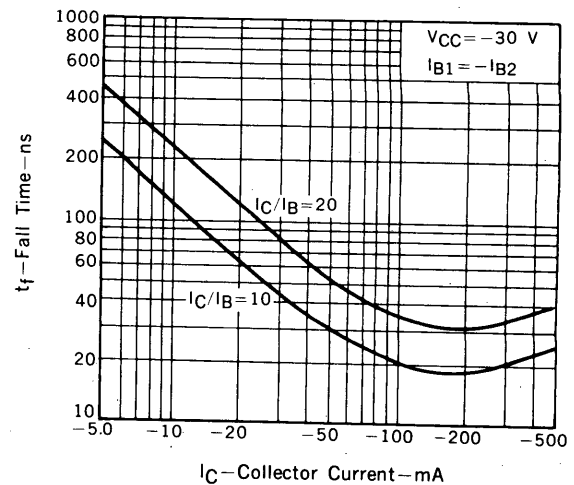
RISE TIME vs.
COLLECTOR CURRENT



STORAGE TIME vs.
COLLECTOR CURRENT



FALL TIME vs.
COLLECTOR CURRENT



[MEMO]

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