



TEST DATA

ON

500 MHz TO 18 GHz

6 ns ULTRA-HIGH SPEED

THRESHOLD DETECTOR

ECL OUTPUT LOGIC

(TTL AVAILABLE)

-20 dBm to +10 dBm DYNAMIC RANGE

PMI MODEL No:

TD-30E-SHS-0518

(SERIAL NUMBER: PM90303)

TESTED, REPORTED AND PREPARED
BY

FRANK RETHMEIER

RENE AFABLE

July 27, 1999

PLANAR MONOLITHICS INDUSTRIES, INC.

CORPORATE OFFICE: 6590 WATERS EDGE COURT, NEW MARKET, MD 27704

MANUFACTURING FACILITY: 7311-G GROVE ROAD, FREDERICK, MD 21704

TEL No: 301-662-4700 • FAX No: 301-662-4938 • E-MAIL: AMCPMI@AOL.COM • WEB PAGE: HTTP://WWW.AMWAVE.COM



ULTRA-HIGH SPEED THRESHOLD DETECTOR

KEY FEATURES:

- 500 MHz TO 18 GHz
- 6 ns PROPAGATION DELAY
- -20 dBm TO +10 dBm DYNAMIC RANGE
- ECL (OR TTL) OUTPUT
- MINIATURE SIZE



PMI MODEL No: TD-30E-SHS-0518

SPECIFICATIONS:

• FREQUENCY RANGE	:	500 MHz TO 18 GHz
• VSWR	:	3.0 : 1 @ -20 dBm
• MINIMUM SIGNAL LEVEL FOR LOGIC 1	:	-20 dBm @ 500 MHz TYPICAL
	:	-17 dBm @ 18 GHz TYPICAL
• MAXIMUM SIGNAL LEVEL FOR LOGIC 0	:	-25 dBm TYPICAL
• THRESHOLD VARIATION FOR ANY 1 GHz WINDOW	:	±0.5 dBm TYPICAL
• DELAY ON (50% RF INPUT TO 50% LOGIC) @ MINIMUM SIGNAL LEVEL FOR LOGIC 1	:	6 ns MAX., 4 ns TYPICAL
• DELAY ON (50% RF INPUT TO 50% LOGIC) @ +10 dBm	:	6 ns MAX., 4 ns TYPICAL
• OUTPUT PULSE WIDTH (50% POINTS) WHEN INPUT IS BETWEEN MINIMUM SIGNAL LEVEL FOR LOGIC 1 TO -10 dBm	:	WITHIN 10 ns OF INPUT PULSE WIDTH
• OUTPUT PULSE WIDTH (50% POINTS) WHEN INPUT IS BETWEEN MINIMUM SIGNAL LEVEL FOR LOGIC 1 TO +10 dBm	:	WITHIN 25 ns OF INPUT PULSE WIDTH
• DC POWER (NO LOAD)	:	±15 VDC @ ±110 mA MAX., +15 mA, -100 mA TYPICAL
• SIZE/WEIGHT	:	2.2" x 1.5" x 0.4", ≤ 3 oz.

July 27, 1999

PLANAR MONOLITHICS INDUSTRIES, INC.

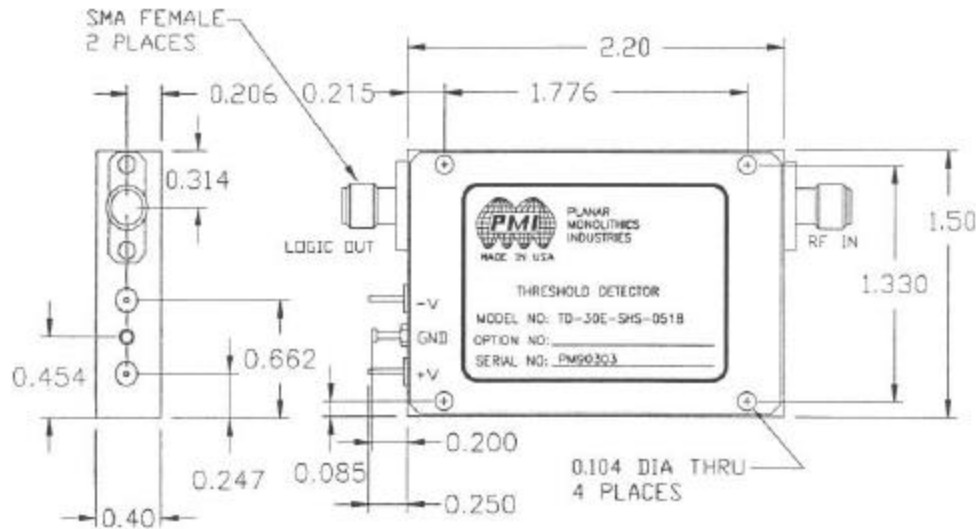
CORPORATE OFFICE: 6590 WATERS EDGE COURT, NEW MARKET, MD 27704

MANUFACTURING FACILITY: 7311-G GROVE ROAD, FREDERICK, MD 21704

TEL No: 301-662-4700 • FAX No: 301-662-4938 • E-MAIL: AMCPMI@AOL.COM • WEB PAGE: HTTP://WWW.AMWAVE.COM

SUMMARY TEST DATA

MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA



ALL DIMENSIONS ARE IN INCHES.
TOLERANCES:

X.XX	±0.02
X.XXX	±0.01

ENVIRONMENTAL RATINGS

• TEMPERATURE	-54°C TO +85°C (OPERATING) -65°C TO +125°C (STORAGE)
• HUMIDITY	MIL-STD-202F, METHOD 103B COND. B
• SHOCK	MIL-STD-202F, METHOD 213B COND. B
• VIBRATION	MIL-STD-202F, METHOD 204D COND. B
• ALTITUDE	MIL-STD-202F, METHOD 105C COND. B
• TEMPERATURE CYCLE	MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION.

July 27, 1999

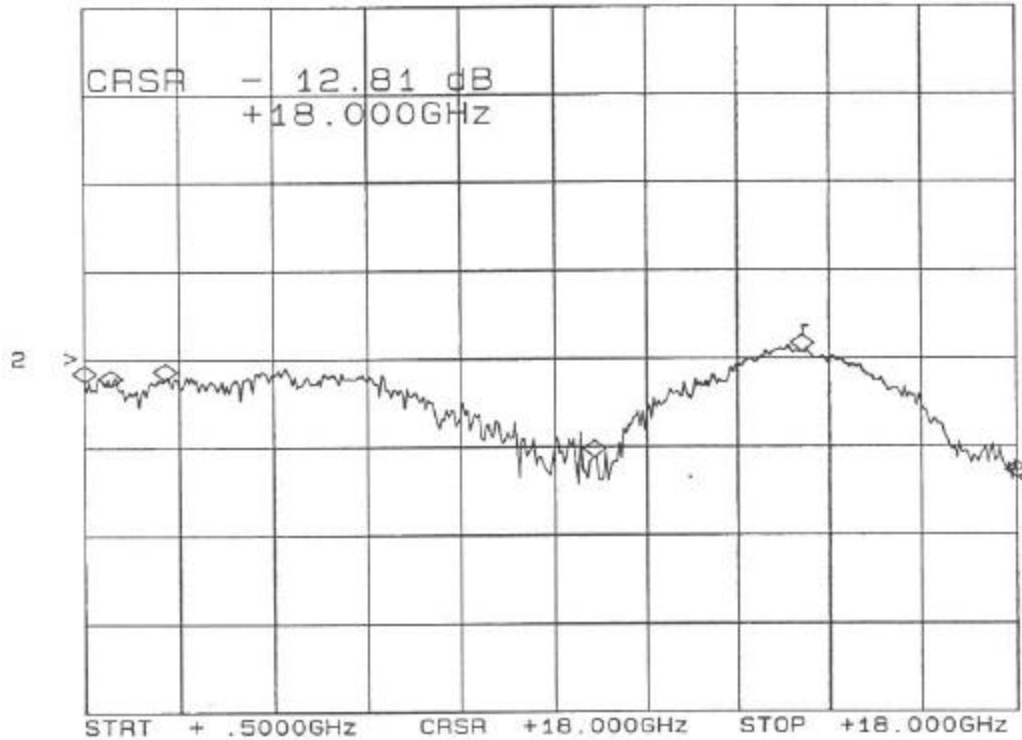
SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

**RETURN LOSS**

INPUT POWER: -20 dBm

CH2: B -M - 12.81 dB
 5.0 dB/ REF - 6.02 dB

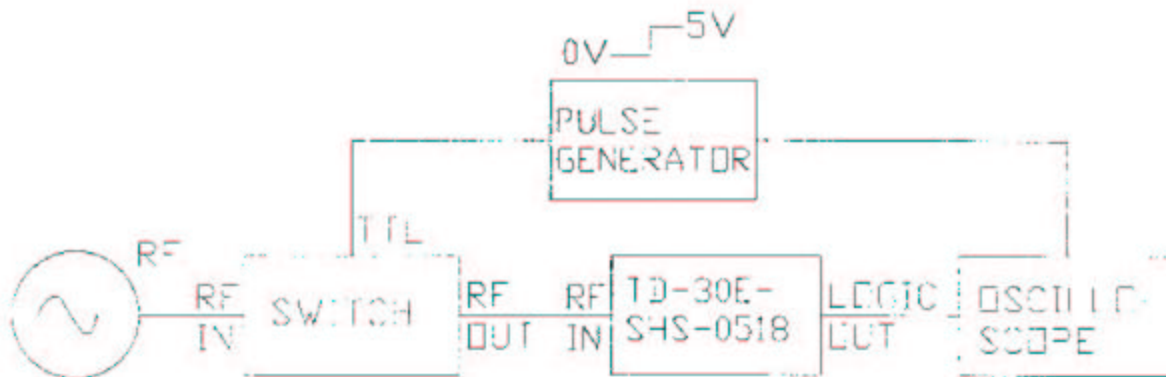


FREQUENCY	RETURN LOSS
500 MHz	7.2 dB
1.0 GHz	7.5 dB
2.0 GHz	7.2 dB
10.0 GHz	11.5 dB
14.0 GHz	5.6 dB
18.0 GHz	12.8 dB

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

**TEST SET-UP
FOR SPEED MEASUREMENTS**

July 27, 1999

Page 5

SUMMARY TEST DATA

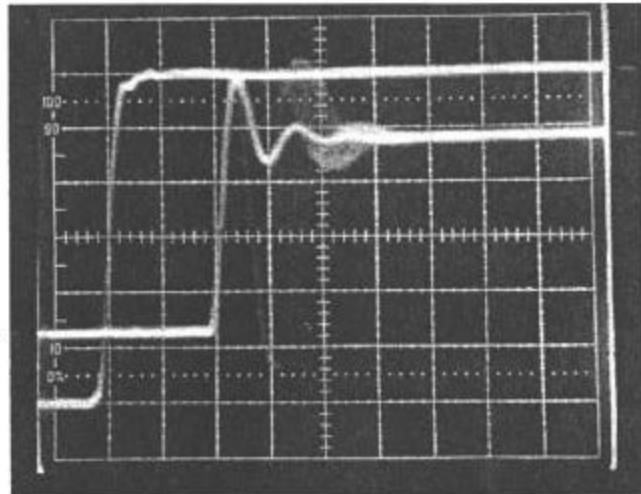
MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

**PROPAGATION DELAY @ 500 MHz****-18 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

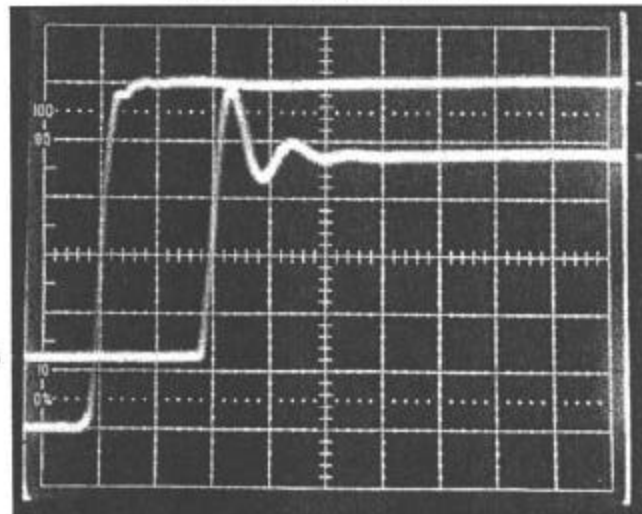
ECL

**+10 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
4 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

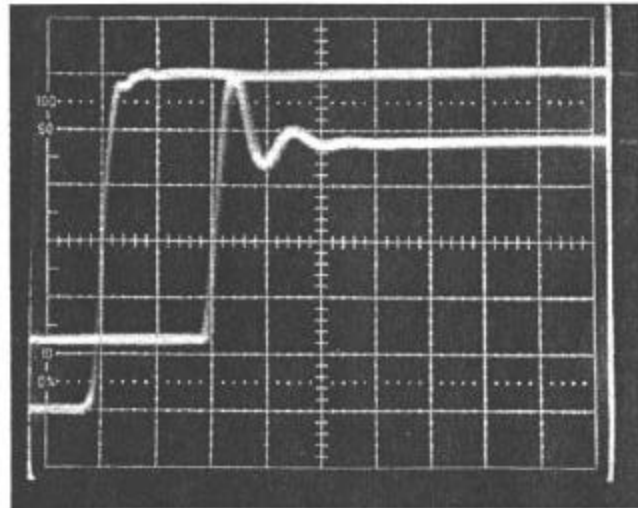
PROPAGATION DELAY @ 500 MHz

-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
4 ns

ECL

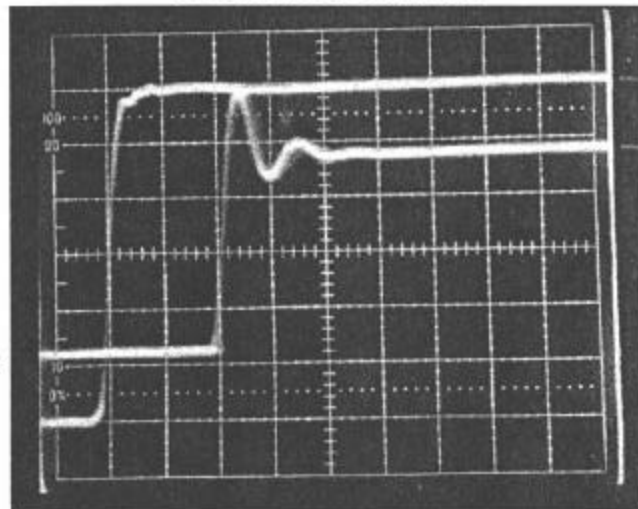


0 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

Page 7

SUMMARY TEST DATA

MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

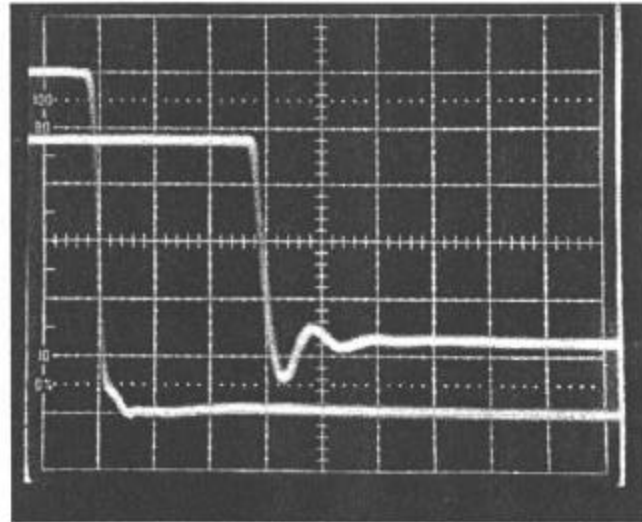
PROPAGATION DELAY @ 500 MHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
13 ns

ECL



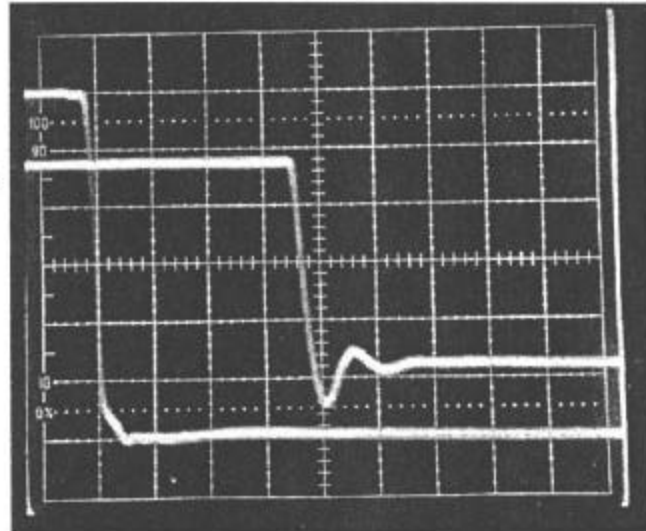
-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
21 ns

PULSE STRETCHING T2-T1:
8 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

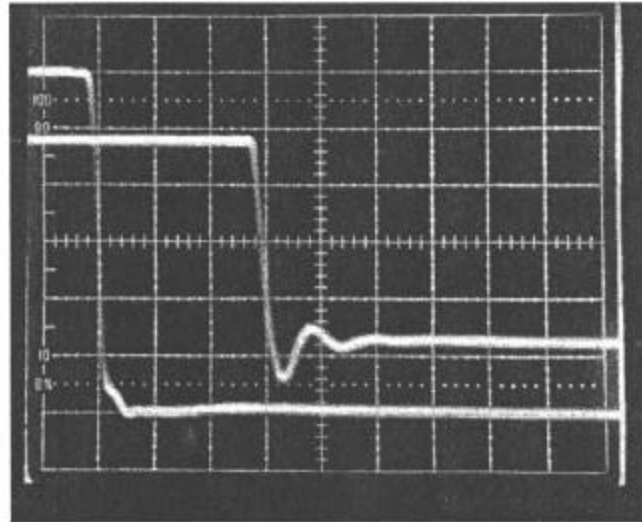
MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

**PROPAGATION DELAY @ 500 MHz****-18 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
13 ns

ECL

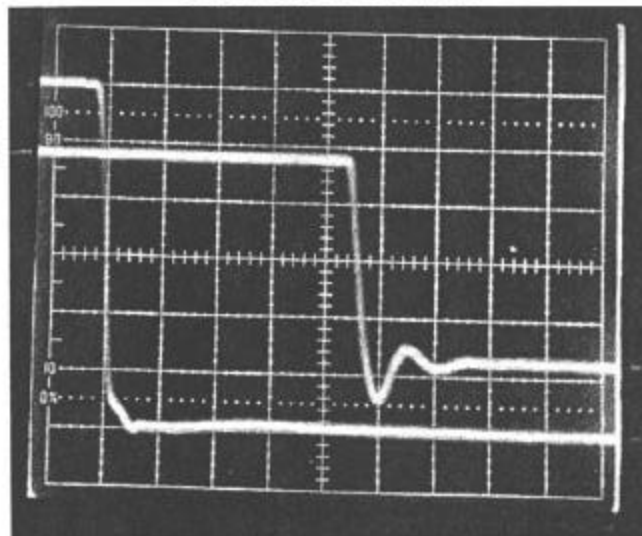
**0 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
30 ns

PULSE STRETCHING T2-T1:
17 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

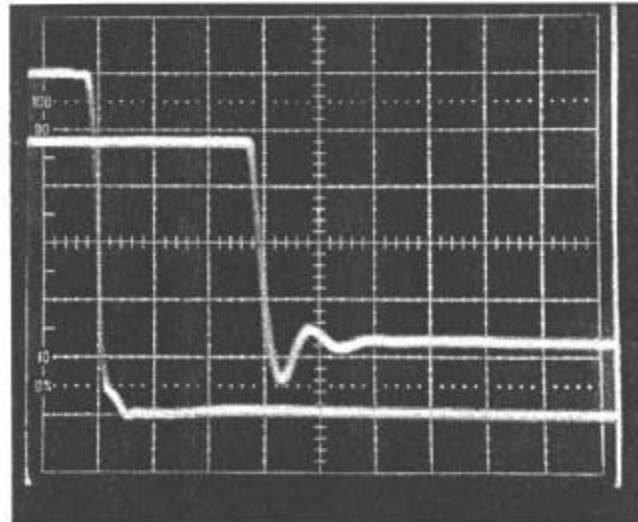
PROPAGATION DELAY @ 500 MHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
13 ns

ECL



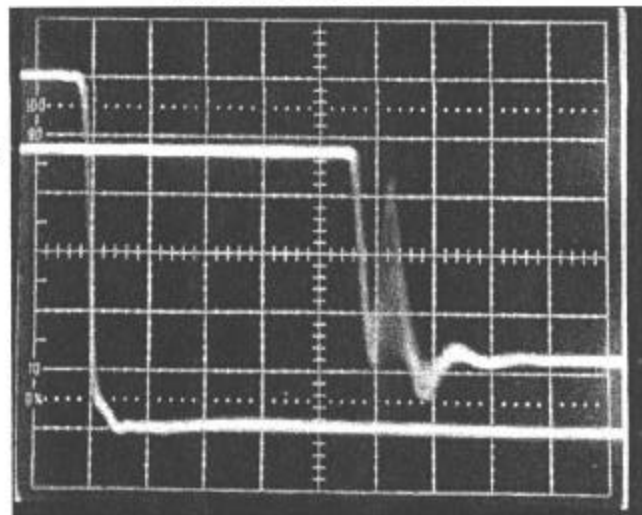
+10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
38 ns

PULSE STRETCHING T2-T1:
25 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

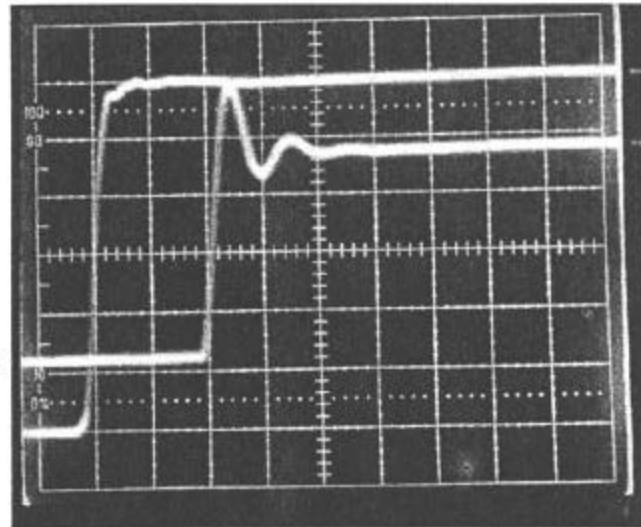
PROPAGATION DELAY @ 1 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL

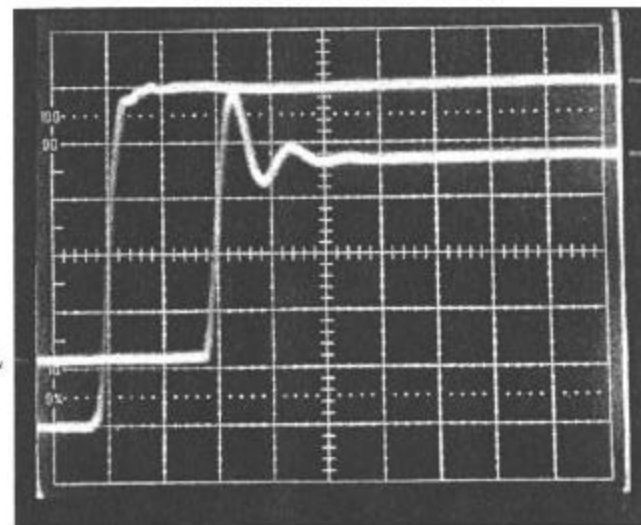


+10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
4 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

Page 11

SUMMARY TEST DATA

MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V; +13 mA, -106 mA

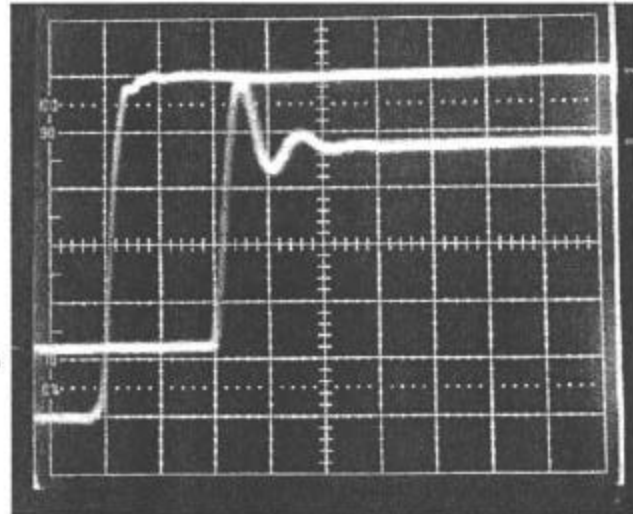
PROPAGATION DELAY @ 1 GHz

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL

-10 dBm INPUT POWER

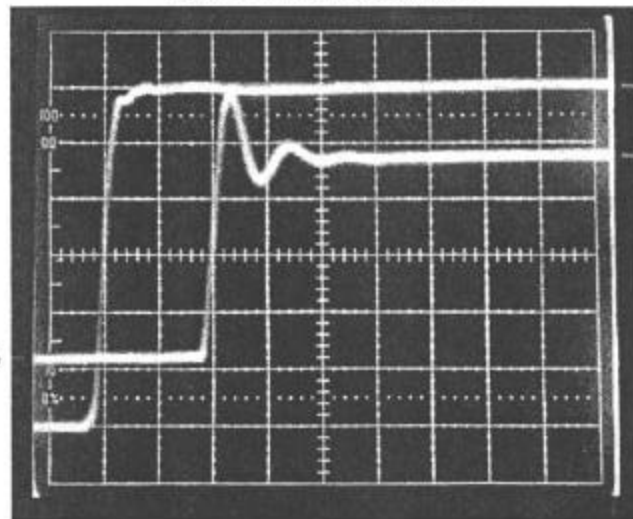


HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
4 ns

ECL

0 dBm INPUT POWER



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

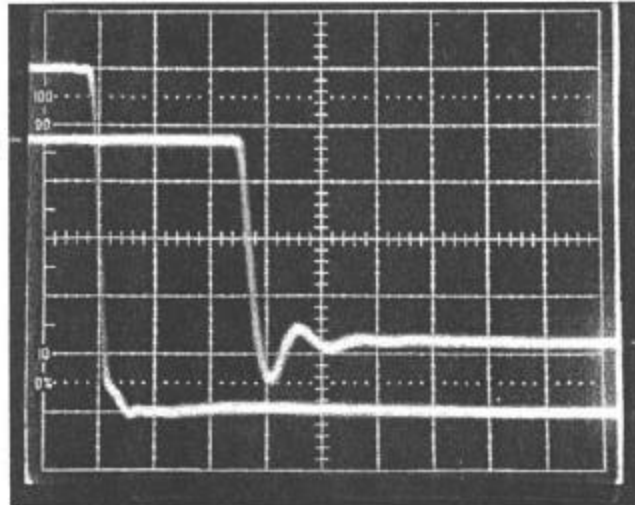
PROPAGATION DELAY @ 1 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
11 ns

ECL



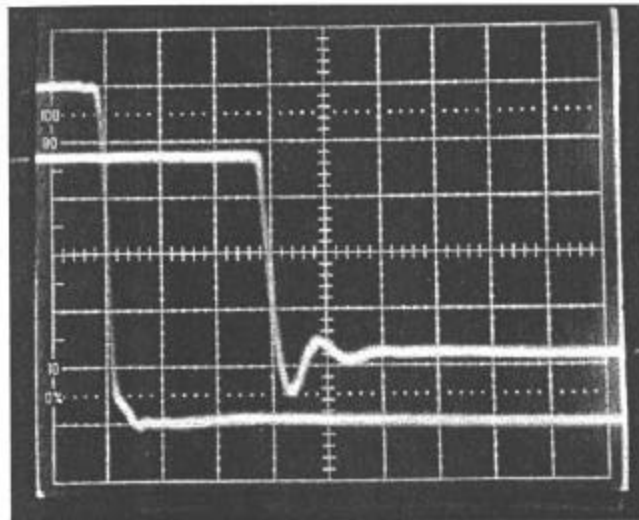
-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
13 ns

PULSE STRETCHING T2-T1:
3 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

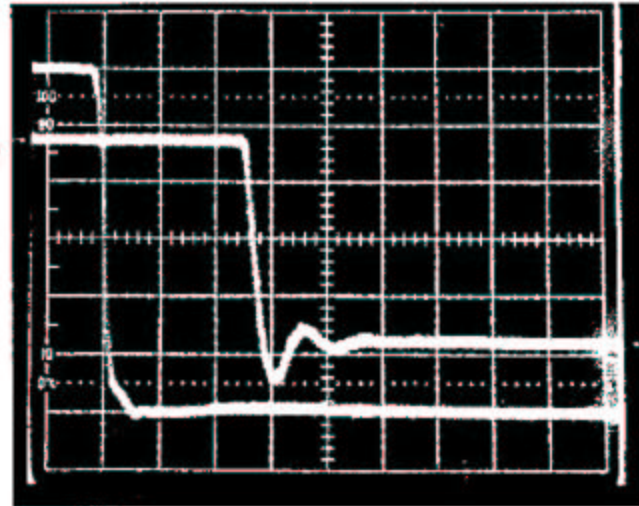
MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

**PROPAGATION DELAY @ 1 GHz****-18 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
11 ns

ECL

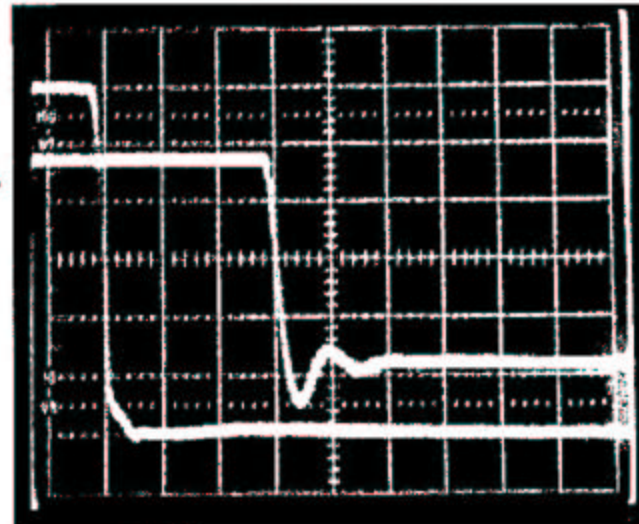
**0 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
14 ns

PULSE STRETCHING T2-T1:
3 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

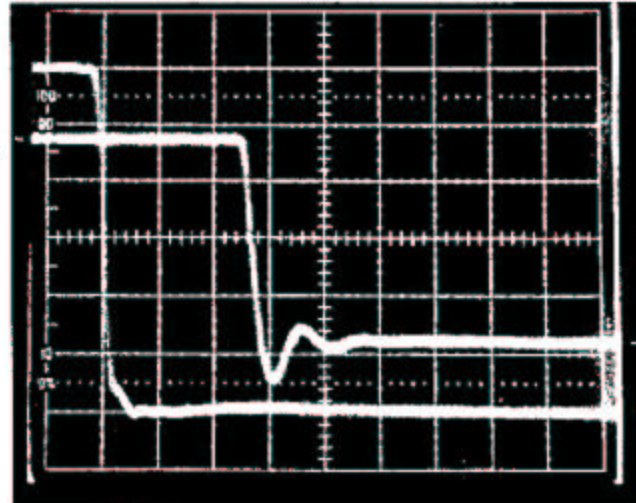
PROPAGATION DELAY @ 1 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
11 ns

ECL



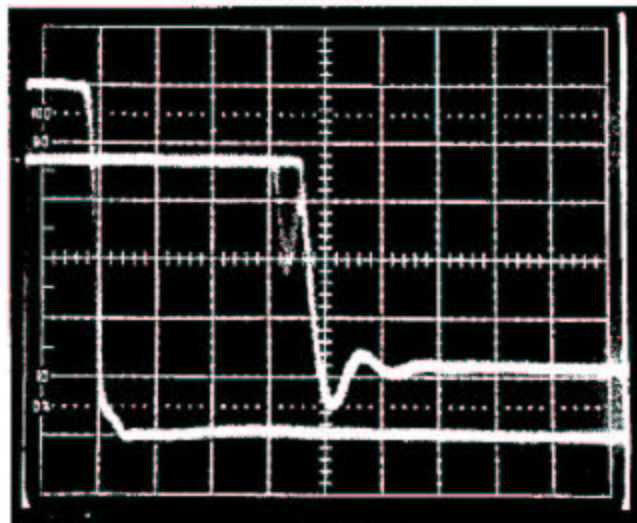
+10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
21 ns

PULSE STRETCHING T2-T1:
10 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

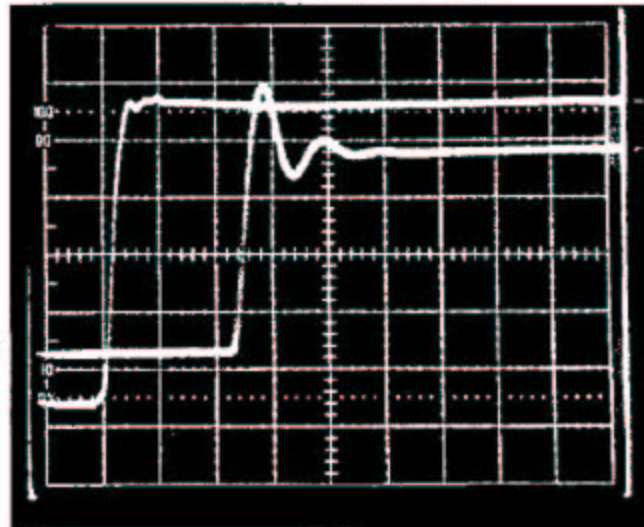
MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

**PROPAGATION DELAY @ 2 GHz****-18 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
7 ns

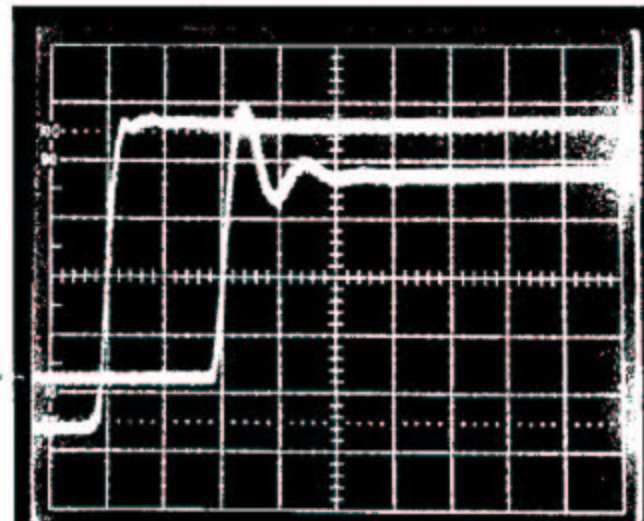
ECL

**+10 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
4 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

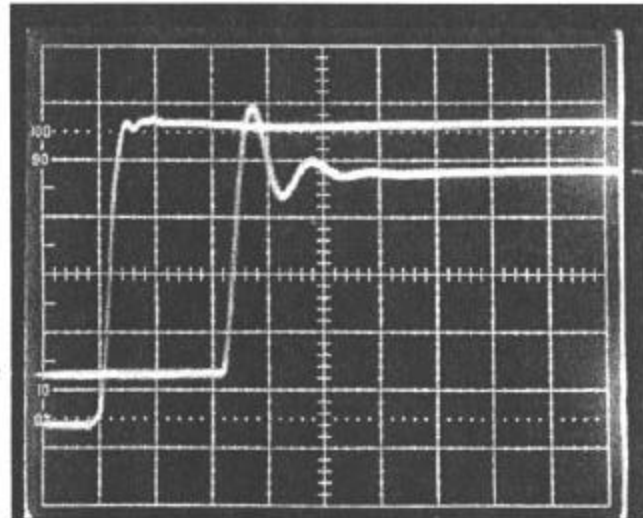
PROPAGATION DELAY @ 2 GHz

-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
6 ns

ECL

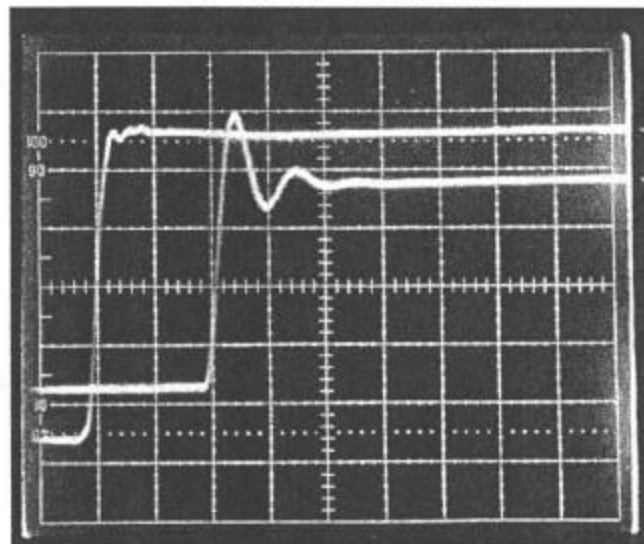


0 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

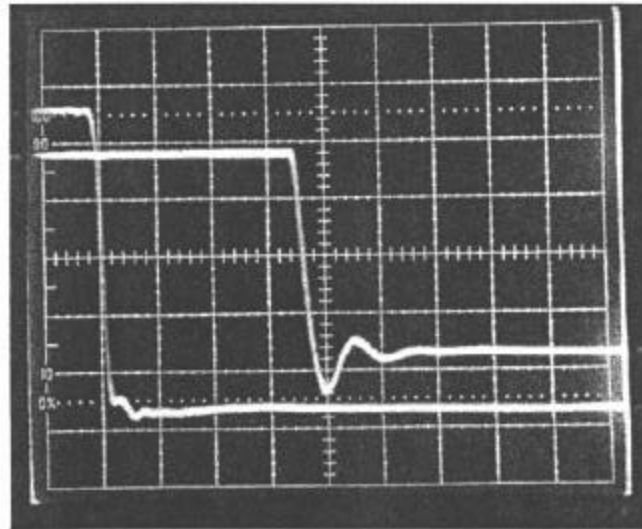
PROPAGATION DELAY @ 2 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
20 ns

ECL



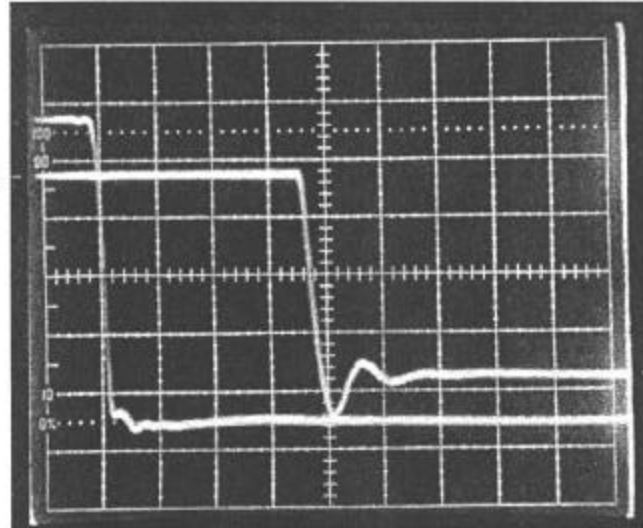
-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
21 ns

PULSE STRETCHING T2-T1:
1 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

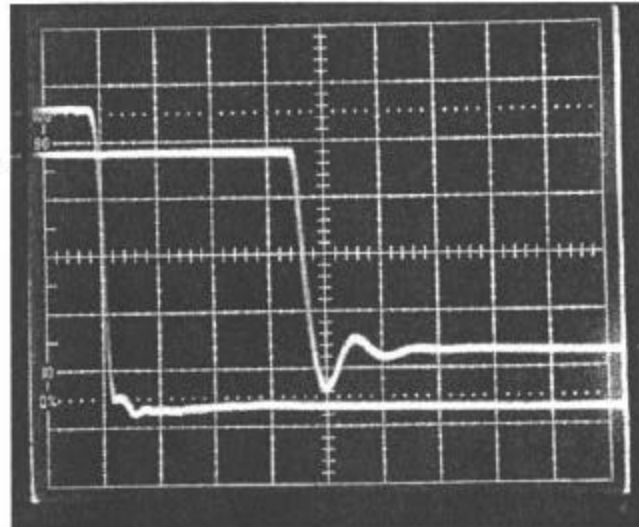
MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

**PROPAGATION DELAY @ 2 GHz****-18 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
20 ns

ECL

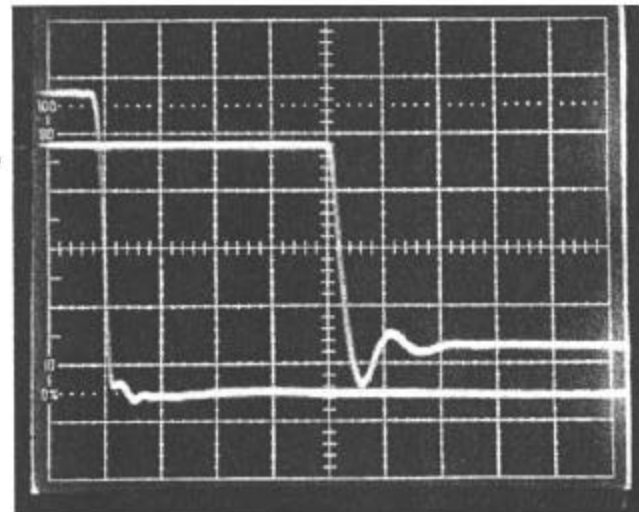
**0 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
26 ns

PULSE STRETCHING T2-T1:
6 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V; +13 mA, -106 mA

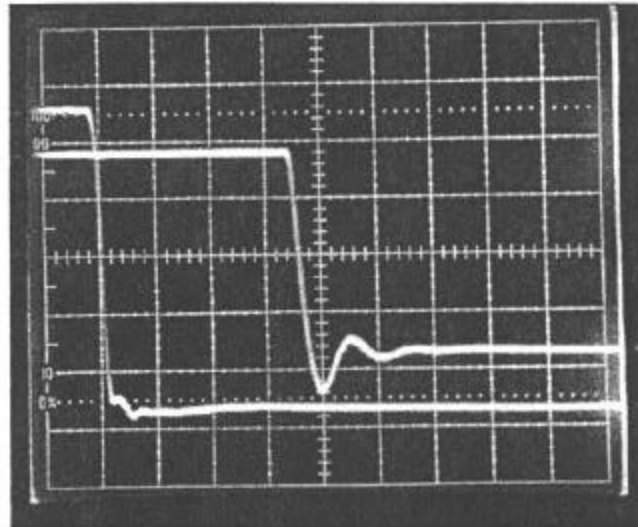
PROPAGATION DELAY @ 2 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
20 ns

ECL



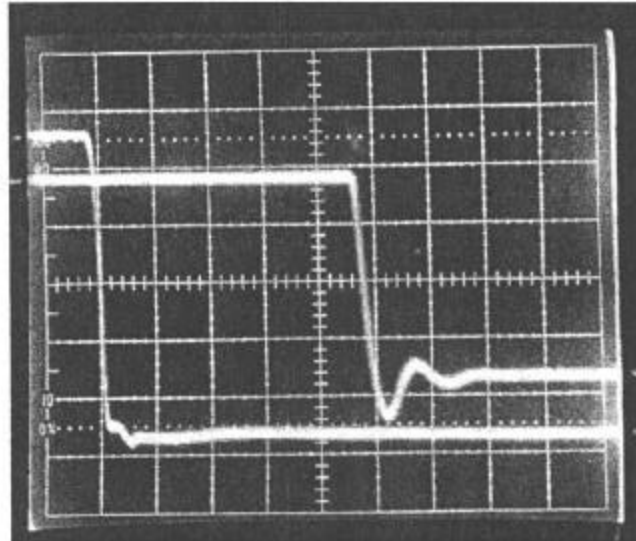
+10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
32 ns

PULSE STRETCHING T2-T1:
12 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

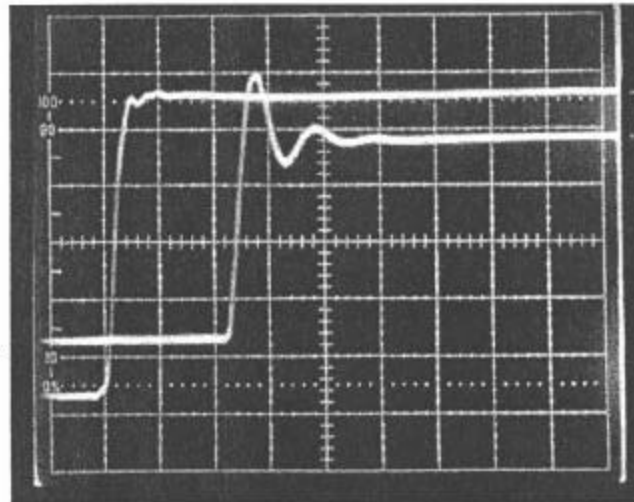
PROPAGATION DELAY @ 10 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
6 ns

ECL

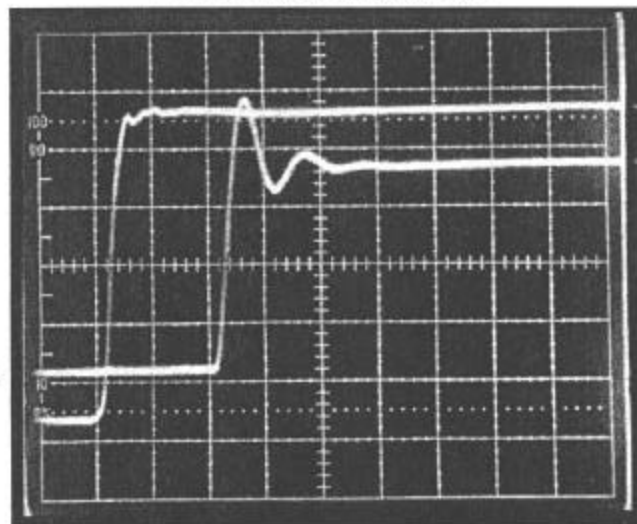


+10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
4 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

Page 21

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

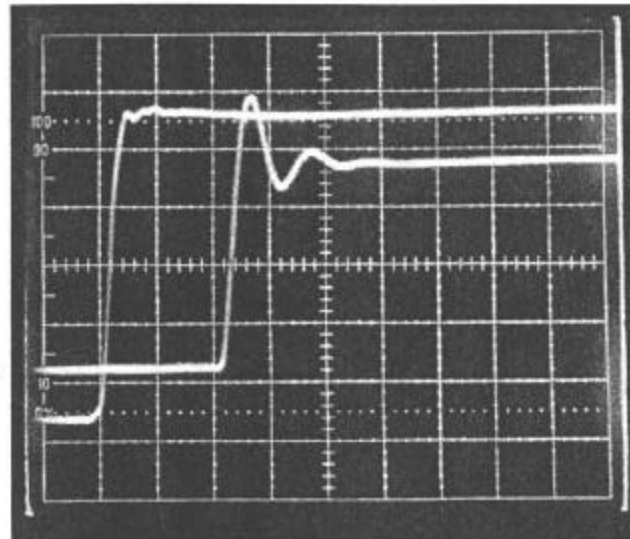
PROPAGATION DELAY @ 10 GHz

-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL

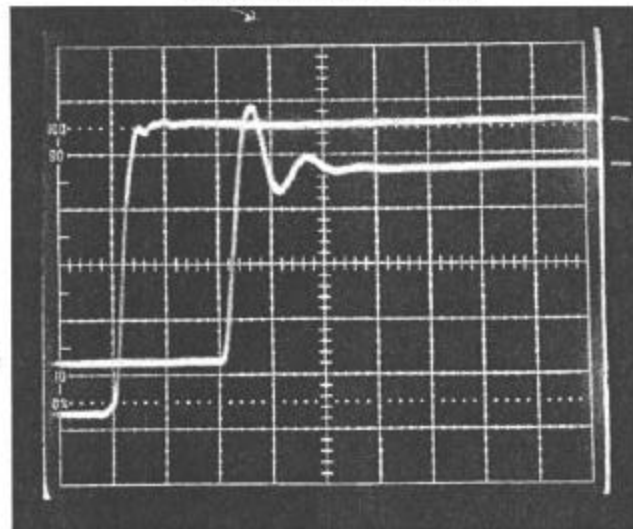


0 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

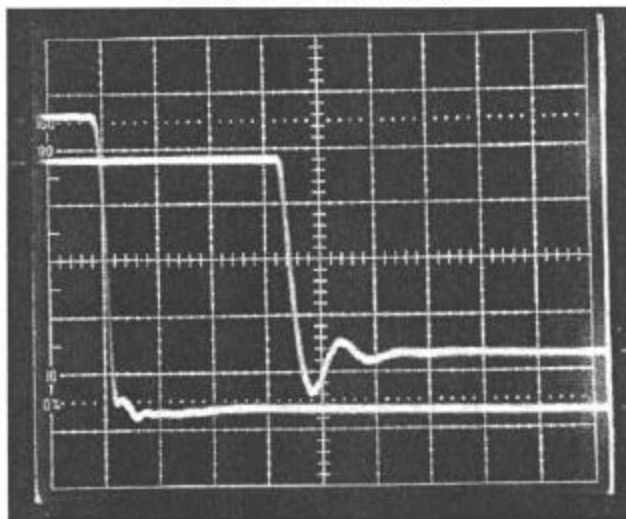
PROPAGATION DELAY @ 10 GHz

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
18 ns

-18 dBm INPUT POWER

ECL



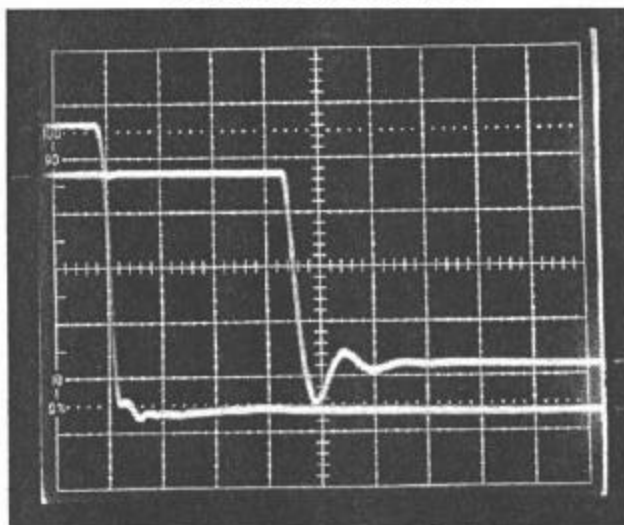
-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
19 ns

PULSE STRETCHING T2-T1:
1 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

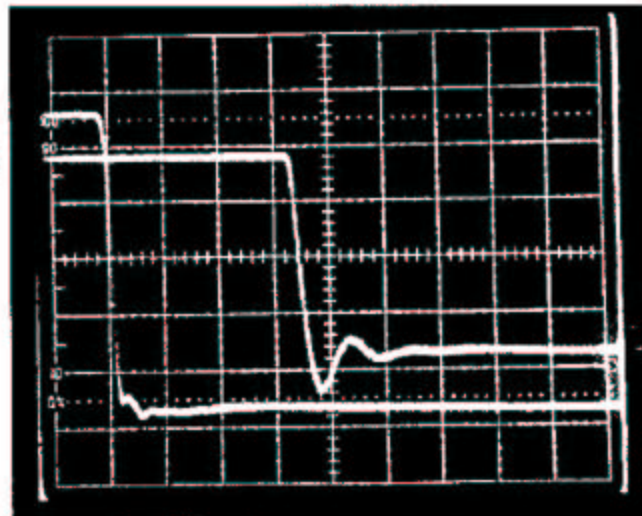
MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

**PROPAGATION DELAY @ 10 GHz****-18 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
18 ns

ECL

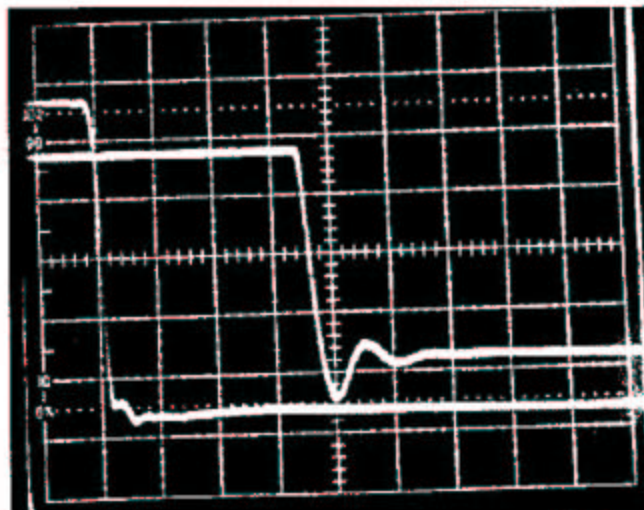
**0 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
20 ns

PULSE STRETCHING T2-T1:
2 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

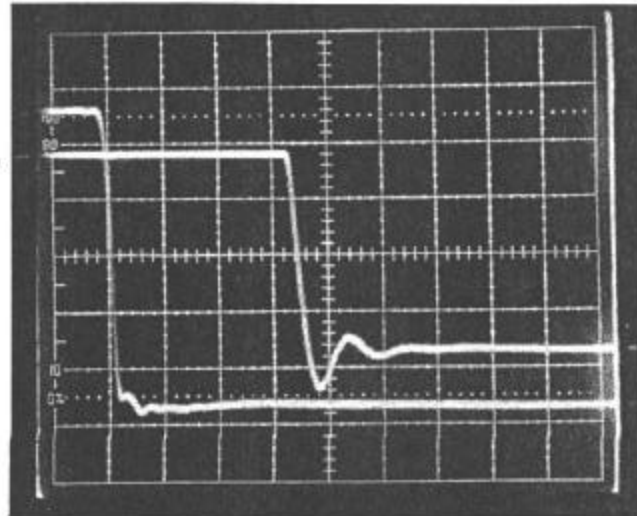
PROPAGATION DELAY @ 10 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
18 ns

ECL



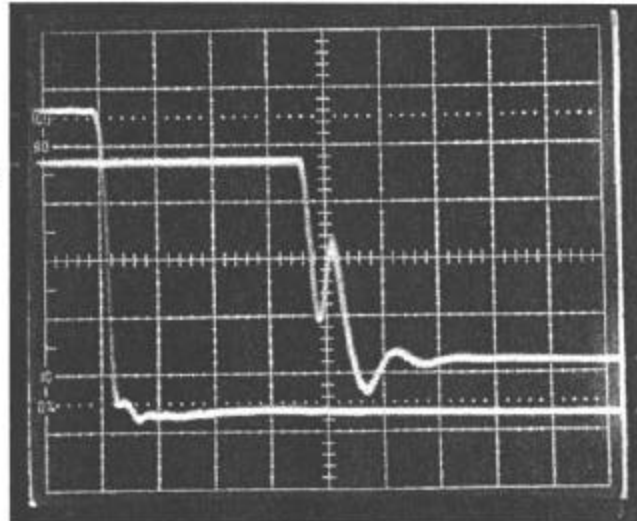
+10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
25 ns

PULSE STRETCHING T2-T1:
7 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

Page 25

SUMMARY TEST DATA

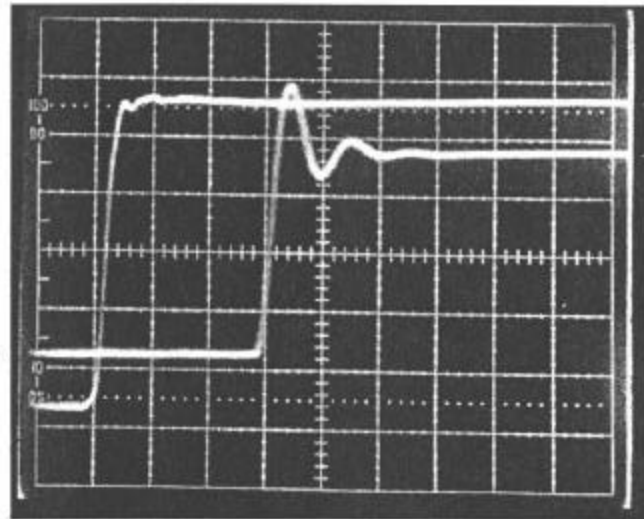
MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

**PROPAGATION DELAY @ 18 GHz****-18 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
13 ns

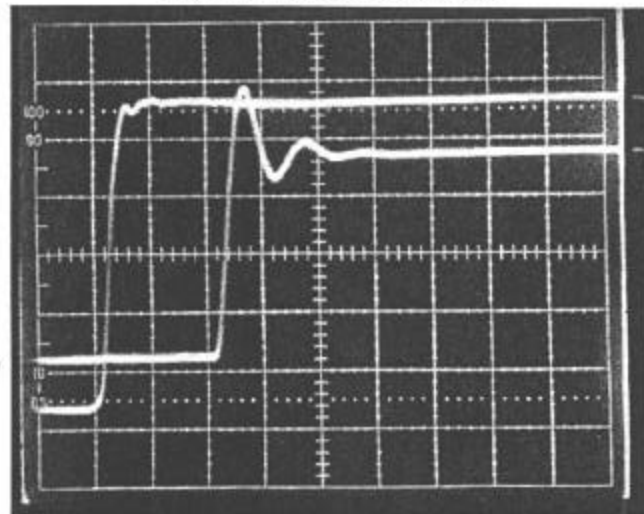
ECL

**+10 dBm INPUT POWER**

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

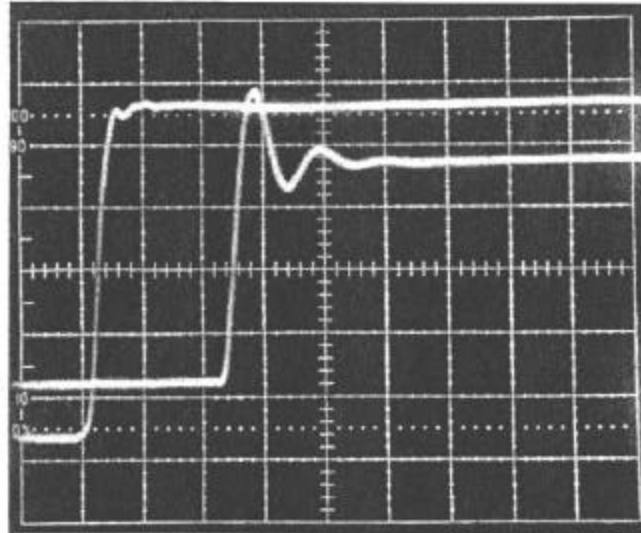
PROPAGATION DELAY @ 18 GHz

-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
6 ns

ECL

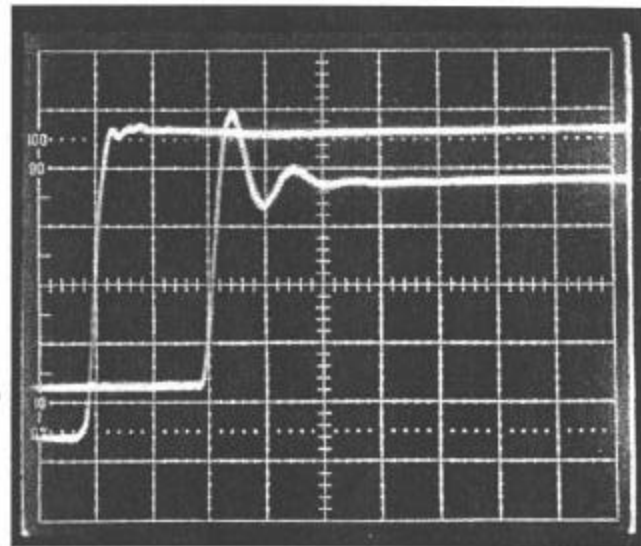


0 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY:
5 ns

ECL



NOTE: TO READ ABOVE: SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

Page 27

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

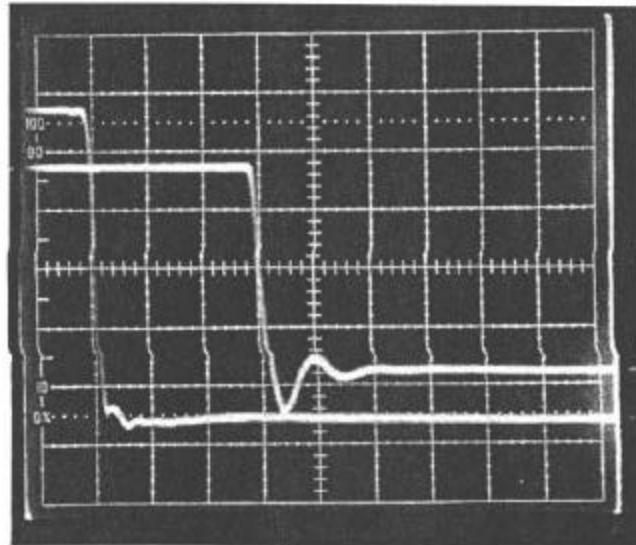
PROPAGATION DELAY @ 18 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
14 ns

ECL



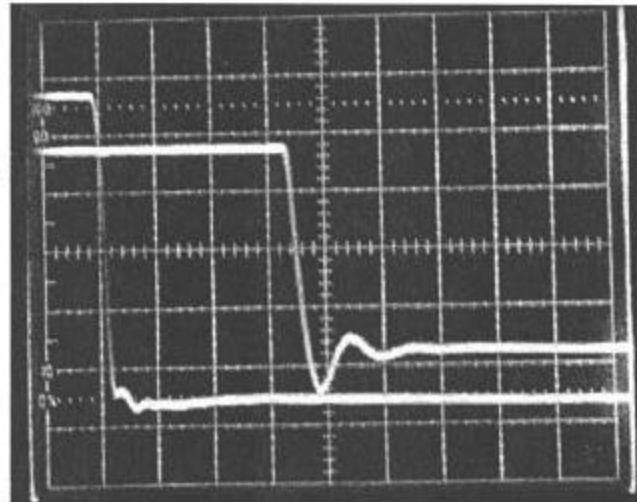
-10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
18 ns

PULSE STRETCHING T2-T1:
4 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER	: TD-30E-SHS-0518
SERIAL NUMBER	: PM90303
ENGINEER	: Frank Rethmeier
VOLTAGE & CURRENT DRAW	: +15 V, -15 V: +13 mA, -106 mA

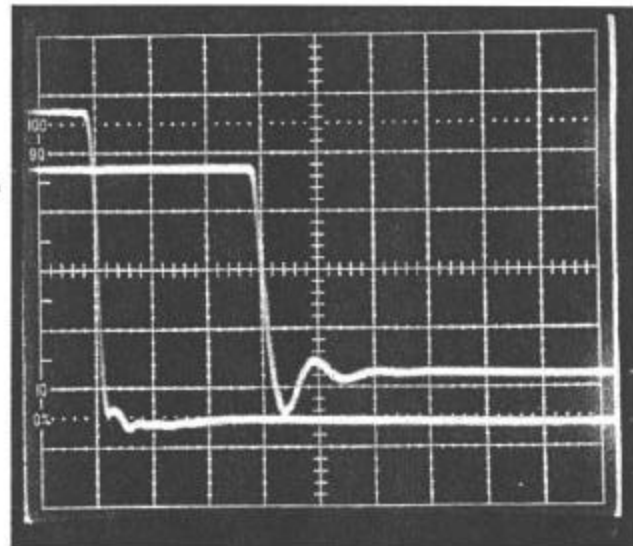
PROPAGATION DELAY @ 18 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
14 ns

ECL



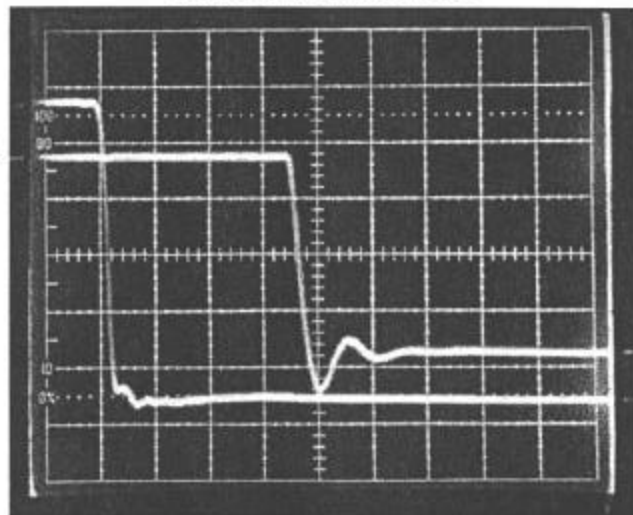
0 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
19 ns

PULSE STRETCHING T2-T1:
5 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999

SUMMARY TEST DATA

MODEL NUMBER : TD-30E-SHS-0518
SERIAL NUMBER : PM90303
ENGINEER : Frank Rethmeier
VOLTAGE & CURRENT DRAW : +15 V, -15 V: +13 mA, -106 mA

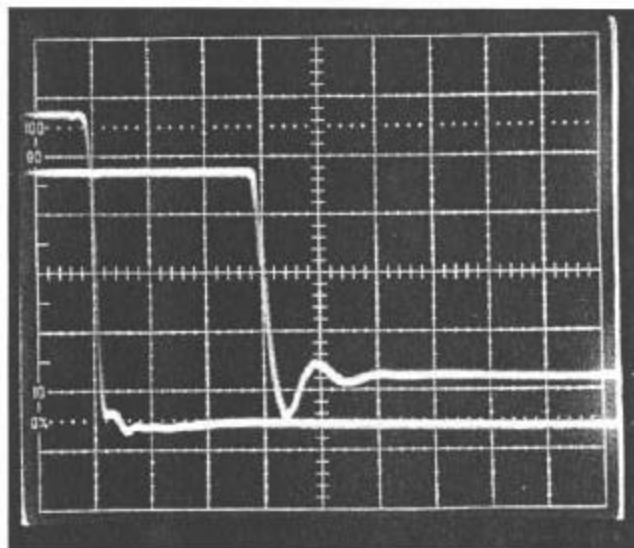
PROPAGATION DELAY @ 18 GHz

-18 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T1:
14 ns

ECL



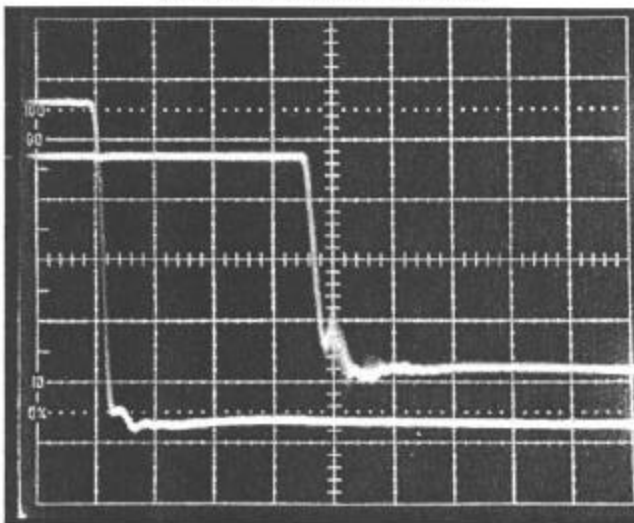
+10 dBm INPUT POWER

HORIZONTAL SCALE:
10 ns PER DIVISION

PROPAGATION DELAY T2:
20 ns

PULSE STRETCHING T2-T1:
6 ns

ECL



NOTE: TO READ ABOVE SUBTRACT 16 ns DELAY ON/OFF THROUGH THE SWITCHING SET-UP.

July 27, 1999